DOMESTIC ACTIVITY AND KNOWLEDGE DEVELOPMENT IN THE INTERNATIONALIZATION PROCESS OF FIRMS

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ABSTRACT

This paper is based on behavioral theory on internationalization, examining the effect of firms operations in the domestic market on experiential knowledge development in the internationalization of the firm. Five hypotheses are developed on the effects of business operations in the domestic market on: internationalization knowledge, business knowledge and institutional knowledge. The LISREL analysis of 206 firms shows that domestic operations effect the accumulation of experiential knowledge in internationalizing firms. We found that it is harder for a firm with long domestic experience to change their mental models and processes in the internationalization process.

INTRODUCTION

Behavioural internationalization process models and export studies emphasize the importance of learning and knowledge accumulation in firms. Internationalization of firms is seen as a journey into the unknown – a future in which firms learn and uncover opportunities and problems (Barkema, Bell & Pennings, 1996; Barkema & Vermeulen, 1988; Bilkey & Tesar, 1977; Cavusgil, 1980, 1984; Czinkota, 1982; Eriksson, Johanson, Majkgård, & Sharma, 1977; Welch & Wiedersheim-Paul, 1980a, b; Wiedersheim-Paul, Olson, & Welch, 1978). An improved understanding of the internationalization process of firms necessitates a better understanding of the learning processes of internationalizing firms and the individual factors that effect these learning processes and the transfer of knowledge from one country to others. Researchers have investigated how factors such as the time length of operations and variation in foreign operations effect accumulation of knowledge in internationalizing firms (Autio, Sapienza, & Almeida, 2000; Eriksson, Johanson, Majkgård, & Sharma, 2000, 2001; Eriksson, Majkgård, & Sharma, 2000). There is also an increasing research in the area of international transfer of knowledge (Simonin, 1999a, 1999b).

The effect of domestic operations on knowledge accumulation in internationalizing firms is, however, little investigated. The internationalization process research (Wiedersheim-Paul, Olson, & Welch, 1978; Welch & Wiedersheim-Paul, 1980), as well as, research in strategy (Porter, 1985) have acknowledged the importance of domestic operations for the international operations of firms. It is concluded that, firms start operations in domestic markets,

accumulate knowledge and experience in this domestic market, and, thereafter, enter international markets. Research on firms that operate globally from their inception (McDougall, Shane & Oviatt, 1994; Knight & Cavusgil, 1996), on the other hand, question the impact of domestic experience on international operations. To the best of our knowledge, the effects of domestic operations on learning and knowledge accumulation in the internationalization process of firms is controversial and remains largely uninvestigated.

In this paper, we investigate the effects of the duration of domestic operations on the accumulation of knowledge in internationalizing firms. This is important since, as stated earlier, firms often start their operations in the domestic market. An important research issue is how the duration of domestic operations influences the accumulation of knowledge in firms? Moreover, how domestic operations of firms effect the individual components of knowledge? Are the different components of knowledge in the internationalization process influenced to an equal extent by domestic operations of firms? For the remainder of the paper, the terms experiential knowledge and knowledge are used interchangeably.

We caution the reader that our extensive treatment of the effects of domestic operations on knowledge accumulation in internationalizing firms does not imply that there are no other important factors for knowledge accumulation in the internationalization process. They have received separate treatment in other studies (Eriksson, Johanson, Majkgård, & Sharma, 2000, 2001; Eriksson, Majkgård, & Sharma, 2000).

In the current paper, we begin with a discussion of our basic model, in which three different types of knowledge in the internationalization process of the firm are identified. This leads to the formation of five hypotheses on the relationship between the duration of domestic operations and knowledge development in a firm's internationalization process. Thereafter, a presentation of the method and data employed is given, followed by an empirical analysis.

The results are then discussed and some implications examined in more detail.

THE INTERNATIONALIZATION PROCESS MODEL

As stated earlier, internationalization process studies that use a behavioural approach emphasize the importance of knowledge and learning in the internationalization of firms. Based on the work by Aharoni (1966), Cyert & March (1963) and Penrose (1959), it is stated that the internationalization process of firms is path-dependent, based on experience, sequential, local, and relies upon feedback. They also emphasize that firms initially operate in their domestic markets and that any knowledge accumulated reflects operations in these domestic contexts (Bilkey, 1978; Cavusgil, 1980; Czinkota, 1982; Johanson & Vahlne, 1977; Perlmutter, 1969; Vernon, 1966). Firms collect knowledge on markets abroad through operations in the market. As firms operate abroad they learn on their clients, their needs, resources and limitations. Operations abroad are a source of knowledge on new business option, opportunities as well as threats, abroad (Chang, 1995; Kogut, 1983; Kogut & Chang, 1991). The current stock of knowledge, thus, driving the future course of internationalization decisions in firms.

Accumulating knowledge on foreign markets is costly (Eriksson et. al., 1997). Studies show that in the process of going abroad firms gradually increase resource commitment abroad. Firms start internationalizing from countries at a short psychic distance from their domestic market. Initially firms export. Thereafter, resource commitment abroad is increased and firms establish sales subsidiaries abroad. Finally, foreign production starts (Davidson, 1980, 1983; Ball & Tschoegl, 1982; Calof & Beamish, 1995; Gatignon & Anderson, 1988; Johanson & Wiedersheim-Paul, 1975; Kogut & Singh, 1988; Weinstein, 1977).

Three interrelated components of knowledge, critical to internationalization, are identified:

internationalization knowledge, foreign business knowledge and foreign institutional knowledge (Eriksson et al. 1997). Institutional knowledge is defined as knowledge of government and institutional framework, rules, norms and values that apply in the markets where firms operate. Internationalization knowledge concerns knowledge of the firm's capability of and resources to engage in international operations. Internationalization knowledge operates as a repository in which knowledge may be stored over some time (Yu, 1990). Internationalization knowledge is firm-specific, and integrates and coordinates all internationalization activities of a firm – including the search for and transmission of business and institutional knowledge. This knowledge is embedded in the routines, norms and structure of a firm, and is neither country-specific nor specific to the foreign market entry mode. A critical consideration in internationalization is the compatibility of the firm's existing resources and those needed for a particular foreign market (Johanson & Vahlne, 1977; Madhok, 1997). Business knowledge is defined as knowledge on customers, competitors and market conditions in particular foreign markets. In overseas markets, a lack of knowledge on clients and the manner in which they do business is problematic. The three components of knowledge are related, and thus a lack of internationalization knowledge influences lack of business knowledge and institutional knowledge about foreign markets. The number of countries in which a firm is operating abroad, as well as, the length of operations abroad effect the knowledge accumulation in internationalizing firms (Eriksson et. al., 2000, 2001; Luo, 1999).

Learning in the internationalization process

Learning is 'the process within the organization by which knowledge about action-outcome relationships and the effect of the environment on these relationships is developed' (Duncan & Weiss 1979: 84). Learning is a mixture of framed experience, values, contextual information and

expert insight, and provides a framework for evaluating and incorporating new information (Cohen & Levinthal, 1990; Davenport & Prusak, 1998; Garvin, 1993). Learning is dynamic and involves making sense out of past histories and linked to current and past knowledge. Knowledge is embedded in the organizational routines, administrative structure (Senge, 1990) or theory in use (Argyris & Schön, 1978) developed to manage operations of firms. When going abroad, firms base their activities on this domestically accumulated knowledge.

Internationalization of firms implies accumulating new knowledge and making sense of an unknown and unfamiliar situation. In this sense-making process, internationalizing firms first extract cues from a situation that they are unfamiliar with. These cues form the seeds from which managers develop a larger sense of institutional and business knowledge abroad (Weick, 1991). In this sense-making, the current theory-in-use in a firm plays a dominant role. Based on a firm's theory-in-use, information is filtered and adjusted to the firm's own information-processing capacity. The current theory-in-use in firms influences the sense-making process through (1) determining what cues are extracted, and (2) interpreting the extracted cues. In the context of the internationalization of firms, domestic operations influence both steps in the sense-making process. The existing theory-in-use restricts what new knowledge firms can accumulate. In turbulent environments internationalizing firms need to unlearn some of the old and established knowledge.

We distinguish between lower and higher orders of learning in the internationalization process of firms. These are embedded in a firm's routines and theory-in-use, as well as the strategies of the firm. In the context of going abroad, internationalization knowledge forms the theory-in-use in firms, with regard to their international business strategy. Lack of internationalization knowledge is perceived when the theory-in-use is vague or irrelevant. A lack of internationalization knowledge leads to lack of business and institutional knowledge about overseas markets. Higher order learning implies a restructuring of the existing theory-in-use in firms (Argyris & Schön,

1978; Corsini, 1987; Fiol & Lyles, 1985). When the theory-in-use is applied to international operations, similarities and differences between the domestic and foreign operations are detected and cues are collected. Deviations and errors are recorded, leading to modifications and restructuring of the theories-in-use in firms. If such errors are compatible with the existing mental models, corrections are made without altering the current mental models and theory-in-use. Such lower order learning may result in differentiation, specification and extension of the theory-in-use or marginal modification of strategies and structures.

Higher order learning in the internationalization process occurs when: (i) experience concerns areas that are fundamental to the firm, (ii) repeated error corrections do not lead to the expected outcomes, and (iii) accumulation of a number of errors that together question the assumptions of the received theory-in-use. A restructuring of the theory-in-use and the corresponding mental models may take place when the received theory-in-use no longer seems workable. Higher order learning is based on lower order learning, so the accumulated knowledge of a firm contains elements of both lower and higher order. Restructuring of the theory-in-use and corresponding mental models is for the most part gradual and expensive. Organizational learning therefore tends to be mostly incremental (March, 1991).

Hypotheses

In empirical as well as conceptual work on international operations of firms the importance of domestic operations is noted. Burenstam-Linder (1961) accepts this importance by stating that firms internationalize based on their domestic network of connections. Perlmutter (1969) implicitly refers to domestic operations, stating that, in the beginning, firms operate in their domestic markets. They are ethnocentric. In going international, these ethnocentric firms are exposed to difficulties. As they learn more on international markets, institutions, rules and regulations, however, they become polycentric. Ultimately, firms are geocentric. In the

product life-cycle model (Vernon, 1966), the importance of domestic operations is explicit. Such models state that initially (i.e., in phase 1) products are innovated and produced in the domestic (in this case, the US) market and that domestic operations act as a source of advantage for these firms. In later phases, as the market potential abroad builds, production moves abroad. Thus, in phase 2, foreign production starts. In phase 3, foreign producers become just as competitive in their export markets and, in phase 4, import competition within the US market begins. The U-model by Johanson & Vahlne (1977) postulates, though only implicitly, a connection between domestic operations and the internationalization of firms. In a related work, Welch & Wiedersheim-Paul (1980) and Wiedersheim-Paul et al. (1978) are explicit in their emphasis of the importance of domestic operations for the internationalization process of firms, and state that internationalization starts at home.

Also, researchers on the eclectic approach (Dunning, 1977, 1980, 1988), the transaction cost approach (Williamson, 1975) and the internalization theory (Buckley & Casson, 1976) emphasize the importance of domestic operations (Anderson & Gatignon, 1986; Beamish & Banks, 1987; Gatignon & Anderson, 1988). In these theories, a precondition for successful internationalization of firms is a firm-specific advantage. This firm-specific advantage is then used abroad to compensate for the disadvantages of being foreigner on the market (Hymer, 1976). Finally, Porter (1985) argues in favour of a direct correlation between domestic operations and a firm's international competitiveness. Ghosal (1994) states that firms that internationalize early develop fewer routines, which may inhibit their internationalization. None of these studies, however, explicitly analyses the effects of domestic operations on knowledge accumulation in firms.

In a number of empirically based export studies, a measure of the duration of domestic operations of firms is frequently included. In an early study, Bilkey & Tesar (1977) identify six stages in the export expansion of firms, followed by Cavusgil (1984) who identifies five

stages, Czinkota (1982) and Barret & Wilkinson (1986) six, Moon & Lee (1990) three, Lim, Sharkey & Kim (1991) four, and most recently Rao & Naidu (1992) and Crick (1995) six stages of export expansion. Although the above studies do differ, they all take up the duration of domestic operations as one of the stages in the export development process of firms. And although implicit, a direct correlation between the duration of domestic operations and the knowledge accumulated in firms is presumed. However, as stated by Leonidou & Katsikeas (1996), none of the studies operationalize the effects of domestic operations explicitly. In a similar study, Ursic & Czinkota (1984) examine the attitude of firms towards exporting, finding a more favourable attitude towards exporting in firms that have been in business for less than 20 years than in firms that have been in business for more than 20 years. The effect of domestic operations is, however, not analysed. In his study of US firms, Davidson (1980, 1983) does not explicitly analyse the effects of domestic market operations.

In a study on manufacturing firms Brush (1992) found that longer domestic operations prior to initiating foreign sales did not positively effect foreign sales. In their study of Canadian firms entering the US market, O'Grady & Lane (1996) found that prior experience in the domestic market actually inhibited firms from learning about the differences between Canadian and US customers, as well as the level of competition in the US market. Brush (1992), McDougall, Shane & Oviatt (1994) and Oviatt & McDougall (1994) shows that many firms entered overseas' markets early in their lifetime. McDougall et al. (1994), Jolly, Alahuta, & Jeannet (1992) and McKinsey & Co. (1993) found several firms who served the world market from the very start, concluding that from inception, firms have the necessary mental models and organizational routines to combine resources from the different national markets. Similarly, Bell (1995) found a number of firms that did not establish domestic sales before going international – more important factors being relationships, both foreign and domestic, industry-specific factors, and the nature of the nisch in the target market. Reid

(1981) states that in newer, smaller firms, the competence and experience of top management is more likely to influence internationalization.

The effect of domestic operations on knowledge accumulation in internationalizing firms is, thus, unclear. Though none of the above-mentioned studies differentiate between the different components of knowledge, an overwhelming volume of the empirical research in the field supports the view that accumulating knowledge in domestic markets may actually have a negative effect on a firm's accumulation of foreign business knowledge. This may happen as going abroad imply operations in a new environment and this may require unlearning some old knowledge and practices developed in the domestic market. The firm's procedural knowledge may thus be domestic knowledge that is applied to an international situation, and there is a need for the firm to unlearn the domestically generated procedural knowledge and develop procedural internationalization knowledge. Such an unlearning is, however, difficult to achieve. The knowledge accumulated in domestic markets may develop as a barrier to internationalize. The longer a firm operates in the domestic market the more institutionalized the domestic market based knowledge and business practices in the firm and the more difficult to unlearn them. In combination with the literature on learning reviewed earlier, we therefore formulate the following hypothesis:

H1: The longer a firm operates in its domestic market, the more it lacks foreign business knowledge. s lack of internationalization knowledge will be an intermediary factor to its increase in

A similar argument also applies to institutional knowledge. Researchers on internationalization processes of firms recognize the importance of knowledge on foreign culture, governments, rules and regulations (Lenway & Murtha, 1994; Jansson, Saqib & Sharma, 1995). Research shows that new exporters are less aware of foreign institutions. New

exporters frequently perceive a lack of knowledge on institutional aspects such as the international transfer of funds, documentation requirements (Yang, Leone, & Alden, 1992) and foreign business practices (Czinkota & Johnston, 1981), problematic. In addition, managers of firms with long domestic market experience may not be aware of the underlying assumptions of their own culture, which, in turn, may inhibit them from learning about foreign institutional environment. In the process of internationalization, misinterpretations may occur (O'Grady & Lane, 1996). Therefore, our second hypothesis is formulated:

H2: The longer a firm operates in the domestic market, the more it lacks foreign institutional knowledge.

The reviewed literature on learning, shows that existing theory-in-use and the associated routines exert a determining effect on future accumulation of knowledge in internationalizing firms (Cohen & Levinthal, 1990). In the context of internationalization, this implies that the theory-in-use in firms that are based on its domestic operations, may inhibit an internationalizing firm from picking up on and interpreting cues from abroad. This, may inhibit accumulation of knowledge on foreign markets. If the firm has been operating in the domestic market for long time, its current theory-in-use is likely to be strong. Replacing the current theory-in-use in a firm may require radical redefinition of the firm's strategies and operations. This is cumbersome, expensive and time-consuming. Research on national culture shows that 'how things are done' varies across nations (Hofstede, 2001). Buckley (1993) argues that firms may become dependent on national traits and these may be non-transferable to foreign markets. The internationalization knowledge and the theory-in-use of firms is "automatically" and "unconsciously" accessible to the internationalizing firms. This inhibits adaptation to foreign markets and the ability to learn. A higher order learning is hard to achieve. We therefore propose:

H3: The longer a firm operates in its domestic market, the more it lacks internationalization knowledge.

As stated earlier, a firm's internationalization knowledge defines how institutional- and business knowledge is interpreted. Changes in internationalization knowledge may lead to redefinition, recombination, and reinterpretation of the internationalizing firm's institutional knowledge and business knowledge. Consequently, independent of the direct effects hypothesized in H1-H3, indirect effects may also exist. These indirect effects undergo a change in the internationalization knowledge of firms. Thus, hypotheses H4 and H5:

H4: Irrespective of H3, in the internationalization process of firms, the smaller a firm's lack of internationalization knowledge, the smaller its lack of institutional knowledge.

H5: Irrespective of H3, in the internationalization process of firms, the smaller a firm's lack of internationalization knowledge, the smaller its lack of business knowledge.

Methodology

On the basis of information from interviews with managers, a questionnaire-based statistical survey was conducted. We systematically searched for Swedish service firms engaged in international operations. Statistics Sweden did not have data on the international operations of Swedish service firms. We therefore turned to three secondary sources: trade registers, branch registers and business publications (Advokatsamfundets matrikel, Affärsvärlden, Dagens Industri, Företagskatalogen, Konsultguiden, Tekniska Konsultguiden, The Association of

Public Relations Consultancies in Sweden and Veckans Affärer). The sample size, by industry, was as follows: legal services 16 (4.5%), engineering and architecture firms 119 (32.9%), computer software and data processing 36 (9.9%), advertising 54 (14.9%), accounting 17 (4.7%), education firms 19 (5.2%), management consulting 78 (21.5%), and miscellaneous services 23 (6.4%).

Altogether, 774 companies were included in the mail survey. The questionnaires were addressed to the company presidents engaged in the firms' foreign operations. 329 presidents, and 33 vice-presidents of foreign operations, finance and other, answered the questions. A five-point Likert scale (ranging from "not at all important" to "very important") was used.

The response rate was 62.7%, and 47 of the 409 responding firms were excluded from the analysis for reasons of insufficient information on a number of variables. The remaining 362 firms provided data on most key variables. However, the amount of time (duration) since the company's first step abroad was provided by 206 firms, which is our sample. A standard test of non-response bias shows no differences between early and late respondents (Armstrong & Overton, 1977). Consequently, non-response bias is not a problem.

In order to get a measure that did not relate to any specific internationalization decision, incremental market commitment has been measured as the execution of an additional client order abroad. "Additional" implies receiving a new assignment from customers or an additional assignment for an existing customer. The respondent were not asked to consider any specific market or any specific foreign market entry mode. This made it possible to analyze the general knowledge development process in the internationalization process of firms.

Data analysis

In linear regression, the relations between two variables are approximated by their correlation and error terms. The LISREL method assumes that the correlation of a set of variables is independent of the error terms, and uses both correlations and error term covariances to test structural models. In doing so, it captures a truer representation of the variation of variables (Lord & Novick, 1968). Structural models consist of two levels. The first is the construct level. A construct is made of several indicators (i.e., observed variables) that form a higher order variable, representing common latent properties of the indicators. The second level in structural models is the formation of causal relationships between constructs. The analysis of relations at construct level corresponds to an intermediate level between theory and empirical observations. Examples are found in Bollen (1989), Hayduk (1987) and Jöreskog & Sörbom (1993). The models are usually constructed by the researcher, and confirmed using the LISREL analysis, but there is also the possibility of doing exploratory analysis (Anderson & Gerbing, 1988).

The validity of LISREL models is estimated on the basis of the validity of the entire model (nomological validity), on the extent of separation between constructs (discriminant validity) and the homogeneity of constructs (convergent validity). It is also suggested that validity be tested in the structural model and a measurement model, which is a model of correlated constructs without causal relations (Anderson & Gerbing, 1988; Jöreskog & Sörbom, 1993). The overall fit of the LISREL models is assessed by χ^2 , degree of freedom measures, and a probability estimate (p-value) (Jöreskog & Sörbom, 1993: 121). The χ^2 and degree of freedom together measure the distance between the data and the model, and the p-value is a test for a non-significant distance between the data and the model. Together, these constitute our measure of nomological validity. There is an ongoing debate concerning which measures are best suited for assessment of nomological validity (Bollen & Long, 1993), but as Jöreskog

& Sörbom (1993: 121, 122) point out, other measures suggested are all functions of χ^2 . Discriminant and convergent validity are judged by studying the coefficients, t-values, and R^2 values of each relation in the model. The R^2 value is a measure of the strength of a linear relationship estimate (Jöreskog & Sörbom, 1993: 121). To test significance, the t-values are studied (Jöreskog & Sörbom, 1993: 108). If an indicator loads on more than one latent variable, or if the correlations between latent variables do not differ significantly from 1.00, the discriminant validity is judged to be poor. Convergent validity is when the indicators load on their designated constructs significantly and linearly.

Group analysis with the LISREL method is carried out by testing for equivalence across groups. The method uses construct relations, coefficients of indicators, and error covariance to test structural models. Consequently, group analysis is done by letting each of these three parameters be equal across groups (Jöreskog & Sörbom, 1993: 53). Bollen (1989) suggests that the parameters with the least constraints should be tested first, followed by the parameters with more constraints. A basic hierarchy for this procedure is to test first for equivalence of latent variable relations, then for coefficients to be equal across groups, and finally for equivalence of error covariance structures.

Pairwise deletion is used to take into consideration missing values. We also checked by listwise deletion and received more or less the same result.

Construct Validity

Construct validity is tested in both a measurement and a structural model. For the sake of simplicity, we present figures from the structural model (Figure 1). In total, the structural model includes 5 constructs and 8 indicators (see Figure 1). In general, the constructs are valid. However, three relations in the measurement model were insignificant. All of the three concern domestic duration and constitute the relations with perceived cost, lack of business

knowledge, and lack of internationalization knowledge. Because they are insignificant, it is not possible to estimate discriminant validity.

The construct “lack of business knowledge” is meant to capture the lack of knowledge about such things as foreign firms, clients and markets abroad. The construct concerns the importance of a firm, in the internationalization process, knowing its local clients, suppliers and competitors. The construct consists of two indicators (Figure 1), which concern important ways of gaining foreign business knowledge. They concern the respondents' evaluation of the lack of foreign subsidiaries or representative companies outside the domestic market, or the lack of cooperative agreements with foreign firms. That the two indicators constitute a good latent variable is validated by t-values above 10.39, and R^2 values above 0.66.

The construct “lack of institutional knowledge” reflects knowledge about the institutional conditions and the culture and language of foreign markets. The construct consists of two indicators, which are specific, and concern a lack of knowledge about the language, laws, norms and standards in foreign business. The t-values are above 7.38, and the R^2 values above 0.54, suggesting good convergent validity for the indicators.

The construct “lack of internationalization knowledge” concerns the international experience in general. This type of experience is gained from operating in an international environment and is not a country-specific experience. The construct consists of two indicators: lack of foreign experience and lack of unique knowledge and competence. The t-values are above 10.57, and the R^2 values higher than 0.70, suggesting good convergent validity for the indicators.

The construct “perceived cost” consists of one indicator based on the perception of the overall cost of an additional assignment abroad. This indicator captures the overall cost judgement made by managers.

The construct “domestic duration” consists of one indicator based on the difference between a firm's year of establishment and its first operations abroad. This objective indicator was coded as a 7-point log scale.

RESULTS

The domestic durations prior to internationalization, range from little or no domestic experience, to firms with previous domestic operations. The first empirical test is to investigate whether domestic duration has an effect on knowledge development for these firms. For this purpose, domestic duration was coded as a 7-point log scale, where 1 represents a duration of less than 5 years, including also “born globals”. The subsequent scale points are log transformations of the length of domestic duration of less than 5 years. The distribution is skewed, with most firms having less than five years experience before internationalization commences.

The effect of domestic duration on the knowledge development model for all firms is displayed in figure 1 and Table 1. The results show that a longer domestic duration leads to a greater perceived lack of internationalization knowledge. The direct effect to business and institutional knowledge is positive but insignificant. Additional results in Table 1 shed more light on the role of internationalization knowledge. There are significant indirect effects from domestic duration, passing through internationalization knowledge to business and institutional knowledge. Apparently, there is a need to develop internationalization knowledge before specific business and institutional conditions in local markets can be understood. However, the clarity of these results is muddled by the fact that domestic duration does not explain much of the variation in internationalization knowledge ($R^2 = 0.02$). This issue is further investigated by dividing the sample into two groups, those with less than 5

years domestic duration, and those with 5 years or more domestic duration.

FIGURE 1 AND TABLE 1

Firms with domestic durations of longer than 5 years (Table 2) differ from the total sample. First, they exhibit no significant effect of domestic duration on lack of internationalization knowledge (coefficient = 0.13, $t = 1.32$). In this group, internationalization knowledge seems not to play the fundamental role it plays for all firms, taken together. Also, domestic duration increases the perceived lack of institutional knowledge. Institutional knowledge is more fundamental in knowledge development since increasing lack of institutional knowledge also increases the perceived cost of an additional step abroad. The effect on business knowledge is insignificant.

TABLE 2

Analysis of the direct, indirect, and total effects of domestic duration on the knowledge development model add further information. The results present a slight modification to the insignificance of business knowledge, as domestic duration has a total effect on it. However, a lack of business knowledge does not lead to higher perceived costs. This is further emphasized by lack of internationalization knowledge, which does not mediate indirect effects of domestic duration on business and institutional knowledge.

The results can be interpreted such that firms with previous domestic duration have developed

a way of learning about market expansion that is not sensitive to issues specific to internationalization, but that this is still the basis for their international expansion. They experience difficulties in attaining knowledge about institutional conditions in foreign markets. The results show that business knowledge is of less significance and does not play a fundamental role in internationalization for firms with domestic operations before internationalization. This can be explained in that such firms follow their clients abroad, or that they, for other reasons, are not confronted with the task of developing business relationships in foreign markets.

The group of firms with little or no domestic duration is made up of firms with domestic durations of less than 5 years and those that are “born global”. They are grouped into one category in the previous analysis of all firms in the sample. But, in order to assess the effect of domestic duration, this analysis attempts to recode this one category into a scale. Results are depicted in Table 3. There is a positive significant (coefficient = 0.24, $t = 2.35$) effect on internationalization knowledge, suggesting that even limited domestic business is formative for the routines developed in a firm. The effect of domestic duration on institutional knowledge is negative and insignificant, suggesting that managers perceive that even little domestic duration reduces the lack of business knowledge in international market expansion. One explanation for this may be that firms have not realized just how problematic it is to acquire institutional knowledge. The direct effect of domestic duration on business knowledge is significant and positive (coefficient = 0.63, $t = 4.03$). This can be interpreted as the longer domestic duration the firm has, the more important is business knowledge in the internationalization process of firms.

TABLE 3

While the effect of domestic duration on the knowledge development model can be disputed on the grounds of the poor scale of the domestic duration indicator, the knowledge development model itself stands on firm statistical grounds.

CONCLUSION

The literature on the internationalization process of firms is discussing the importance of domestic market operations, but not in relation to firms with little and much domestic experience. Compared with other published research, however, this paper has the advantage that it relates domestic duration to knowledge development in the internationalizing firms. This is in line with the recent research that explains the internationalization process of firms in terms of experiential knowledge development and learning (Eriksson et al., 1997). This paper has the advantage that it contributes to the developing research interest on Born Global firms and their learning processes in the internationalization process. Our results neither support or contradict the findings by (McDougall, Shane & Oviatt, 1994; Oviatt & McDougall, 1994), on the other hand, this paper raises many questions for future research.

Based on internationalization literature and learning literature, we have developed and tested five different hypothesis on the effects of domestic market operations on the knowledge accumulation in the internationalization process of firms.

The analysis (H1-H5) supports that the length of domestic operations effect the accumulation of knowledge in the internationalizing firm. In a closer look we identified different patterns for firms with domestic duration shorter than 5 years and for those with 5 years or longer domestic duration before the first foreign assignment.

Furthermore, H1 and H2 are not fully supported. H1 stated that the longer firms operate in the domestic market the more they lack foreign business knowledge. H2 stipulated a similar relationship for institutional knowledge. In both the cases the direction of the correlation is as hypothesized, but the strength of the correlation is weak. This results are not in contradiction to our theoretical approach, but we need more research.

H3 stated that the longer the firm operates in the domestic market prior to going abroad the more it lack internationalization knowledge. H3 is supported. Internationalization knowledge is a mediating construct in the model and all the effects of domestic duration are mediated by it. These construct captures a firm's ability to apply and develop its unique knowledge as it gains business knowledge from abroad. Our study indicate that Born Globals shows another structure of absorptive capacity than firms which have 5 years or longer domestic duration before the first foreign assignment. These findings support the earlier research on Born Globals by McDougall et al. (1994) and Oviatt & McDougall (1994). However, more research is required in the early internationalization with particular emphasize on internationalization knowledge.

H4 and H5, stated that irrespective H3, the less a firm lacks internationalization knowledge the less the firms lacks institutional knowledge and business knowledge. H4 is supported but not H5.

This paper demonstrates that the duration of domestic business activities prior to the inception of internationalization is fundamental for knowledge development in a firm. The contribution of this result is to point out the importance of the formation of routines for subsequent knowledge development. Therefore, internationalization is multifaceted, and firm learning about business problems is therefore complex. The adolescence of the internationalizing firm contains many clues to future learning from continued expansion.

A particular effect of the formation of routines is that business knowledge seem not to be an part of knowledge development for firms that have spent time domestically before going international. A likely explanation for this is that those firms follow their clients abroad, and do not seek new business relationships in the foreign market.

The study has several managerial implications. First, it validates that internationalization is a matter of learning from experience. Our findings indicate that it is easier for firms - in terms of absorptive capacity – to go abroad soon after they inception. It is much harder for firm with long domestic experience to change their mental models and processes. Autio, Sapienza, & Almeida (2000) found that the earlier that firms go abroad the greater their knowledge intensity, the faster they grew internationally. As firms get older they develop mental models that hamper their ability to grow in new environments (Cohen & Levinthal, 1990).

Second, in line with Hofstede (2001) our results point out that institutional knowledge are an important managerial issue for firms with 5 years or more domestic operations (before the first foreign assignment). Business knowledge and knowledge about the product are more easily transferred from the domestic market to the foreign market in comparison to institutional knowledge. At home institutional matters are taken for granted by these firm and then often underestimating the problem in entering the new foreign market (O’Grady & Lane, 1996). The longer these firms work at home the more processes and routines are developed. These implies that it is more difficult to unlearn and accumulate new knowledge. It requires new mental models and higher-order-learning in the internationalization process.

Another effect is that institutional knowledge is not important for firms with little or no domestic duration before internationalisation (less than 5 years). Those firms have not yet developed routines and processes for handling institutional issues, making it an unproblematic area for further adaptations and expansion.

Our findings are based on a sample of service firms. Can those findings be generalized to manufacturing firms? Research based on both samples can help us answering such questions. Moreover, in-depth case studies can provide us with more detailed knowledge about the learning mechanisms in Born Globals.

Finally, our findings indicate that there is reason to be cautious in assuming that long domestic operations are a fundamental prerequisite in the internationalization process of firms. We suggest that these assumption are reconsidered in the light of this study.

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APPENDIX

The managers were asked the following questions:

- Which year did your company establish?
- When did your company execute its first assignment abroad?
- How important are the following factors as obstacles for the possibilities of your firm to acquire assignments from abroad?
 - High costs
 - Lack of language knowledge
 - Lack of knowledge of foreign laws/norms/standards
 - Lack of subsidiaries/branches outside Sweden
 - Lack of cooperative agreements with foreign firms
 - Lack of foreign experience
 - Lack of unique knowledge/competence

TABLE 1
Effect of Domestic Duration on Knowledge Development Model Components for All
Firms
(N = 206)

Independent variable	Dependent variables	Indirect effect	Direct effect	Total effect
Domestic duration				
	Internationalization knowledge	-- 2.25	0.16 2.25	0.16 2.25
	Business knowledge	0.09 2.14	0.02 0.36	0.12 1.54
	Institutional knowledge	0.12 2.12	0.07 1.06	0.19 2.32
	Perceived cost	0.08 2.23	--	0.08 2.23

TABLE 2
Effect of Domestic Duration on Knowledge Development Model Components for Firms
with Domestic Duration 5 years or Longer (N = 117)

Independent variable	Dependent variables	Indirect effect	Direct effect	Total effect
Domestic duration				
	Internationalization knowledge	--	0.13 1.32	0.13 1.32
	Business knowledge	0.10 1.24	0.13 1.43	0.23 2.19
	Institutional knowledge	0.08 1.27	0.22 2.44	0.30 2.80
	Perceived cost	0.15 2.73	--	0.15 2.73

TABLE 3
Effect of Domestic Duration on Knowledge Development Model Components for Firms
With Domestic Duration Less Than 5 years (N = 90)

Independent variable	Dependent variables	Indirect effect	Direct effect	Total effect
Domestic duration				
	Internationalization knowledge	-- 2.35	0.24 2.35	0.24 2.35
	Business knowledge	0.15 1.96	0.63 4.03	-0.25 -1.95
	Institutional knowledge	0.21 2.00	0.89 3.58	0.08 0.69
	Perceived cost	-0.14 -1.89	--	-0.14 -1.89

FIGURE 1
Effect of Domestic Duration on Experiential Knowledge Model for All Firms

Note: Figures given are coefficients (t-values in parentheses). Model χ^2 is 22.20 (14 d.f.), p-value 0.08. Dotted lines represent insignificant relations. Complete questions for each indicator given in Appendix.