The Usefulness of Network Experiential Knowledge in the Internationalization Process

Angelika Lindstrand
ABSTRACT


This thesis focuses on knowledge as one of the most critical competitive factors and the capability of the internationalizing firm. It contributes to internationalization research by connecting the view of embedded networks as knowledge generators to the view of experiential knowledge acquisition in the internationalization process of firms. The thesis identifies a specific form of experiential knowledge: “network experiential knowledge” defined as the experiential knowledge a firm accumulates in its network of embedded business relationships. The internationalization process implies use of knowledge, and also that not all knowledge is perceived as equally useful by firms. There was therefore reason to study network experiential knowledge and its usefulness. Thus, the general purpose of this thesis is to study the usefulness of network experiential knowledge in the internationalization process of firms.

The thesis shows, through qualitative and quantitative research, that network experiential knowledge is perceived as useful to firms, in their development of ongoing international business, and that this knowledge is embedded in networks of business relationships. It might be in the whole network but it can also be in a part of the network. The thesis shows that the perceived usefulness of network experiential knowledge is affected by variation in country markets and international experience. The effects of need of knowledge, market variation, cost, product standardization, and involvement on the usefulness of knowledge from client’s network is investigated and shown. The thesis also demonstrates that perceived usefulness of network experiential knowledge has an effect on firm performance.

Angelika Lindstrand, Uppsala University, Department of Business Studies, Box 513, S-751 20 Uppsala, Sweden

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INTRODUCTION

In 1990, the Czechoslovakian market was in its early development. ABB like most foreign firms had a representation office in Prague, which mediated deals between semi-privatized or state companies and foreign ABB companies. ABB’s representation office handled all kinds of deals, since it was the part of ABB that had some understanding of the new evolving market. In 1991, ABB established its first company in Czechoslovakia. The company name was ABB s.r.o., and the representation office was transformed to a division of ABB s.r.o. under the name “Industry Systems and Service Division” (ISSD), which became specialized in control systems. When ISSD was established, it had six employees and its functions were marketing and sales. After five years, 1996, the division had 56 employees in four different functions: Business Control, Key Accounts Sales Unit, Engineering, and Service. From 1993 to 1995 the division's sales increased by 500% (1993, 40mCZK; 1995, 220mCZK).

This development of the division’s business came through its business network, including foreign and domestic, as well as new and old customers, suppliers and subsuppliers. In the beginning (1991), ISSD continued as a mediator between foreign ABB companies and Czech customers. By working within the configuration of these embedded relationships, the division learned how to do business in the network. This knowledge and way of doing business was then developed into a standard practice for all business activities in the network.

ISSD’s continued business activities in the network, generated knowledge of opportunities by which the division could develop its own production, and also knowledge concerning the use of subsuppliers as providers of technical knowledge and market knowledge. This knowledge was in turn used to develop ISSD’s ongoing business to such extent that doing its own production with the help of subsuppliers became the most important way for ISSD to expand its business activities with customers. As a result, many customers were taken over from the foreign ABB companies. The knowledge ISSD found useful in this development concerned which firms were present in the network, how these could be connected to ongoing business, and how they could contribute to the development of the division’s business and network. It was knowledge about the customers and their needs, about business opportunities and other companies in the Czech market. The result of this knowledge gained in the network, and the activities that followed, was a more profitable way of doing business. Being a small sales representative office from the beginning, the division was able to develop into a full-grown sale, production, and service unit.

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1 In 1993 the country was divided into the Czech Republic and Slovak Republic.
The case of ISSD is an example of the phenomenon studied in this thesis: the usefulness of network experiential knowledge in international business. The case shows that the ISSD developed useful knowledge through business activities in its network. ISSD did not just gain knowledge from the network; it also used that knowledge in its business activities. The case also demonstrates that a firm, expanding internationally, used knowledge from a variety of network relationships, and that this knowledge was embedded in the network. It seems that knowledge for development of ongoing international business is a matter of using experiences gained in business networks.

This development of ongoing business through experience is associated with behavioral-based internationalization literature, which has put an emphasis on the importance of learning for internationalizing firms (Johanson and Vahlne, 1977; 1990; Cavusgil, 1980). Johanson and Vahlne (1977) state, in their model of the internationalization process, that lack of knowledge about foreign markets and operations creates an obstacle to internationalization, and that this knowledge can only be acquired by experiencing, and operating in, international markets. Thus they argue that experiential knowledge, meaning knowledge based on experiences from operations abroad, is the critical factor in the internationalization of firms. As seen in the case, the useful knowledge ISSD gained was acquired by experiences in doing business with the customers, suppliers, and subsuppliers in the Czech Republic. In the internationalization process, knowledge is developed gradually, which in turn yields an incremental internationalization process, where firms start with experiential knowledge of their domestic market and then incrementally, through increased experience, expand and commit to diverse foreign markets.

Recent internationalization research has also found strong support for firms accumulating knowledge through experience (Barkema and Vermeulen, 1998; Delios and Beamish, 1999; Barkema, Bell and Pennings, 1996; Zahra, Ireland and Hitt, 2000), and support for the process of internationalization and foreign market entry, where decision making in firms is driven by their experiential knowledge (Madhok, 1997; Makino and Delios, 1996). Internationalization is a learning process based on trial and error (O'Grady and Lane, 1996; Eriksson, Johanson, Majkgård and Sharma, 2000).

In the process of internationalizing, the actions taken by firms are both an ultimate effect of experiential knowledge accumulation as well as an ultimate source of experiential knowledge for firms. The term “experiential knowledge” embraces all types of knowledge that firms accumulate by being active in foreign markets. Evident in this description is the use of knowledge by firms, which is important for detecting errors and taking corrective actions.

Nonetheless, experiential knowledge is a debated subject among researchers in the field. Research on born global firms (Oviatt and McDougall, 1994; Larimo, 2003; Leisch and Knight, 1999; Moen and
Servais, 2002) have questioned the influence of experiential knowledge for the internationalization of firms. Born global firms start their foreign operations very early in their lives, and thus their experience prior to internationalization is limited. Related research concerning new venture firms has shown that these firms accumulate experiential knowledge faster than old and established firms, making internationalization more rapid (Autio, Almeida and Sapienza, 2000), and that this increases their performance (Zahra, Ireland and Hitt, 2000).

It has also been found that firms learn differently from multiple markets and from one specific joint-venture partner (Barkema, Shenkar, Vermeulen and Bell, 1997). Furthermore, firms may encounter information processing overload, after having accumulated experiential knowledge from a number of markets, and thereafter their learning is inhibited (Hitt, Hoskisson and Kim, 1997). Experiential knowledge accumulation varies with firms’ mode of establishment (Erramilli, 1991; Barkema and Vermeulen, 1998), and has a positive effect on performance (Delios and Beamish, 1999).

Besides pointing out a need to clarify the role of experiential knowledge, these studies have not themselves specifically defined which kind of experiential knowledge they study. Experiential knowledge was originally considered to be one type of knowledge. Subsequent research has found that experiential knowledge consists of several different kinds (Eriksson, Johanson, Majkgård and Sharma, 1997). This finding might not only provide an explanation as to why there are unrelated and sometimes conflicting findings on the importance of experiential knowledge accumulation, but also that these different kinds of experiential knowledge are not perceived by firms as equally useful.

One way to contribute to the field of international business research could thus be to study specific kinds of experiential knowledge, and how each is perceived as useful. The potential for success in such studies is evident in the finding that different kinds of experiential knowledge are generated by international diversity (Eriksson, Johanson, Majkgård and Sharma, 2000). Also, in the internationalization process, the perception of firms as to what knowledge is useful or not, in order to analyze and resolve problems, is imperative. Internationalization proceeds to develop as firms learn more, because firms can better evaluate how their experiential knowledge can be related to new opportunities, and how useful that knowledge is to their ongoing internationalization (Cohen and Levinthal, 1990; Garvin, 1993).

There may be many kinds of experiential knowledge, and subsequently, many areas to focus on. One area where experiential knowledge could be important concerns networks. Networks of business

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2 There may be other ways to gain knowledge, such as acquisition and imitation of other firms (Forsgren, 2002), but evidently, experiential knowledge has an effect on the internationalizing of a firm.

3 Usefulness is defined as ‘the perceived potential the information has for usage’ (Menon and Varadarajan, 1992, p. 66).
relationships have been found to be an influencing factor in the internationalization process because the activities that firms perform, both in domestic and international markets, are performed in interaction within these relationships (Chen and Chen, 1998; Chetty and Blankenburg Holm, 2000; Johanson and Mattsson 1988; Johanson and Vahlne 1990; Madsen and Servais, 1997; Majkgård and Sharma 1998; Sharma and Johanson, 1987). Such networks may involve domestic and foreign suppliers, customers, suppliers’ suppliers, customers’ customers, etc.

Coviello and Munro (1997) have suggested integrating the internationalization process model with networks to improve our understanding of internationalization, and Coviello and Martin (1999) have stated that such integration could be useful when studying SME’s. There is also growing research interest in networks as a structural antecedent to relationship development, and as a way for networks to influence the cost and benefits of internationalization (Blankenburg Holm, Eriksson and Johanson, 1996; 1999). Internationalization can thus be investigated in terms of international business relationships embedded in networks of business relationships (cf. Toyne, 1989). All of these studies imply that experiential knowledge gained in activities within a network can be important for the international firm, even though these studies have not actually investigated experiential knowledge in networks.

The significance of networks for a firm’s knowledge generation has been documented by a growing number of articles about networks and relationship marketing, which states that the availability and quality of knowledge to firms is contingent on their interaction in business relationships with other firms within networks (Achrol and Kotler, 1999; Ahuja, 2000; Burt, 1999; Dyer and Nobeoka, 2000; Eriksson, Hohenthal and Johanson, 1998; Gulati, 1998; Kraatz, 1998; Larson, 1992; Rowley, Behrens, and Krackhardt, 2000; Sharma, 1998; Stuart, 1998). Because of the multitude of relationships that firms are engaged in, they and their knowledge accumulation become embedded in business networks (Granovetter, 1985). The network embeddedness makes it essential to include the network in which a firm acts, as a means of understanding firm behavior.

**Purpose**

Based on the above, one means of contributing to internationalization research would be to connect the view of embedded networks as knowledge generators to the view of experiential knowledge acquisition in the internationalization process of firms. If experiential knowledge is gained in international business activities, and these are embedded in business networks, then experiential knowledge for internationalization can be seen as acquired from activities in business networks. This specific form of experiential knowledge can be identified as “network experiential knowledge” defined as the experiential knowledge a firm accumulates in its network of embedded business
relationships. As mentioned earlier, the internationalization process implies use of knowledge, and also that not all knowledge is perceived as equally useful. There is therefore reason to study network experiential knowledge and its usefulness. Thus, the general purpose of this thesis is to study the usefulness of network experiential knowledge in the internationalization process of firms.

More specifically, this thesis intends to answer the following subquestions:

**What affects (determines) the perceived usefulness of network experiential knowledge?**

Which knowledge firms perceive as being useful has been argued to be contingent on the firm’s theory-in-use (existing ways of perceiving, interpreting, and doing), because firms seek solutions to problems in the context of what they have done in the past (Argyris and Schön, 1978; Cyert and March, 1963). Differences in the theory-in-use between firms have also been argued to have a considerable influence on differences in preferences and performance (Huber 1991). These differences in theory-in-use could be related to differences in experience from local and international markets, in variety of markets, in how long the firms have been present in the markets, etc. To study what affects the perceived usefulness of network experiential knowledge is thus of interest.

**What is the relationship between performance and network experiential knowledge?**

Studying which knowledge firms perceive as useful is important because their perceptions of usefulness will likely influence their decisions, actions, and performances. The assertion that decision makers in firms perceive a certain piece of knowledge as being useful is not to claim that the perception is therefore correct and will enhance performance. An important issue is then to investigate the relationship between the perceived usefulness of network experiential knowledge and performance.

**Does the perceived usefulness of network experiential knowledge concern knowledge from the whole network, or from parts of the network?**

To a large extent, the research on experiential knowledge from networks does not explicitly differentiate between the whole network and parts of the network, such as supplier and customer networks. But a few studies have shown that both customer and supplier networks are an important source of knowledge and information for firms (Ahuja, 2000; Gulati, 1995; 1998; Hansen, 1999; Majkgård and Sharma, 1998), yet little is known about how firms perceive and use this knowledge. There is reason therefore to study how firms perceive the usefulness of this type of knowledge, and whether there is a difference in the way firms perceive the usefulness of knowledge obtained from the whole and from the parts of the network.
In fulfilling this purpose, and in answering these subquestions, the thesis contributes to international business research by bringing together network theory and experiential knowledge development. The internationalizing firm’s learning process can thus be related to the firm’s network embeddedness. With the purpose of developing a model that connects learning through experience with embedded networks, this summary begins with theoretical arguments, which are concluded in a model on the usefulness of network experiential knowledge in internationalization. Then the research process is described, followed by the empirical work and the papers in the thesis. This summary of my work ends with concluding remarks concerning the general findings of the research, managerial implications, and future research.

THEORETICAL ARGUMENTS

KNOWLEDGE—THE LEARNING PROCESS

Why is there a need for knowledge in economic exchange?
The basic argument for knowledge and its necessity and usefulness in economic exchange is that knowledge about the use of a resource differs from one firm to the next, and that this knowledge is the primary resource upon which competitive advantage is founded. The history of the argument can be traced back to Hayek’s (1945) view on markets, in which knowledge of resource use was seen not as a public good available to all, but instead as scattered among individuals. In that way knowledge is “imperfect” because it is partial and is bound to the individual. But the span of utilization of resources can be extended beyond the individual by connecting and linking the individual elements of knowledge. The market will make such connecting possible (Hayek, 1945).
The use of the market for gaining knowledge was questioned by Penrose (1959). She stated that the growth of the firm depends on the managers’ knowledge of resources and the potential for using them in different ways. Knowledge was divided into objective knowledge and experience, where experience is the result of learning from personal experience and thus dependent on the individual’s own activity. Penrose wrote that “the experience gained is…of a kind that develops an increasing knowledge of the possibilities for action and the ways in which action can be taken…by the firm” (p.52). Experience itself can never be transferred, but can contribute to objective knowledge “in so far as its results can be transmitted to others” (p.53). Objective knowledge, which is independent of
individuals, can be formally taught, learned from others or from the written word, and can be transferred to others.

Another division of the knowledge concept, related to Penrose’s conceptions and to the dispersed knowledge of resources, can be found in Polanyi’s (1969) distinction between tacit and explicit knowledge. Explicit knowledge is “knowledge about”, while tacit knowledge is associated with experience. Tacit knowledge is the non-conscious knowledge needed for human activity. Envisioned as capability, tacit knowledge can only be acquired through learning by doing, and therefore cannot be transferred. Thus Penrose and Polanyi, in common, propose that knowledge that cannot be bought from others, because of its non verbal characteristic, will have to be acquired through experiential learning. Other classifications of knowledge acquisition have been used, which do not mention a non verbal characteristic of experiential learning (Huber 1991). Instead, knowledge acquisition is merely defined as the only one, of five types of learning, that firms acquire through direct experience. The other types of learning and acquirement are congenital, vicarious (second-hand experience), grafting, and search and noticing.

Learning

Many learning theories argue that organizational learning manifests itself in organizational actions, and assume that learning will increase growth and improve performance, according to Fiol and Lyles (1985). In their article concerning the distinction between organizational learning and organizational adaptation, they state that it cannot be certain that learning has to lead to actual change and adaptation in the actions taken by firms. Weick (1991), in a similar discussion, argues that change does not have to be a result of learning. Related to these viewpoints Duncan and Weiss define knowledge accumulation or learning as “the process within the organization by which knowledge about action-outcome relationships and the effect of the environment on these relationships is developed” (1979, p. 84). Whether or not learning produces an actual difference in performance, the firm’s perception that it could is enough to occasion a change in their behavior. This implies that, for learning to occur, the firm must find the knowledge potentially useful (Huber, 1991).

Learning is a dynamic process involving a number of steps, including knowledge acquisition (what knowledge is obtained), knowledge distribution (what knowledge is shared with others), information interpretation (what meaning is given to the information), and information storing (in the organizational memory for future use) (Huber, 1991). The experiences that the individuals of a firm undergo are later stored in the firm’s organizational memory (Argyris and Schön, 1978; Walsh and Ungson, 1991). The storage of knowledge is important for the firm; without it the firm must undergo the similar experience (knowledge acquisition) over and over again. The storage of knowledge thus
becomes cost effective and helps the firm in future decision making, but being the firm’s knowledge base, storage of knowledge is also important for firm-specific capabilities because it affects their competitiveness.

These effects of stored knowledge will not come about without the retrieval of knowledge from organizational memory (Huber, 1991; Walsh and Ungson, 1991). Organizations store knowledge in their procedures, norms, rules, and forms (March, 1991), but much of a firm’s stored knowledge is also seen as deposited in routines (Cyert and March, 1963; Cohen, 1991; Levitt and March, 1988; March and Simon, 1958; Nelson and Winter, 1982). The retrieval of knowledge from the firm’s organizational memory is done through routines. Routines store organizational experience, allowing organizations fast transfer of that experience to new situations (Cohen and Bacdayan, 1994). Many of the activities in organizations are performed through routines; subsequently, routines guide firm behavior and give structure to the organization and its behavior (Cyert and March, 1963; March and Simon, 1958; Nelson and Winter, 1982). Routines have therefore been used by Nelson and Winter to explain the inertia of organizational structure in their evolutionary theory of economic change where they also discuss the process of organizations gradually adopting those routines, procedures, or strategies that that they have learnt through experience, and how that process produces favorable outcomes. Using acquired knowledge is more economical for firms than acquiring new knowledge, which is why firms tend to keep their routines and structures.

**Theory-in-use**

Collective understanding is important for an organization, because its collective understandings are interpretations of experience and depend on the frames within which events are comprehended. The frames of interpretation constrain learning by existent ways of perceiving, interpreting, and doing. The ways that firms’ perceive, interpret, and do things have been discussed in terms of theory-in-use (Argyris and Schön, 1978), shared interpretations (Huber, 1991; Walsh and Ungson, 1991), interpretation systems (Daft and Weick, 1984), and organizational frames of reference (Corsini, 1996; Shrivastava and Schneider, 1984; Shrivastava and Mitroff, 1984). The frame of reference, shared interpretation, or theory-in-use is embedded in the operating procedures, internal routines, norms, values, strategies, and behaviors of an organization, as well as being embedded in its external organizational actions, such as products, promotion, and distribution (Argyris and Schön, 1978; Fiol and Lyles, 1985; March and Simon, 1958).

Theory-in-use affects knowledge acquisition, interpretation, storage and retrieval, and implies an understanding of how things are done and are inferred from how people actually behave. Argyris and Schön (1978) argue that the theories-in-use thus represent deeply embedded routines for both
applied knowledge and for learning practices, and that theory-in-use guides firm behavior, by helping firms interpret and understand cause-and-effect relationships. They therefore state that organizations learn when they ‘respond to changes in the internal and external environments of the organization by detecting and correcting errors in theory-in-use...’ (p. 23). Evident in this description is the use of knowledge by firms to detect errors and take corrective action, and that not all knowledge is of equal use in this process.

Levels of learning
The process of learning has been argued to be twofold (Argyris and Schön, 1978, March, 1991). The question is whether the learning process just occurs within a given organizational structure, or a given set of rules, or does it redefine the rules, values, and world views of the organization? The first alternative can be discussed in terms of lower-order learning; and the latter alternative, in terms of higher-order learning.

Lower-order learning is a result of repetition and retention, which relies heavily on routines. Argyris and Schön (1978) referred to it as single loop learning; a process that maintains the central features of an organization’s theory-in-use and that restricts itself to detecting and correcting errors within that theory-in-use. March (1991) discuss such lower-order learning in terms of exploitation of old certainties. Exploitation concerns refinement, and choice, production, deficiency, selection, implementation, and execution.

Higher-order learning, on the other hand, involves a modification of an organization’s underlying norms, policies, and objectives. Results from higher order learning have long-term effects and impact on the organization as a whole. This type of learning occurs when error is detected and corrected in ways that aims at adjusting the firm’s theory-in-use and frame of reference, rather than specific activities or behaviors. Argyris and Schön call it double-looped learning, and March, exploration of new possibilities. Exploration includes matters such as search, variation, experimentation, discovery, and innovation. Both processes are central to a firm's ability to survive.

The usefulness of knowledge
The theories-in-use determine what firms perceive as being useful as they seek solutions to their problems in the context of what they have done in the past (Cyert and March, 1963). By “usefulness of knowledge” is implied “the perceived potential that the information has for usage” (Menon and Varadarajan 1992, p. 66). Usefulness is related to the use of knowledge in the firm’s business activities. Which knowledge the firm perceives as useful depends on what it has learnt in the past.

The usefulness of knowledge is related to using particular knowledge in a particular decision-making situation. The perceived usefulness of knowledge in a decision-making situation is contingent upon...
(1) the perceived meaningfulness of particular knowledge (that knowledge makes sense to the user), (2) the perceived goal relevance (how is knowledge related to the task at hand) (3) the perceived operational validity (whether anything can be done with the knowledge) and (4) the innovativeness (how new or “non-obvious” the knowledge is) (Shrivastava, 1987). The perception of what knowledge is useful (or not useful) for analyzing and resolving problems is important, because the knowledge used by decision-makers will likely influence the final outcome or performance of the firm. The perceived usefulness of knowledge is particularly important because it has been found to be a good predictor of user behavior (Davis, Bagozzi and Warshaw 1989; Venkatesh and Davis, 2000).

NETWORKS

Reasons for organizing exchange in networks

Almost 30 years ago, Williamson (1975) argued that transactions that involve outcome uncertainty are repetitive and entail transaction-specific investments that cannot easily be transferred, that such transactions will take place within hierarchically organized firms. In such cases, the inefficiencies of bureaucratic organization will be preferred to the relatively greater cost of market transaction, the reason being bounded rationality and opportunism. Transactions that are simple, non-repetitive, and require no transaction-specific investments will be left to the market. But seeing economic exchange in such a dichotomous way keeps the firm separate from both markets and their context, according to Powell (1990). He refers to numerous empirical studies that have shown that this straightforward view of firms and their boundaries is not the reality for many firms. Instead, firms engaging in different forms of collaboration and relationships differ from both the alternative of arms-length market transaction and the ideal of vertical integration.

In line with this picture, a different form of organizing economy has come into being—networks (Powell, 1990; Håkansson and Johanson, 1993). According to Powell, there thus exists three separate ways of organizing economic exchange: the market, the hierarchy (firm), and the network. Networks, seen as a way of organizing economic exchange, can be traced back to Richardson (1972), who stated that by looking at activities rather than products it is easy to comprehend that there exists a different way of organizing industry. These activities will need to be coordinated due to capability specialization within the firm (activities that are similar will be grouped inside the firm) and complementarities of activities between firms. This coordination can be done in three ways: by direction within the firm, by cooperation between firms, and by market transaction. Coordination by
cooperation and the existence of complex networks of cooperation will come about when activities have close complementary between different firms. Firms need to cooperate because they do not themselves have all the necessary capabilities for production.

**Embeddedness**

In a continuation of the critique of economic theory, Granovetter (1985) was concerned with its “undersocialized” view of action. He argued for a focus on the interplay between social structures and economic activity and stated “that the behavior and institutions to be analyzed are so constrained by ongoing social relations that to construe them as independent is a grievous misunderstanding” (p.482). Thus Granovetter saw economic behavior as embedded in concrete systems of social relations and structures (networks). Embedded economic activity could be seen as the exchange that takes place between two actors and the way that this behavior is embedded in the social network.

The embeddedness argument emphasized the relational aspects of organizations and included a view of social structure as the linkages between social actors (both firms and individuals) in terms of interactor ties and direct relationships, which could compromise a wide variety of social network arrangements. Even though Granovetter was not the first to discuss embeddedness in economic terms, Polanyi (1944), for example, was a forerunner; much of today’s work concerning embeddedness has its foundation in Granovetter’s argument.

The social embeddedness of firm behavior has two distinct features: the relational embeddedness and structural embeddedness. Relational embeddedness focuses on the contents of the embedded relationships, which are characterized by trust, cooperation, resource exchange, mutual gain, reciprocity, and long-term perspective (Coleman, 1988; Dyer and Singh, 1998; Gulati, 1998, Larson, 1992; Rowley, Behrens and Krackhardt 2000; Uzzi. 1996). Structural embeddedness, on the other hand, focuses on the characteristics of the structure of relationships. Granovetter stated that structure is “the manner in which dyadic relationships are articulated with one another…” (p.18). Another feature of structural embeddedness is the opportunities that the ties provide (Burt, 1992, 1999). Common for structural embeddedness is the duality of the relationships within a structure seen as redundant/non redundant ties and first/second order ties, all of which are associated to Granovetter’s (1973) distinction between strong and weak ties.

**Business networks**

Similar to Richardson’s view of activity networks and to Granovetter’s view of embeddedness, the business relationships of a firm can be said to be connected if the exchange in one relationship is contingent on exchange (or non-exchange) in another (Cook and Emerson 1978, p 725). Therefore a
business network can be defined as a set of two or more connected business relationships (Emerson 1981). Such business relationships have been shown to be frequently long lasting, involving a considerable degree of commitment between the parties, and covering many different issues (Ford, 1990; Håkansson, 1982; Turnbull and Valla, 1986; Cunningham and Homse, 1986). Business in relationships also involve a considerable degree of commitment and trust (Morgan and Hunt, 1994), co-ordination (Alter and Hage, 1993), integration of workflows and resources (Astley and Zajac, 1990; Thompson, 1967), and cooperation (Axelrod, 1984) between the parties.

The evolution of business relationships has been described as a social exchange process where initial acts of commitment, such as the adaptation of products to better suit the buyer, is reciprocated by the other party buying more. Over time, as the parties learn more about each other’s business contexts, they are able to adapt to each other to better match their needs (Hallén, Johanson and Seyed Mohamed, 1991). So, business relationships evolve as a result of interaction between parties doing business with each other (Ford, 1990; Håkansson, 1982).

The characteristics of business relationships are very similar to the contents of the embedded relationships of relational embeddedness, which have, as mentioned above, been characterized by trust, cooperation, resource exchange, mutual gain, reciprocity, and long-term perspective. The two views on relationships, the connected business relationship view and the embedded relationship view, are thus so similar that the concepts of relational embeddedness and relationship connectedness here in this thesis are seen as interchangeable.

Because of the multitude of relationships that firms are engaged in, they become embedded in business networks (Achrol and Kotler, 1999; Ahuja, 2000; Anderson, Håkansson and Johanson, 1994; Hallén et al., 1991; Gulati, 1998; Uzzi, 1997). A firm’s business network can consist of connections to a variety of firms, such as suppliers, subsuppliers, customers, customers’ customers and competitors. The concept of network embeddedness makes it essential to include all of these relationships, the network in which a firm acts, to be able to understand firm behavior.

Each firm is thus engaged in a set of business relationships in which it coordinates its activities and resources with their counterpart activities and resources (Blankenburg and Johanson 1992). Because of connectedness, the activities that firms perform and the resources they employ in the network are interdependent (Anderson et al., 1994). These interdependent activities and resources, such as production, administrative activities, social relations, technology, and knowledge need to be adapted and coordinated to bring about a better match between the firms in the network (Hallén et al., 1991). The adaptations between business relationships are consequently combined in the network. Because of the adaptations, cooperation, and co-ordination in the network, the business network relationships between the different firms will influence strategic decisions and the firms’ performances and
business developments (Dyer and Singh, 1998; Håkansson and Snehota 1995). A prerequisite for this influence is the existence of trust and commitment between the relationships in the network. The adaptation and coordination in a business relationship and the network will not come about without some commitment to the relationship and its embedded network (Ahuja, 2000).

Networks change and develop when the relationships in the network change, develop, and disappear over time. Change in the network is produced and performed by actions, which are partially the answer to other earlier actions (Johanson and Mattsson 1988). Change also seems to spread through the network as a result of the relationship’s embeddedness.

To sum up, networks are unique operating environments with reciprocal patterns of exchange, which can be typified as being complementary and interdependent, and networks are also environments where the climate is focused on mutual benefits, commitment, and non hierarchical means of control (Achrol and Kotler, 1999; Håkansson and Johanson, 1992; Powell, 1990).

Networks and knowledge
In a 1972 article, Richardson wrote that “technology cannot always be transferred simply by selling the right to use the process. It is rarely reducible to mere information to be passed on but consists also of experience and skill” (p.895). Technology can be exchanged by cooperating in relationships, and “arrangements of this kind, form an important part of the networks of cooperation and affiliation, to which I have made such frequent reference” (ibid). Powell (1990) also reaches the conclusion that markets are poor devices for the exchange of commodities whose value is not easily measured, such as know-how and technological capability. He continues by stating that networks are the device to use: “Networks are particularly apt for circumstances in which there is a need for efficient, reliable information. The most useful information is rarely that which flows down the formal chain of command in an organization, or that which can be inferred from shifting price signals” (p.304). Rather, this useful knowledge comes from the firm’s own past dealings with a reliable counterpart and is thus a feature of embeddedness (Granovetter, 1985). The open-ended relational features, which embedded business relationships in networks have, greatly enhance the ability to transmit and learn new knowledge and skills.

The coordination of activities and use of resources within and between firms require knowledge; so when interacting with the environment, firms collect knowledge concerning counterparts, competitors, cooperation with other firms, product development, strategies, marketing, organizing practices, international ventures, etc. Lately, many studies have shown that much of the knowledge utilized by a firm is available through its relationships with other firms in a network (Burt, 1999;
Achrol and Kotler discuss networks as offering “superior information processing, knowledge creation, and adapted properties” compared to single firms (1999, p.161). In another study (Dyer and Nobeoka, 2000) where Toyota and its “knowledge-sharing network” was the focus, it was concluded that networks “can be more effective than a firm at the generation, transfer, recombination of knowledge” (p.364). The main reason for this superiority is the greater diversity of knowledge within a network as compared to a firm (Dyer and Nobeoka, 2000). The distribution of knowledge in networks is, however, asymmetric, and it can restrict as well as broaden the information available to network members (Nohria 1992).

**Networks and experience**

The firm’s useful knowledge is based on experience from business activities and business interaction within the network. The connected relationships make it possible for one firm to access knowledge from the others. Firms engaged in a network accumulate knowledge about their counterparts through passive, active, or interactive processes (Lane and Lubatkin, 1998). Business networks can be seen as formations in which firms learn, through a social exchange processes over time, to cooperate and thereby coordinate their activities. This capability to interact, based on experience, increases a firm’s access to knowledge, transfer of knowledge, and integration of knowledge residing both inside and outside of the firm, which produces significant effects on company growth and innovativeness (Lorenzoni and Lipparini, 1999).

The usefulness of knowledge is recognized through interaction with other actors in the network. This interaction thus generates experiences that increase the knowledge of how to use information (i.e., future usefulness) (Venkatesh and Davis 2000). Beckman and Haunschild (2002) showed in a study that firms with experience from heterogeneous network relationships paid less for new acquisitions and had better performing acquisitions because of this experience. The authors mean that this variation of experience at the network level “cannot be a property of a single organization, group or individual. In effect, the network functions as a form of memory, a crucial element of learning” (2002, p.118).

According to several studies, the firm also acquires knowledge about business opportunities through its business network (Achrol and Kotler 1999; Burt 1999; Gulati 1999; Sharma and Johanson 1987). The relationships within these business networks are thus a very important asset of the firm. Learning through experience in interaction seems to be concerned with the components of the network: who the actors are and who is doing business with whom (Axelsson and Johanson 1992).
Firms can also exploit solutions and acquired knowledge, in relation to some counterparts, in business relationships with other counterparts, according to Hargadon and Sutton (1999). A prerequisite is storage and retrieval of knowledge in and from the organizational memory of the firm (Hargadon and Sutton, 1999). In this manner a firm’s perceived usefulness of knowledge thus represents deeply embedded routines for both applied knowledge and practices for learning in business networks, which come into play as the firm searches for a means of learning about a specific relationship or network.

The firm’s knowledge accumulation takes place within its network relationships, which makes these relationships and the knowledge within them the primary vehicles for the firm’s development and performance (Dyer and Singh, 1998; Rowley et al, 2000). The effects of network experience on firm performance have been discussed in terms of innovation (Ahuja, 2000; Hargadon and Sutton, 1999), alliance formation (Gulati, 1998, 1999; Stuart 1998), and acquisitions (Beckman and Haunschild, 2002).

The creation and sharing of knowledge in a network can also affect efficiency, such as relative productivity advantages for all participating parties (Dyer and Nobeoka, 2000). The embeddedness of knowledge within networks has large effects on firms. Uzzi (1997) states that the knowledge developed in embedded relationships and the joint problem solving between firms improves the adaptation and investments made by the firms and also the economies of time and the allocative efficiency. Accordingly, products reach the market faster by matching production to consumer demands (Uzzi, 1997). Powell, Koput and Smith-Doerr (1996) found that a complex network of interconnected and embedded firms is required for innovations to occur in the biotechnology industry, and that no single relationship was more instrumental than another in this knowledge creating process.

THE INTERNATIONALIZATION PROCESS OF FIRMS

The focus on the usefulness of network experiential knowledge for the international firm stems from one of the behaviorally oriented models of the firm internationalization process: the Uppsala Internationalization Process Model (Johanson and Vahlne, 1977). Even though there are other behavioral models of the internationalization process such as the Innovation-Related
Internationalization Model\(^4\), the Uppsala-model is more general and further developed than other process models. The model, which includes small and large firms, is less dependent on time and space and has therefore a higher generalizability than other process models (Andersen, 1993). The model itself is based on Aharoni’s *The Foreign Investment Decision Process* (1966), Cyert’s and March’s *Behavioral Theory of the Firm* (1963), and Edith Penrose’s *The Theory of the Growth of the Firm* (1958). The model states that lack of knowledge about foreign markets and operations creates an obstacle to internationalization and that this knowledge can only be acquired by operating in, and experiencing, international markets. As the internationalizing firm starts operating in a foreign market, it gains experiential knowledge of that market. This leads to reduced uncertainty and increasing commitment of resources to the market that in turn leads to more activities and, through them, more knowledge. An incremental process occurs because the firms gain foreign market knowledge through gradual commitment of resources to do business in that market.

The internationalization process is dynamic in the sense that the outcome of one decision on the firm’s internationalization constitutes the input for the next decision. Perceived problems and opportunities instigate the decisions, which will depend on experience and be related to the operations currently performed in the market. Thus, a very important aspect of the model is the concept of experiential knowledge, that is, knowledge about foreign markets and operations.

Experiential knowledge is the factor that reduces uncertainty and creates business opportunities abroad, which makes it the most critical factor in the process model. Johanson and Vahlne stated that experiential knowledge can only be acquired through operating in a market and that this knowledge is market specific and cannot be transferred. They mention the existence of objective market knowledge, a type of knowledge that can be transferred to other markets, since it is acquired through standardized methods of collection and transmission. Objective knowledge does not reduce uncertainty, nor does it create business opportunities; thus it is not as vital as experiential knowledge in the internationalization process. In developing their model, Johanson and Vahlne (1990) placed emphasis on market knowledge (viewed as knowledge of the network) as the primary vehicle for resource commitment and experiential knowledge generation. They stated that ‘…in relation to the internationalization process model it can be assumed that market (network) knowledge is based on experience from current business activities, or current business interaction’ (p.19).

\(^4\) The Innovation Related Models (Bilkey and Tesar, 1977; Cavusgil, 1980; Czinkota, 1982; Reid, 1981) focus on internationalization decision of the firm as an innovation. The gradual pattern of learning and internationalization is connected to an innovation adopting process (see for instance Andersen, 1993, for a review)
In a further refinement of the model, Eriksson et al (1997) revised the original idea of experiential knowledge and divided it into three types: internationalization knowledge, business knowledge, and institutional knowledge. The latter two are two sides of experiential market knowledge, where business knowledge is the experiential knowledge of clients, markets, and competitors, and institutional knowledge refers to experiential knowledge of governments, institutional frameworks, rules, norms, and values. Internationalization knowledge is the firm’s capability and resources for engaging in international operations, and is thus a more general form of knowledge. Within this division of experiential knowledge into three types lies a notion of experiential knowledge as transferable between markets and firms. Whereas business knowledge and institutional knowledge is market specific, internationalization knowledge is firm specific, and may be used in various foreign markets.

In early internationalization research, few studies examined the effects of networks on internationalization, but in a 1988 study, Johanson and Mattsson argued that from an industrial network perspective, internationalization can be seen as the way that a firm establishes and develops network positions in foreign markets. In another study, Sharma and Johanson (1987) stated that the firm acquires knowledge about business opportunities through its business network. They viewed the relationships within these business networks as the most important asset of the firm.

In the previous decade, a growing interest in networks can be noticed. Coviello and Munro (1997) and Coviello and Martin (1999) proposed integrating the internationalization process with the network approach to improve our understanding of internationalization. Business network connections of a firm were also discussed as structural antecedents to experiential knowledge development and as an influence of the cost and benefits of internationalization (Blankenburg Holm et al., 1996; 1999). Other studies also showed the importance of networks in the internationalization of firms (Blankenburg Holm and Eriksson, 2000; Chen and Chen 1998; Erramilli 1991; Majkgård and Sharma 1998).

Firm learning and international business relationships were connected in a model by Eriksson, Hohenthal, and Johanson (1998) that acknowledged that learning is a matter of business relationship activities associated with the execution of current operations. The model explained how firms learn and how this knowledge is used for the execution of current operations. Experiences from past business relationships makeup the firm’s organizational memory, which then guide the current activities and learning in the relationships. This new knowledge later becomes a part of the firm’s organizational memory, which then guides new activities and learning within the relationships. The model focuses on the business relationship, even though relationships are seen to be connected.
Learning in networks is only discussed as an area in which learning is done, but how this is accomplished is not explained. Nor is the influence of the embeddedness explored.

A MODEL OF THE USEFULNESS OF NETWORK EXPERIENTIAL KNOWLEDGE IN THE INTERNATIONALIZATION PROCESS

The model below connects the view of useful knowledge in embedded networks to the view of usefulness of experiential knowledge in the internationalization process of firms. Based on the preceding theoretical development, it seems logical that the internationalizing firm’s learning process can be related to the firm’s embeddedness in its network. If experiential knowledge is gained in international business activities, and these are embedded in business networks, then experiential knowledge for internationalization can be seen as acquired from activities in business networks. This specific form of experiential knowledge can be characterized as “network experiential knowledge” defined as the experiential knowledge a firm accumulates from its network of embedded business relationships. The usefulness of network experiential knowledge is related to the reduction of uncertainty and risk, but also to the exploitation of opportunities in the internationalization process. Such knowledge is useful in decision-making for the internationalizing firm.

Organizational memory: A firm’s organizational memory is made up of previous experiences from activities in embedded networks: network experiential knowledge. These can be experiences from one country or several countries. The organizational memory thus holds knowledge of how to handle business in embedded networks and of how to internationalize, which is network experiential knowledge accumulated from different countries. The network experiential knowledge that resides in the organizational memory of the firm is made up of both experiences that have, but also experiences that have not, been turned into routines, because certain activity patterns only become routinized after being repeated a number of times.

The organizational memory of the firm is its theory-in-use, which constrains behavior by virtue of existing ways of perceiving, interpreting and doing. The theory-in-use thus embodies deeply embedded routines, both for application of knowledge and for learning practices. The influence that the network has on a firm’s knowledge accumulation affects, consequently, what knowledge is later stored and developed into routines by the firm. In that way the firm’s routines and theory-in-use are in large part determined by what has been learnt in the network.
A variety of routines exist of which some are specific for handling the network; these are defined as network routines. Network routines can concern cooperation and adaptation, within the network, that facilitate coordination of activities therein between the involved parties. Based on knowledge collected in the network, firms also develop routines for continued development of networks. The routines store organizational experience of networks, allowing the firm to transfer that experience to new situations. The organizational memory also influences the firm’s ability to perceive new opportunities. The experiences previously accumulated and stored are the possibility for the firm to perceive new opportunities.

Figure 1. A model of usefulness of network experiential knowledge.

Perceived usefulness of network experiential knowledge: According to Cyert and March (1963), useful knowledge can be found in the vicinity of the current alternative, that is, the firm’s already successfully applied options. Knowledge that is perceived as useful can be found in the firms’ accumulated network experiential knowledge, that is, knowledge that is already being used to solve problems in current business activities.

Network experiential knowledge will be perceived as useful because it stands for the firm’s already successfully applied options in similar situations in the past. The perceived usefulness of the network
experiential knowledge is related to the possible use of the knowledge in the firm’s business activities in its embedded network. The perceived usefulness of knowledge is particularly important because it has been found to be a good predictor of user behavior, and will thus influence the actions of internationalizing firms. But that a certain piece of knowledge is perceived as useful does not mean that it is necessarily correct and will enhance performance.

**Actual use and learning:** The usefulness of knowledge is related to using a particular knowledge in a particular decision-making situation. Firms use their knowledge as they engage in business activities in embedded networks. Often this use of knowledge is accomplished through the use of routines, which guide firm behavior and are a way for the firm to handle business within its network. The routines that hold network experiential knowledge allow the firm to transfer that experience to new situations.

The usefulness of knowledge is recognized through interaction with other actors in the network. During such interaction, firms occasionally become conscious that a piece of network experiential knowledge is not as useful as perceived, or not useful by any means. Instead, more innovative or explorative learning through experience in interaction in the network is needed. A firm might be able to learn new things and gain the knowledge it needs, but also, a firm might not learn. Interaction in the network can thus generate experiences of how to handle business in the embedded network, and such experiences also influence performance. Relationships within these business networks are therefore very important assets of the firm.

**Performance:** The use of network experiential knowledge and learning (or non-learning) in activities in embedded networks will influence the performance of a firm. The influence of network experiential knowledge on a firm’s performance affects which knowledge is later stored in the firm’s organizational memory. The effect can be seen in changes in the theory-in-use that are accomplished by either lower- or higher-order learning. Deviation in performance will lead to changes in theory-in-use. The lower the deviation the less reason to change existing behavior and theory-in-use (lower-order learning), because the existing network experiential knowledge has proven to be useful. On the contrary, if deviation in performance is high, a more radical change in behavior and in theory-in-use (higher-order learning) may be required, in view of the fact that the existing knowledge has not been useful.

In sum, the model states that the organizational memory, as network experiential knowledge, is the firm’s base by which to perceive network experiential knowledge as useful. Perceived usefulness of
THE RESEARCH PROCESS AND THE EMPIRICAL WORK

In 1998, I joined the research project “Learning in the Internationalization Process of Firms” as a full time doctoral student. My own part of this project, this doctoral thesis, came out of an early dialogue with some of the other project members. My background as a marketing major with a master thesis about a Swedish firm’s business network in another country and their studies of firms’ learning in international business produced a discussion of business networks and their effect on firms’ learning. My study had indicated that there might be some network effects regarding firm learning, but from the discussion I learnt that the majority of studies on internationalization did not include network effects on firm learning. I found this interesting because the firm I had studied used its network to gain useful knowledge. It became clear to me then that this issue needed further investigation.

The empirical part of my doctoral studies began by going back to the data I had collected as a graduate student. As mentioned above, this thesis came out of the discrepancy between what had already been said and studied by others and what my own studies had indicated. The questions I was asking in the beginning of my doctoral studies, “Is experiences from business networks useful in internationalization?” could best be answered by a qualitative study (see below). Since I spent over a month studying a firm and had a lot of unused collected material, I thought that I might find something interesting in the material. If I could use what was available, it would be unnecessary to start collecting new data.

The data had been collected with a focus other than the present one. Then I wanted to merge my two fields of interests, industrial marketing and Eastern Europe. Thus, I went out into the field to explore how a firm’s network evolved from an industrial marketing perspective (Håkansson and Snehota, 1995) in an Eastern European country. This resulted in a case study about an ABB division in the Czech Republic. To me, however, it seemed that the data I had collected earlier had little to do with a

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5 In this section I use the two terms “network” and “business network” interchangeably.
firm’s internationalization process. Networks were of course the focus, but could I connect this variable to the internationalization process?

One study that had connected these two theoretical perspectives was *Internationalization in Industrial Systems, a Network Approach* by Johanson and Mattson (1988). They argued that from a network perspective, internationalization becomes the way that a firm establishes and develops network positions in foreign markets. To be able to establish positions, the firm needs knowledge about how to do this, knowledge about how and which firms to interact with. The firm also needs knowledge about which other firms are a part of the network, and how these are connected to each other. This theory was based on the same “network approach” I had used in my study. Therefore it was natural that Johanson’s and Mattson’s theoretical framework became the starting point for my new study. I had then something tangible to search for in the material I had collected.

**METHOD AND DESIGN-QUALITATIVE WORK**

The first part of my doctoral study began with a qualitative study of one firm’s internationalization process, seen as its establishment on a foreign market and how its developing network supplied the firm with useful knowledge during this process. As I wrote before, the question I was asking, “Is experience from business networks useful in internationalization?” was of such a nature that it could only be answered through qualitative research. In his book *Interpreting Qualitative Data*, Silverman (1993) mentions several versions of what has been defined as qualitative research. He states that there are problems connected with these different definitions. According to Bryman (1989), qualitative research is preferred when the researcher wants to focus on the perspectives of those being studied. But Silverman argues that such an approach can become too subjective and involve a failure of the researcher to analyze. On the other hand, Silverman agrees with Bryman’s definition that qualitative research gives the study an understanding of actions and meanings in their context, and that it emphasizes time and process.

Silverman’s own “prescriptive model” of qualitative research states that the methodology can be characterized by being theoretically driven rather than determined by what can be measured and sampled. He continues by quoting Kirk and Miller which say “qualitative research is a particular tradition in social science that fundamentally depends on watching people in their own territory” (1986, p.9).

These definitions and prescriptions can be connected to my research questions. My original study and the one at hand were both theoretically driven, even though one could say that they were more
“abductive” than inductive, given that I had moved back and forth between theory and empirical work. I wanted to explore business networks and how these affect firm’s development of useful knowledge and learning processes, and because it was vital that I somehow could study this process; a qualitative study was a good choice. A business network consists of many different firms, and given that I wanted to learn why and how networks affect firm knowledge development in the internationalization process, inclusion of such questions in the collected material has been of great use. That a qualitative study had been made “watching people in their own territory” gave me the flexibility to adapt to the different perspectives and changing events during the timeframe covering the study. In using the qualitative study, the context surrounding the firms could also be considered. One very common way to use qualitative methodology is to do a case study, which is what I did. As with qualitative research, there are many definitions of what a case study constitutes. The most common one comes from Yin (1989). He states that the case study should be the choice, of research design, when the questions "how" and "why" are asked about a contemporary phenomenon, which the researcher has no or little control over. Yin’s how and why questions were of use to me, and were one reason that I chose the case study for my qualitative work.

The case study method can be used for both single and multiple case studies (Yin, 1989; Eisenhardt, 1989, 1991). Eisenhardt has written about the multiple case studies theory-building properties. She states that the multiple case approach encourages the researcher to study patterns, common to cases and theory, and to avoid chance associations (1991). She also argues that multiple case studies can be used to develop theory (1989), which can be compared to Yin who uses case studies to test theory. Multiple cases are powerful means to create theory because they permit replication and extension among individual cases.

The purpose of my study was to develop theory further. I did not use the case to verify theory; instead, I used existing theory concerning networks and the internationalization process, which I then tried to develop further through the cases. The unit of analysis in my study was a division of ABB, which had several customer relationships. I used each of the customer relationships as individual cases for the replication and extension of the development of theory. Therefore, my approach to the use of case studies lied closer to Eisenhardt’s than to Yin’s.

**Data collection-interviews**

Interviews are an important source of evidence in case studies since most of them are conducted to explain human affairs. The human affairs should be interpreted and reported by an investigator with the help of the respondent’s insights (Kvale, 1996a). To capture the context and process of the division’s network’s development, twelve interviews were conducted with the firm and its
customers. These interviews were the main source of evidence for the study. According to Kvale (1996b), an “interview investigation” should be designed with regard to obtaining the intended knowledge. One way of achieving that goal is to use an interview guide and to be reflective about what is said during the interviews (Ibid). For that purpose I constructed an interview guide based on two other such guides concerning industrial marketing and purchasing, developed by the international IMP (Industrial Marketing and Purchasing) research group. I used the question considered for marketing and customer relationships. This interview guide covered questions concerning business relationship and their content, including marketing, purchasing and production, and the development of the involved relationships. The two interview guides had been used by many researchers before me, and had subsequently been tested and found reliable. All interviews had been semi-structured because the interview guide had been used, but had been departed from, when interesting subjects arose during the interviews. One can then ask, how could data gained with the help of such a specific interview guide be of any interest to the new study I did as a part of my dissertation? It depended on the answers to the questions. The interviewees’ stories of the network’s development were very much stories of a firm’s establishment in a new market and of how experiences from the network were useful in this process. I alone had not been focused on this question before. The details of the data collection can be found in the book chapter and Paper 1 of the thesis How to Use Network Experience in Ongoing International Business (Lindstrand, 2003).

Analysis and validation
A case study cannot be evaluated in terms of possibilities to statistically generalize its results. Instead, the method of generalization is analytic generalization (Kvale, 1996a; Yin, 1989). In such a validation, a previously developed theory is employed as a model with which the empirical results of a study are compared. The generalization of a case is connected to the internal validity of the case (Yin 1989), and the internal validity is concerned with establishing causal relationships, whereby certain conditions are shown to lead to other conditions. This can be done by building explanations about the case, when analyzing the evidence. Yin mentions that moving back and forth between a proposition made and the empirical evidence is a characteristic of explanation building. Thus, the explanation building in a case study resembles the process of refining a set of ideas. The same idea appears in Silverman’s description of “analytic induction”, as a method for testing hypotheses and building theory in qualitative studies (1993). Here data is studied to see whether the initial hypotheses relates to it. If not, the hypotheses are reformulated. The data is then again studied to see if it relates to the reformulated hypotheses; and if not, the hypotheses are reformulated again. This way all exceptions are eliminated until all the data fit the developed hypotheses and theory.
My own way of analyzing the material I had collected earlier was related to these methods. The fact that I could not go into the field to collect more data complicated the moving back and forth between the propositions I had and the empirical evidence. I was limited with what had already been collected. Even so, I was able to take my initial propositions and compare them to the data. In the beginning, they did not match completely, so I had to reformulate my hypotheses. Analytic induction means that all the data should match the hypothesis, but I excluded some of the data concerning certain customer relationships. My initial propositions were based on Johansson and Mattson (1988), who argue that from a network perspective that internationalization means that a firm establishes and develops network positions in foreign networks. In my analysis of the material, I discovered that not all network relationships developed, and therefore they were excluded from the study. After excluding some of the material, I continued to move back and forth between the theory and the data in a constant comparative method. The developed theory has been revised several times during the process, but finally came to its conclusion in Paper 1 in this dissertation. By this building of explanations about the case, not only did I increase the internal validity of the study, but I also found propositions to compare with new cases. Silverman (1993) discusses the possibility for validation of qualitative research, and includes methods of generalizing a case to a larger population. He does not mean that one needs to use quantitative measures to validate the study; instead he writes about investigating whether or not the chosen case is relevant compared to other cases of a population, coordinating several studies or using survey research on a random sample of cases. I did compare my case to other cases of the population: international corporations entering a new market for control systems and machinery (Siemens, AEG, Honeywell, Valmet etc). With this population, it seemed that the population for my case had many commonalities. These firms were going through the same process of entering the Czech market at the same time, trying to learn how to do business in that market and to find other firms to work with as partners during and after their establishment. I had no other studies to coordinate my work with, but following my case was a study of nearly 500 firms from several different countries where I hoped that I could somehow compare and apply my theory to other firms.

METHOD AND DESIGN-QUANTITATIVE WORK
My case study indicated that firms find experiential knowledge that has been accumulated from their networks of embedded business relationships (network experiential knowledge) useful. The case study also generated questions (for further investigation) concerning such usefulness. Since I wanted
to capture any existing general pattern for the usefulness of network experiential knowledge to firms, a quantitative study with a larger sample of firms was needed. To use multiple methods in research is seen as a great advantage, as the weakness of one method can be overcome with the help of the strengths of another method. Jick (1979) calls this triangulation; where two different methods of data collection and analysis are used for the same analysis object, or phenomenon. The choice of multiple methods was based on the assertion that a more varied and complete picture of the usefulness of network experiential knowledge would emerge.

**Design of questionnaire**

The project I joined in 1998, “Learning in the Internationalization Process of Firms”, is primarily concerned with studying firm learning in the internationalization process. Networks and their possible effect on this process is a major part of the project’s focus. For the motive of studying the issue of learning in internationalization, a questionnaire was designed to capture and operationalize aspects of experiential learning and networks (see appendix). The questionnaire was developed based on previous surveys done at the Department of Business Studies, Uppsala University, but also on a literature review of previous research in the areas of learning, international business, and marketing. The questionnaire was developed by participating researchers at the University of Uppsala, Uppsala; Victoria University of Wellington, New Zealand; and Copenhagen Business School, Denmark. It was pre-tested on managers in three Swedish firms in 1997, and then further tested in a pilot mail survey of 50 Swedish firms.

The purpose of the project and the questionnaire was to investigate how firms learn as they do international business, and what are the affects of that learning. The questionnaire focuses on the respondent's perception of both existing assignments abroad and additional assignments, and therefore captures both the experience and the incremental nature of international business. The questionnaire also focused on capturing the network effects on firm learning. The theoretical background for the questionnaire is a model of the internationalization process in which past experiences from business assignments make up the organizational memory of the firm that is embedded in the firm's ongoing activities, in the firm and in the network of business relationships (Eriksson et al., 1998). In the process of internationalizing, the firm learns about foreign countries, their governments, and their regulatory institutions, norms, and values (Eriksson et al., 1997). In addition, the firm also learns about specific relationships and about the network. This experience can be useful to the firm in its business development.

The questionnaire was designed to identify a real-life business decision making situation. The decision making situation was an ongoing or recently finished business assignment. The reason for
this selection was based on the notion that business is characterized, to a large extent, by incremental work within ongoing business. The respondents were therefore presented with the following introduction.

‘We would like you to select a business assignment where your company (If you work in a firm that is divisionalized or in other ways divided into units, answer for your business unit) is expanding. Preferably, this assignment should be well underway so that you would have already started doing business with the counterparts. If this is not suitable for you, then we would appreciate it if you could choose a recently finished assignment. Examples of this assignment could be:

- A contract with a new distributor or agent in a new country.
- A considerable expansion of business with an existing customer.
- Doing business with one or more new customers within an existing market.
- Entering new country markets with your existing customers.
- Doing business with new customers within a new market.’

The respondents were instructed to:

‘Choose a business assignment that is important to your firm. Business assignments can be long term and hard to separate from ongoing business activities, but this investigation wants to capture a larger change in ongoing business with a customer or distributor’. (If you have selected a distributor, answer as if the word customer means distributor.)

The questionnaire was divided into three sections in order to capture different experience variables and their relation to networks and performance. The first section, which the introduction is a part of, relates to the characteristics of the chosen assignment, such as duration and level of product standardization. The respondents were also asked about the perceived lack of knowledge in the assignment concerning the network, product adaptation, and cooperation. Then followed questions relating to the perceived usefulness of various aspects of experience and routines and of the expected outcome of the assignment. The questionnaire was designed to capture the usefulness of experience supplied by the network. To capture actual use of experience was found to be difficult due to the problems of measuring where and when the experience was gained and used. I earlier defined usefulness of knowledge as ‘the perceived potential the information has for usage’ (Menon and Varadarajan 1992, p. 66). The usefulness of knowledge is the ability of the knowledge to provide decision-makers with a rationale upon which to make their decisions, and thereby to promote action. Later research has also shown that perceived usefulness can be seen as a variable mediating actual use in technology acceptance (Venkatesh and Davis 2000).
Quantitative research on business networks is difficult, as each network is typically uniquely configured around a firm. One way to resolve this problem and operationalize business network relationships is to focus on a few typical business relationships, such as customers, suppliers, and competitors. Such a simplification of business networks will never capture their true complexity, but it may be sufficiently accurate to study their more general characteristics. Previous studies have used a business network concept based on five typical relationships: suppliers to the firm, other complementary suppliers to the customer, the customer, the customer’s customers, and the firm’s other customers (Blankenburg Holm et al., 1996, 1999; Blankenburg Holm and Eriksson 2000). The same typical relationships were used in this questionnaire, except for the firm’s other customers. Instead the firm’s competitors were used. This was done to capture, within the network, the relationships in which firms are contingent on non-exchange (Cook and Emerson 1978, p 725).

The second section of the questionnaire consisted of questions about the general assessments of costs and benefits of taking additional assignments abroad. In this section we wanted to capture the respondents’ general knowledge of the firms’ abilities in the international market. We wanted to know how easy or difficult they thought international business was.

In the third section, we collected background information about the firms: age, number of employees, sale turnover, and degree of international experience. We also wanted to know the respondents experience with the firm and international business. This background information was needed for classifying firms and measuring diversity and degree of experience of the firms.

Data collection

After revisions the survey was mailed (in 1998) to small and medium-sized firms in five different countries (Sweden, New Zealand, Denmark, Finland, and South Korea), researchers therein were in charge of collecting the data in their respective countries. The purpose was to construct a common database that all participating researchers could use. The same questionnaire with exactly the same questions, but in the local language, was to be used for the survey. The questionnaires were addressed to the CEOs of the firms, the motive being that, for firms of this size, the CEO’s would have a good knowledge of the contents of international assignments.

In Sweden and New Zealand there were some difficulties in the collection: the questionnaires had to be sent out three times due to the low response rate. The reasons for not answering the questionnaire were that the firm had stopped exporting, the export was handled by a third party, or that the firm did not consider exporting to be an important assignment. After carefully coding the data, we could start using the data base. During the first tests of the database, it became obvious that the phrasing of some questions in some languages was different. This meant that the same questions in different
country sets could not be said to cover the same phenomenon. Unfortunately, these questions were useful for the purpose of this thesis. I could not use the data from South Korea and Finland. There were also some differences in the Danish data concerning the questions relating to international experience (Chetty, Eriksson and Hohenthal, 2003). This is the reason for not using the Danish data in paper 3.

Sample
The sample used for this study contains 494 small and medium sized (SME) firms in Sweden, Denmark, and New Zealand. Total response rate was 27%, and the national distribution of the total responding firms was 40% Danish, 25% New Zealand, and 35% Swedish. There was thus a bias towards Scandinavian firms, but this was alleviated by the international influence of New Zealand firms. The firms, which ranged in size from 50 to 200 employees, were selected from the trade register in each country.

Table 1 summarizes background information on the firms. The mean firm age since foundation is 41 years, but this result is increased by some very old firms. The median age is 31 years. The firms have been doing international business for an average of 25 years. Again, the result is skewed because some firms began a very long time ago, as is evident from that the median international duration of 18 years. The mean number of countries where the firm operates is 17, with 10 being the median number. In all, the sample contains firms that have been doing business for a while, in a few countries, but also firms with considerable age and experience.

Characteristics of the assignment can be seen in Table 2. The average duration of the assignment was 3.1 years, but there were quite a few younger assignments, as evidenced by a median of 2 years. As expected, from the short duration of the assignment, the respondents perceived that they were somewhat unfamiliar with the customer, as suggested by a mean of 3.4, and a median of 3. Similarly, in the country of entry, the average number of past assignments was 22 years, but the median was 2 past assignments. The respondents perceived that they were somewhat familiar with the country, as evidenced by a mean of 4.4, and a median of 5.

<table>
<thead>
<tr>
<th>Table 1. Background information on the firms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variable</td>
</tr>
<tr>
<td>---------------------------------------------</td>
</tr>
<tr>
<td>Firm age since foundation</td>
</tr>
<tr>
<td>Firm international duration</td>
</tr>
<tr>
<td>Number of countries where the firm operates</td>
</tr>
</tbody>
</table>
Table 2. Background information on the assignment.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>Duration of assignment</td>
<td>3.1</td>
<td>2</td>
</tr>
<tr>
<td>Perceived familiarity with customer (7-point</td>
<td>3.4</td>
<td>3</td>
</tr>
<tr>
<td>scales ranging from low to high)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of past assignments in entry country</td>
<td>22</td>
<td>2</td>
</tr>
<tr>
<td>Perceived familiarity with country (7-point scales ranging from low to high)</td>
<td>4.4</td>
<td>5</td>
</tr>
</tbody>
</table>

The mode of establishment of the assignment was most commonly to export from the home organization, and this was done by 73% of the firms (Table 3). Use of an agent or distributor was the mode of establishment of assignments for 31% of the firms, whereas subsidiaries in the country of entry were used by 24% of the firms. A partner other than an agent was used by 11% of the firms. As can be seen from the results, many firms used combinations of two or more modes of establishment, and did not confine their establishment solely to one form. No firms used only the home organization or a subsidiary. As many as 62% firms used a combination of the two modes.

Table 3. Mode for establishment of assignments.

<table>
<thead>
<tr>
<th>Mode for establishment of assignments:</th>
<th>Have</th>
<th>Have not</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home organization</td>
<td>73%</td>
<td>27%</td>
</tr>
<tr>
<td>Agent/distributor in entry country</td>
<td>31%</td>
<td>69%</td>
</tr>
<tr>
<td>Subsidiary in entry country</td>
<td>24%</td>
<td>76%</td>
</tr>
<tr>
<td>Other partner than agent</td>
<td>11%</td>
<td>89%</td>
</tr>
</tbody>
</table>

Data analysis

Data can be treated in many ways. Descriptive statistics is normally used to display how respondents answer questions pertaining to variables. One example is that of a frequency table, which shows how many respondents have answered a certain category of question or have assigned a value to a question. Descriptive statistics can be used to get a picture of how respondents in the sample can be characterized in terms of the questionnaire alternatives. Examples of information that can be obtained from descriptive statistics are firm size, degree of standardization of product or service, and knowledge of customer.

Analysis of covariation is normally used to study the relationship between variables. Factor analysis is a statistical technique that shows how multiple variables covary in a data set. Factor analysis can be used to identify a group of variables whose members have some common properties that are distinct from other groups of variables. For example, two variables relating to the firm’s business with its clients and suppliers might form one group of variables, and three variables relating to the
firms experience in international business might form another group of variables. In this thesis, descriptive analysis is used to give an overview of data, and also to provide a detailed segmentation of the sample. Such analysis gives an overview of the respondents’ characteristics, and also a more detailed analysis of the characteristics of certain subsets of the sample. The descriptive analysis is reported in paper 2.

Analysis of covariation and factor analysis was done with LISREL, which is a statistical Structural Equations Modeling program. LISREL not only identifies factors in a data set, but it generates construct-level variables that represent the underlying commonalities of the observed variables. The construct-level variables are referred to as constructs, and the observed variables as indicators. Furthermore, LISREL makes it possible to test covariation in the form of causal effects from and to the constructs. This allows one to test a theoretically motivated causal relationship on a data set. LISREL is commonly used in pedagogy, psychology, and sociology. Within the business disciplines, it has been most commonly used in marketing, but is growing in popularity in strategy, management, and international business, because LISREL can make statistical calculations on causal effects between constructs in that it takes account of more of the variation than ordinary covariation analyses does. LISREL uses not only covariance estimates as a source of information about variance in a data set, but also error terms as an additional piece of information. The error term tells how coherently the respondents in a data set have responded, and it is independent from the covariation estimate. LISREL thus uses two independent sources of information, and thereby better approximates the ‘true’ variation in a data set, as compared to ordinary covariation analyses. In this thesis, LISREL is used to test some key causal-logic propositions (see papers 3, 4, and 5).

THE STRUCTURE OF THE THESIS

The thesis consists of five papers that cover several aspects of network experiential knowledge in the internationalization process. The first paper, *How to Use Network Experience in Ongoing International Business*, is the base on which all the other papers rest, because it provided questions for further investigation. These investigations were made through quantitative studies because the aim was to capture general patterns of usefulness of network experiential knowledge to firms. Thus, in papers 2, 3, 4, and 5, a quantitative method was used for collecting and analyzing data. The choice of multiple methods was based on the assertion that a more varied and complete picture of the
usefulness of network experiential knowledge would emerge. In this thesis, the papers are presented in the order that they were written. Thus, they also follow the development of my research, from both a topical and methods point of view.

The first paper, *How to Use Network Experience in Ongoing International Business*, is a case study of an ABB division in the Czech Republic. In this paper, I try to broaden the perspective on development of experiential knowledge in the internationalization process, to include the firm’s network of business relationships. The starting point is the proposition that business relationships are a part of an integrated system of such relationships, and therefore there is a need to study how a network of interconnected relationships affect the firm’s knowledge and capability development in the internationalization process, not only as a structural antecedent, but also as an originator of useful business knowledge.

The paper’s case study explores the division’s development of useful experiential knowledge and of ongoing international business through networks of connected relationships. The study shows that
the division’s development in the local market was facilitated by interaction within a changing network of suppliers, sub suppliers, and customers, and also facilitated by the business knowledge the network relationships generated. Being a small sales representative office in its beginning, the unit was able to develop into a full-grown sales and service unit that also handled production. The use of business knowledge gained from interaction with, firstly, suppliers within ABB, and secondly, but most importantly, strategic sub suppliers, helped the unit develop its business relationships with its local customers. The result of the case study indicates that a firm, expanding internationally, not only uses knowledge generated within the dyad of supplier and customer, but also uses knowledge from a variety of embedded network relationships.

Paper 1 show’s that the division did develop useful knowledge through its business activities in the network of its foreign and local counterparts. This knowledge was then used to develop new and ongoing business with the counterparts, or with new firms by building new relationships, all done by developing standard forms of doing business in the network. The division not only gained experience, but also used that experience in its business activities. That experiential knowledge development in internationalization is a matter of using embedded business network relationships in development of ongoing business appears to be evident in the case study. It seems that the usefulness of network experience for ongoing business is very much a part of a learning process. If a firm finds experiences from one or several embedded network relationships useful, they also find a way to effectively relate that knowledge to the need for more knowledge in ongoing work.

The results of Paper I generated new questions that needed further investigation. For instance, based on the case study, experiences from business with suppliers seemed useful, but what differentiate their usefulness from the usefulness of customers? The case also showed that all use of past experience in ongoing business was done in the context of the network; thus learning was embedded in the network. Is it therefore worthwhile to consider experiences of networks as an entity? It may even be reasonable to explore the possibility that firms perceive their past experiences in much the same way as they deal with their ongoing business, namely as embedded in a business network. Future research in this thesis tries to answer these questions.

The second paper, *The Usefulness of Supplier Knowledge in International Business*, takes a novel approach by studying experiential knowledge gained in doing business with suppliers (supplier knowledge) in internationalization. Paper 2 aims to bridge a gap in the existing literature, which so far has not been studied, and specifically, the usefulness of supplier experiential knowledge in the internationalization process of firms has yet to be studied. By studying the usefulness of supplier knowledge, paper 2 also relates to the result of paper 1. “Supplier knowledge” refers to the
experiential knowledge gained by a firm in past relationships with suppliers, and the focus in the paper is on how useful a firm finds this supplier knowledge in its current international business with other partners. The study of firms that have developed knowledge about usefulness of supplier knowledge is important because their business relationships contain routines and practices for integration of suppliers into the network.

Out of a total of 494 firms in Denmark, New Zealand, and Sweden, the 160 firms that marked a high usefulness for supplier knowledge (1, 2, or 3 on the seven-point Likert scale) were selected for further study. These were then compared to 130 responses of firms that marked a low usefulness of supplier knowledge (5, 6, or 7 on the scale). The reason for comparing the firms was to determine which found experiences with suppliers to be useful in the ongoing assignment and which did not. Any differences between these groups can be due to differences in international experience and usefulness of knowledge from other types of network relationships.

The result of the analysis in paper 2 established that firms finding supplier knowledge to be useful also find the entire network to be useful. This is a clear result, showing that firms either find the entire network useful, or they find only the network of customers useful. The fact that the firms that use suppliers also use many different kinds of business network relationships suggest that they use experiences of many types of business network relationships, rather than using experiences of just one such type. The results for the ongoing business assignment are similar in that there is a need for knowledge about several different kinds of business network relationships. An interesting result is the connected structure, which implies that the focal firm was found to have complicated relationships with customers’ customers, customers’ complementary suppliers, and competitors. The findings indicate that even distant network ties may be of great importance to the firm because the perceived usefulness of supplier knowledge will increase the more connected the structure of the firm.

The third paper, *The Perceived Usefulness of Network Experiential Knowledge in the Internationalizing Firm*, co-authored with Anders Blomstermo, Kent Eriksson and D. Deo Sharma, examines the perceived usefulness of network experiential knowledge, its antecedents and its effects on performance for the internationalizing firm. We define usefulness as ‘the perceived potential the information has for usage’ (Menon and Varadarajan 1992, p. 66). Studying what knowledge managers perceive as useful is important because their perception of usefulness is likely to influence action by the internationalizing firms. The managers’ perceptions of usefulness are also likely to influence the final outcome or performance in the internationalization process of firms. The assertion that decision makers in firms perceive a certain piece of knowledge as being useful is not to claim
that this perception is necessarily correct and will enhance performance. Also, the findings in paper 1 and 2 indicate that network experiential knowledge is a vital source of knowledge for the firm. There was reason therefore to investigate the relationship between the perceived usefulness of experiential knowledge and performance. Furthermore, a different type of experiential knowledge is more general (Eriksson et al, 1997). We define this general knowledge of how to internationalize as “internationalization experiential knowledge”.

As a control, we wanted to test the effect of internationalization experiential knowledge on both the perceived usefulness of network experiential knowledge and its performance. In doing so, we sought to investigate whether the perceived usefulness of network experiential knowledge is distinct from, and effected by, internationalization experiential knowledge. We also wanted to test whether the perceived usefulness of network experiential knowledge mediates the effect of internationalization experiential knowledge on performance.

Another control variable was firm variation in terms of country markets, which is antecedent to internationalization experiential knowledge. The purpose of this paper was thus twofold: to study the effect of perceived usefulness of network experiential knowledge on performance, and to study the effect of internationalization experiential knowledge and variation on the perceived usefulness of network experiential knowledge.

Four hypotheses were developed and tested, using LISREL, on a sample of 256 international firms. Paper 3 is therefore also the first paper in the thesis to study network experiential knowledge with structural equation modeling. On the whole, our four hypotheses were supported.

The resulting structural model supported the proposition that the perceived usefulness of network experiential knowledge increases performance, and that internationalization experiential knowledge increases both the usefulness of perceived network experiential knowledge and performance. This shows that there is some internationalization experiential knowledge that may concern other areas than usefulness of network experiential knowledge, and that has a positive effect on performance. Such experiential knowledge may, for instance, relate to institutional frameworks. However, the clarity of these results was obscured by the low linearity of these relations. This was expected, because accumulating experiential knowledge can be curvilinear.

Further investigation showed that the model was strongest for firms that have experience from establishment in other countries, but that have not a very long duration in the foreign market. This suggested that a firm's stock of internationalization experiential knowledge and the perceived usefulness of network experiential knowledge serves as an implicit 'model' for international business development in a new business assignment abroad. The findings in paper 3 indicated the importance and complexity of network experiential knowledge. All the results showed that firms use their
internationalization experiential knowledge more as they operate in more international markets. This indicated that experiential knowledge can be transferred to, and applied in, different markets.

The fourth paper, *The Perceived Usefulness of Knowledge Supplied by a Client’s Network*, co-authored with Kent Eriksson and D. Deo Sharma, deals with firms’ client networks. The network surrounding a firm has a large influence on its ability to act with its clients and other counterparts. How firms can utilize the knowledge supplied by networks is therefore of great importance to their business with a client. Many studies have shown the usefulness of clients, whereas less attention has been given to the usefulness of knowledge supplied by a client’s network, such as clients’ clients, a client’s supplementary suppliers, and competitors to the firm.

Paper number 4 aims to investigate the knowledge supplied by and embedded in a client’s network. This paper relates particularly to paper 2, which found that firms either find the whole network useful or they find the network of customers (clients) useful. But it also relates to the other papers in the thesis by focusing on the usefulness of embedded learning, albeit embedded in a particular part of the network. Because usefulness of a client’s network was more of an explorative concept, we also wanted to investigate what affects this usefulness. We did this by developing five hypotheses and testing them on a sample of 494 firms.

A LISREL analysis demonstrated that knowledge supplied by a client’s network is more useful the greater the market variation the firm has. Firms with a greater variation in operation are engaged in a variety of differentiated networks, and may therefore have a larger number of network ties. This does increase the perceived usefulness of knowledge supplied by the client network. A client’s network is also more useful the more knowledge the firm has of its client and the more the firm needs knowledge of its clients and suppliers. In broad terms the analysis supports the fact that more knowledge development in a client assignment leads to greater perceived usefulness of knowledge supplied by the client network. This fact lends strong support for the learning process in a firm’s relationships with clients.

Cost of cooperation and level of product standardization in the assignment also has a positive effect on the perceived usefulness of knowledge supplied by the client network. The knowledge supplied by the client network seems to complement the knowledge supplied by a firm’s ties to other clients and suppliers. Decision-makers perceive knowledge supplied by client network ties to be useful in non-programmed, non-routine, and new marketing situations. In more programmed and routine marketing decision situations, on the other hand, knowledge supplied by client network ties is perceived to be less useful. However, knowledge supplied by ties to clients may be more useful in such conditions. These findings have implications for marketing decision-makers in a number of
ways. It seems as if experiences tend to increase the firm’s use of new knowledge. This may be consistent with the idea that more experienced firms have learnt to graft core strategies, as well as business models that are more flexible to local markets by the assimilation and use of new knowledge. This is done as firms gain experience both within an assignment, within a market, and within their business globally.

Paper number five, *Network Routines and Change of Network Configuration*, which is also the last paper, is a conceptual paper that develops a framework that connects the influence of business opportunities on the perceived usefulness network routines to the actual use of routines and its effect on firm performance and capabilities. This paper relates to paper 1 in particular, which found that the network experiential knowledge gained by a firm was used to develop standard forms of doing business (routines), which then affected firm performance and capabilities.

A crucial objective for firms is to identify and exploit business opportunities that will create value and growth for the organization. In the firm’s quest to exploit opportunities, knowledge becomes one of the most critical competitive factors. This implies that a firm’s existing knowledge is its capability to develop ongoing business and new opportunities. The business opportunities that arise for a firm will prompt the firm consider how useful its existing capabilities and knowledge are when seeking such opportunities. The search for useful knowledge will be made in the vicinity of the current alternative, that is, in the firm’s already existing knowledge. Much of a firm’s useful knowledge is derived from its business network; therefore the search for useful knowledge will be made in experiential knowledge gained from the network. This network experiential knowledge is discussed in paper five as network routines and as network configurations and capabilities. The purpose of paper five was thus to develop a framework concerning how firms’ business opportunities influence the perceived usefulness of network routines, and how this perception will influence the learning, performance and network configuration of the firm.

Firms develop network routines that are specific for handling their networks by learning how to do business and how to get needed knowledge by interaction with its network. The firms also learn which network configuration gives them the most benefit. The routinization of this knowledge leads to specific network configurations. These routines and configurations have become the firms’ successfully applied options and its capability to develop ongoing business. Thus, a firm’s existing network configuration can be seen as its capability to develop business and exploit business opportunities.

The network routines and configuration might not always be enough for exploiting opportunities, and instead new more innovative knowledge is needed. It might be that the configuration of a firm’s
network is not useful enough and needs changes. The framework developed in paper five thus also discusses the connection between single/double loop learning and changes in network configuration.

To sum up, the five papers are very much interrelated both in what has been studied and in their results. All five papers show that network experiential knowledge is perceived as useful to firms in their development of ongoing business, which answers to the main purpose of this thesis. All papers also show that this knowledge is embedded in the network. It might be in the whole network (papers 1, 2, 3, and 5), but it can also be in a part of the network (papers 2 and 4).

Figure 3. The model of usefulness of network experiential knowledge and the related papers

The findings of each paper add to the knowledge of the model earlier defined. The model states that the organizational memory—the network experiential knowledge—is the firm’s theory-in-use in order to perceive network experiential knowledge as useful. Papers 1, 2, 3, and 4 focus on the direct effect of network experiential knowledge on perceived usefulness of network experiential knowledge. Paper 5 also discusses the direct effect of network experiential knowledge on the
perceived usefulness of network knowledge seen as routines, but here the effect is seen as both positively and negatively related depending on whether single or double loop learning is needed.

In application of its network experiential knowledge, the firm learns about its appropriateness (papers 1, 3, 4, and 5). This also results in a performance, for which papers 1 and 3 showed a positive effect of usefulness of network experiential knowledge on performance, and paper 5 discussed the relationship conceptually. The performance outcome then determines what is stored in the organizational memory, as network experiential knowledge (papers 1 and 5). A further result is that a firm’s network experiential knowledge was useful in developing routines and business models (papers 1, 3, 4 and 5) for developing ongoing business, and in that way facilitated the capability development of the firm.

By studying the above and gaining these results, one objective of my purpose is fulfilled, namely, to study the relationship between performance and network experiential knowledge. In an attempt to answer another objective of the purpose—what affects the usefulness of network experiential knowledge for the international firm—I have studied the effects of variation and international experience, and have found that these have a positive effect on usefulness of network experiential knowledge, even though variation was mediated through international experience (paper 3). I also investigated the effects of need of knowledge, market variation, cost, product standardization, and involvement on the usefulness of knowledge from client’s network (paper 4).

CONCLUDING REMARKS

SOME MANAGERIAL IMPLICATIONS

The results of the thesis have some implications for international firms. The thesis shows that firms have to look beyond the choice of mode of entry, foreign market research, or their global strategies. Firms need to recognize that they learn how to do business in networks of multiple relationships. Networks should be recognized as important resources, because they supply knowledge that the firm may find useful in developing their international business. If the knowledge is not available in one relationship, it might be found in another one, or in a combination of several relationships. Firms also need to understand that this knowledge will probably be developed in an embedded network. For instance, firms that find suppliers useful also find the entire network useful. An analysis of either
customer or supplier relationships is often insufficient; the entire network needs to be considered. It is therefore difficult to assess the value of a single relationship without taking into account its embeddedness in a network. On the other hand, if firms understand this, and learn to make use of their network experiential knowledge, then such knowledge can be a valuable resource that will generate gratifying rewards, such as improved performance. They can be able, for instance, to better assess the potential of international expansion.

Another result of this thesis that has significant implications for firms is the connection between the usefulness of embedded network experiential knowledge and firm experience. Experiences tends, it seems, to increase the firm’s perceived usefulness of knowledge, suggesting that firms can develop routines and procedures that make use of their existing network experiential knowledge. The firm’s existing knowledge can serve as an implicit ‘model’ for the application of network experiential knowledge in international business. Thus, firms can use business models, based on network experiential knowledge, in developing their international business. This is done as firms gain experience both within an assignment, within a market, and within their business globally. But it is crucial that firms understand that it takes time to develop such a capability to effectively learn how to use the network experiential knowledge and develop it into business models and routines.

When the routines and business models are in place, they guide which new opportunities and knowledge the firm will perceive as interesting and useful. Firms have to be aware that this influence exists and that it can overshadow the fact that firms might overestimate the usefulness of its own business models. While the strategies, such as the use of business models, simplify the surrounding environment, it may also result in firms losing out on market specific assets, because perceiving knowledge as useful does not, however, mean that the perception is necessarily correct.

**FUTURE RESEARCH**

This thesis contributes to our understanding of the process of internationalization by connecting experiential knowledge and networks in international business. That international business research has previously studied these as separate phenomena, this is recognized, and that it is fruitful to combine them. This thesis and included studies of the embeddedness of knowledge supplied by and developed in networks of business relationships finds that firms can accumulate network experiential knowledge that can be useful in internationalization. Although this thesis has developed a framework for understanding how the structure of the network affects the usefulness of network experiential knowledge, it has not studied the opportunities available through a network which have been shown
to be affected by its structure (Burt, 1992). Could network structures provide different opportunities and therefore different performance? Also, is it easier to use network experiential knowledge in one kind of network, as compared to another? Products or services with different degrees of standardization generally require different degrees of customization, which may be a way of discerning how networks and the usefulness of network experiential knowledge differ. Or is network experiential knowledge useful in different ways depending on whether the network structure is local, domestic, international, or a combination of these. And is it possible, or feasible, for firms to find a best structure for optimal gain of useful network experiential knowledge? Seeking answers to all these questions could be interesting and rewarding for future research.

One stream of research proposes that “organizational” memory exists apart from the firm, residing instead in the network (Beckman and Haunschild, 2002). These ideas stem from an assumption that there is knowledge that can only be related to its specific context, and therefore it belongs not to the firms, but instead to a relationship or a network. Perhaps this could be related to the firms theory-in-use, and one could explore whether there might exist a firm theory–in-use and a network theory–in-use.

A distinction can be made between knowledge and knowing, where the latter is defined as the activities of individual and group practice (Cook and Brown, 1999). Network experiential knowledge might thus be analytically separated from experiential network knowing, which refers more to the activities made in the network. The network can thus be seen as a community of practice, wherein activities are coordinated in a certain way. Knowledge could tend to be explicit or tacit. Knowing is more a matter of activity structures in the network, and such structures may be more tacit than explicit. To clarify this issue would be interesting for future research.

Another focus for future research would be to find ways to measure the relatedness between firms’ needs for knowledge and their uses of experiential knowledge in international business. Such measurements might possibly provide answers to questions concerning precisely how firms use their experience in ongoing business. Future research needs to study and be able to measure objectively and subjectively performance, and the effects of network experiential knowledge on both. In this thesis only subjective measurements of performance have been used, thus it will be of interest to refine and compare these measurements to objective measurements of performance.

Like most research concerning the internationalization process of firms, this thesis has been preoccupied with experiential knowledge. This is based, of course, on the notion of experience being the crucial factor for internationalization. But Penrose (1959) spoke not only of experience as important for the growth of the firm, but also spoke of objective knowledge. Objective knowledge was defined as knowledge that is independent of individuals and can be formally taught, and can be
learned from others or from the written word, which can be transferred to others. To study therefore the usefulness of objective knowledge for the international firm would be of interest, that is, the usefulness of knowledge of business that can be transferred without having to experience it. Such knowledge could, for example, be useful for gaining ideas that could later be developed through based on one’s own experience.

Knowledge can also be gained by acquisition of other firms, or by imitation of other firms (Forsgren, 2002). In the former case, some experiential knowledge may even be gained if the acquired unit maintains its local business. There is a general need to clarify how knowledge, and especially experiential knowledge, can be developed in the firm; and there is a specific need to clarify the role of network experiential knowledge in acquisition and imitation.

Other kinds of experiential knowledge also need to be studied. While this thesis focuses on the usefulness of network experiential knowledge, there is a need to understand how experiential knowledge—concerning institutions and internationalization, for instance—can be used. Institution-associated factors, such as laws, norms, standards, practices, cultures, and languages, are central to international business, but little is understood about how firms learn institutional experiential knowledge. Similarly, internationalization experiential knowledge concerns knowledge about how to internationalize, for which there is also a need for more-in-depth studies. The relationship between experiential network, institutional knowledge, and internationalization knowledge has been studied, but there is still a need for further clarification. For instance, one can argue that network experiential knowledge is antecedent to institutional knowledge, since knowledge is embedded in the network.
REFERENCES


Aharoni, Yair (1966), *The foreign investment decision process*. Boston, Mass.: Division of Research, Graduate School of Business Administration, Boston: Harvard University.


Kvale, Steinar (1996a), Qualitative Method, Oslo: Universitetsforlaget.


Yin, Robert (1989), Case Study Research, Design and Methods, Sage, Beverly Hills, CA.

APPENDIX. QUESTIONNAIRE

Section A. A specific international business assignment

We would like you to select a business assignment were your company (If you work in a firm that is divisionalized or in other ways divided into units, answer for your business unit) is expanding internationally. Preferably, this assignment should be well underway so that you would have already started doing business with the counterparts. If this is not suitable for you, then we would appreciate it if you could choose a recently finished assignment. Examples of this assignment could be:

- A contract with a new distributor or agent in a new country.
- A considerable expansion of business with an existing customer.
- Doing business with one or more new customers within an existing market.
- Entering new country markets with your existing customers.
- Doing business with new customers within a new market.

Choose a business assignment that is important to your firm. Business assignments can be long term and hard to separate from ongoing business activities, but this investigation wants to capture a larger change in ongoing business with a customer or distributor.

Please answer the following questions with respect to the assignment that you have selected. (If you have selected a distributor, answer as if the word customer means distributor.)

1a. If the assignment is ongoing, for how long has it been going on? __________________
1b. If the assignment is finished, how long ago was it finished? __________________

2. Approximately how many earlier assignments has your firm made in the customer country? __________________

3. What is the degree of standardisation of the most important product/service of the chosen assignment:

   1. Standardized
   2. Partially standardized
   3. Not standardized

   Unique to customer: 1 2 3 4 5 6 7

4. Who handles this assignment today?
   - Subsidiary in customer country
   - Agent/distributor in customer country
   - The domestic organization
   - Other partner than agent

   Ja Nej

   Circle applicable number for each row.

5. How does the assignment depart from earlier ones?
   - New to our firm: 1 2 3 4 5 6 7
   - Well known to our firm: 1 2 3 4 5 6 7

6. Which country is it__________________
7. A lack of knowledge in the following host country conditions is an obstacle when taking and executing the chosen assignment abroad: Circle applicable number for each row.

<table>
<thead>
<tr>
<th>Host country</th>
<th>Fully agree</th>
<th>Fully disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>-practice on technology, product, and quality standards</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>-laws on technology, product, and quality standards</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>-business laws</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>-financial practices, and currency laws</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>-business culture</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>-Language</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>-infrastructure (competition, subcontractors)</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
</tbody>
</table>

8. A lack of knowledge in the following factors is an obstacle when executing the chosen assignment abroad: Circle a number for each row.

<table>
<thead>
<tr>
<th>Factor</th>
<th>Fully agree</th>
<th>Fully disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Your customer’s -product</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>-production process</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>-cooperativeness</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>-way of doing business</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>Your customer’s most important customers’-product</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>-production process</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>-cooperativeness</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>-way of doing business</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>Your customer’s other suppliers’-product</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>of important complementary products and services</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>-production process</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>-cooperativeness</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>-way of doing business</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>Your firm’s own suppliers’-product</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>-production process</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>-cooperativeness</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>-way of doing business</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>Your competitors’-product</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>-production process</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>-cooperativeness</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>-way of doing business</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
</tbody>
</table>

9. The firm’s lack of ability to adapt in the following dimensions is an obstacle when we execute the chosen assignment: Circle applicable number for each row.

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Fully agree</th>
<th>Fully disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>The firm’s lack of ability to adapt -product</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>-production process</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>-cooperativeness</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>-way of doing business</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
</tbody>
</table>
10 In developing this assignment, it is useful to have had previous business experience with:

<table>
<thead>
<tr>
<th></th>
<th>Fully agree</th>
<th>Fully disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>customers in Sweden</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>customers abroad</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>suppliers in Sweden</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>suppliers abroad</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>customer’s customers</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>customer’s suppliers of products and services that supplement yours</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>foreign and international authorities and organizations</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
</tbody>
</table>

11 In executing this assignment, it is useful to have had previous experience with:

<table>
<thead>
<tr>
<th></th>
<th>Fully agree</th>
<th>Fully disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>-practice on technology, product, and quality standards</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>-laws on technology, product, and quality standards</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>-business laws</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>-financial practices, and currency laws</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>-business culture</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>-Language</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>-infrastructure</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>-industry structure (competition, subcontractors)</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
</tbody>
</table>

12. In executing this assignment, it is useful to have developed routines on:

<table>
<thead>
<tr>
<th></th>
<th>Fully agree</th>
<th>Fully disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>management and support of personnel abroad</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>practice for financing abroad</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>product development and adaptation</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>production process development and adaptation</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>doing business with new customers</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>doing business in new markets</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>management practice for cooperating</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
</tbody>
</table>

13. What outcome do you expect from the chosen business assignment?

<table>
<thead>
<tr>
<th></th>
<th>No</th>
<th>Very Positive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growth</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Financial profit</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>Increased knowledge</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>Increased future business with this customer</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>Increased future business with other customers</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
</tbody>
</table>

14. What is your overall satisfaction with the chosen international assignment?

<table>
<thead>
<tr>
<th></th>
<th>Very dissatisfied</th>
<th>Very satisfied</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
</tbody>
</table>
Section B. The following questions relate to your general assessment of costs and benefits of taking an additional assignment abroad.

15. Based on your previous international business experience, how would you assess the following costs of executing an additional assignment abroad?

<table>
<thead>
<tr>
<th>Category</th>
<th>No cost</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acquiring new customers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To develop existing customer relationships concerning:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Their product</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Their production process</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Cooperation in general with them</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administering this new assignment from head office</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administering this new assignment in host country</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transfer of knowledge and skills to the host country</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Establishing and maintaining customer relationships in host country</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Establishing and maintaining relationships with intermediaries</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Handling of laws, regulations, and negotiating with government in host country</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

16. Based on your previous international business experience, how would you assess the following benefits of executing an additional assignment abroad?

<table>
<thead>
<tr>
<th>Benefit</th>
<th>No benefit</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access to new knowledge (technical, commercial etc.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Improved financial profit</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New business with new customers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New business with existing customers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Improving your firm’s international competitiveness</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Improving your firm’s overall management skills</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

17. What international improvement do you expect from your firm in the dimensions below?

<table>
<thead>
<tr>
<th>Dimension</th>
<th>No</th>
<th>Very high</th>
</tr>
</thead>
<tbody>
<tr>
<td>- sales increase</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>- increase in marketshare</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>- improvement in the firm’s image/brandname</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>- profit increase</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>- increased productivity</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
</tbody>
</table>
Section C. Background information about your firm:

If you are in a multinational firm, please reply for your business unit

18. In which year was the firm/business unit established? ______

19. Number of employees? Sweden_ Abroad_

20. Sales turnover? Sweden_ Abroad_

21. Approximately which year did the firm start doing international business? ______

22. In which country was the first assignment made? ________________________

23. For how many years have you been working in the firm/business unit? ________________________

24. For how long have you been working in international business? ________________________

25. What is your firm’s international experience in the following areas?

<table>
<thead>
<tr>
<th>Area</th>
<th>Low</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>-management and support of personnel abroad</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>-to do financing abroad</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>-development and adaptation of products</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>-development and adaptation of production</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>-to do business with new customers</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>-to do business in new markets</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>-cooperation with other firms</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
</tbody>
</table>

26. To approximately how many countries do you sell?

27. How many minority, majority owned subsidiaries, alliances, and customers do you have in the following regions

<table>
<thead>
<tr>
<th>Region</th>
<th>Majority owned</th>
<th>Minority owned</th>
<th>Customers</th>
<th>Alliances, cooperation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nordic excluding Sweden</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Germanic incl. Holland</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anglo Saxon incl. South Africa</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Latin European incl. Belgium</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eastern European</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Independent (Brazil, Japan, India, Israel)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Latin American</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Far Eastern</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arab</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Middle Eastern (Turkey, Iran, Greece)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Africa</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others (specify)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

28. Which of these regions is your most important growth market? ________________________

29. Which of these regions is your major foreign market? ________________________

30. What proportion of your sales turnover abroad is in your major market? ________________________