

Knowledge-acquisition strategies and the effects on market knowledge – profiling the internationalizing firm

Abstract

Knowledge management and experiential knowledge in particular has for long been at the core of theory on the behavior of internationalizing firms. However, the strong emphasis on direct experience in extant literature has been challenged. This study takes a broad approach to addressing the influence of knowledge-acquisition strategies on market knowledge. Empirical studies on this topic are largely missing. The empirical base for this study is 144 internationalizing Swedish firms operating in the Baltic States, Poland, Russia, or China. Four knowledge acquisition strategies are identified based on the utilization of knowledge sources. The strategies are profiled through a cluster analysis which is validated using a regression analysis to show the effects of strategy on market knowledge. The results show that firms with a passive strategy have less market knowledge. Firms which are focusing primarily on internal or external sources hold equal levels of knowledge about the market. Firms actively utilizing all available sources have the highest levels of market knowledge. This calls for a reevaluation of the relative importance of direct experiential knowledge in internationalization processes and supports the notion that more sources of knowledge than direct experience needs to be taken into account in order to understand internationalization behavior.

Keywords

Knowledge acquisition; Internationalizing firm; Market knowledge; Learning strategy

1. Introduction

Managing knowledge and learning in internationalization has been an often discussed topic. It is argued that as firms develop more experiential knowledge the uncertainty is reduced and the firm is willing to commit further to the market (Johanson & Vahlne, 1977) or to the network (Johanson & Vahlne, 2009). Learning is therefore a central element for understanding internationalization behavior (Bruneel, Yli-Renko, & Clarysse, 2010; Casillas, Acedo, & Barbero, 2010; Casillas, Moreno, Acedo, Gallego, & Ramos, 2009; Schwens & Kabst, 2009). The role of knowledge in internationalization is multifaceted and central to understand the patterns of firm internationalization, in terms of geographic spread as well as in terms of speed (Petersen, Pedersen, & Sharma, 2003). Managing the balance between exploration and use of knowledge is an essential firm activity (March, 1991) the internationalizing firm need to acknowledge both the acquisition and use of relevant knowledge to grow internationally (Barkema & Drogendijk, 2007).

Internationalization behavior is based on knowledge prior to the action (Casillas, et al., 2010; Casillas, et al., 2009). In particular, the emphasis of internationalization process theory is mainly on experiential knowledge from the firm's ongoing operations in the market which guide subsequent behavior (Forsgren, 2002). Still, the internationalizing firm has the potential to acquire knowledge from more sources than developing experiential knowledge internally, as organizational knowledge has its origin in a variety of sources (Huber, 1991). Other sources than developing experiential knowledge internally have been discussed in relation to the internationalization process (Johanson & Vahlne, 1977) but has been regarded as less important (Eriksson, Johanson, Majkgard, & Sharma, 1997). This study

recognizes the importance of experiential knowledge in the internationalization process but questions whether experiential knowledge developed through operations in a local market is enough to explain variations in market knowledge held by internationalizing firms, and, thus, variations in firm behavior.

Some previous studies have challenged the strong emphasis on the firm's own experiential knowledge in extant theory (e.g. Brennan & Garvey, 2009; Bruneel, et al., 2010; Forsgren, 2002; Petersen, et al., 2003). Brennan and Garvey (2009) highlight that knowledge can be acquired in various ways depending on the type of knowledge that is needed. Forsgren (2002) suggests that it is necessary to include knowledge acquired through other firms as well as a focused search for market information in order to understand firms' internationalization behavior. Following that line of reasoning Petersen, et al. (2003) hold that experiential knowledge is necessary but not enough to understand the internationalization of firms. However, although these studies are pointing out an important field for further research, few studies have shown empirical support for the use of knowledge sources beyond developing experiential knowledge internally in the organization. Two notable exceptions are Schwens and Kabst (2009) who conclude that experience of others, as opposed to direct experience, has a positive relation to early internationalization and Bruneel, et al. (2010) who state that learning from partners have an effect on the extent of young firm internationalization. Still, they call for further research on the effect of learning on subsequent internationalization. There is a need for further empirical validation of conceptualizations of knowledge acquisition from various sources in internationalization.

Thus far, due to the limited empirical validation of the full scope of knowledge-acquisition possibilities available to firms, the full extent of how firms differ in acquiring knowledge from foreign markets has not yet been shown in literature. Consequently, little is still known about differences in how firms acquire knowledge when they internationalize, and, how these differences influence the internationalizing firm's knowledge about the market. It is therefore relevant to examine how the use of various knowledge-acquisition sources is facilitated to contribute to the accumulation of market knowledge in the internationalizing firm. This study sets out to answer the question if there are different strategies among internationalizing firms regarding how they acquire market knowledge and, if so, what are the consequences of these different strategies on the level of market-specific knowledge. The aim of doing so is to advance theory on how firms acquire knowledge about foreign markets in order to better understand how internationalizing firms learn from foreign markets when internationalizing. Thus, this study connects to the state and change aspects of the internationalization process (Johanson & Vahlne, 1977), market knowledge and current activities.

The paper starts with a literature review of market knowledge and knowledge acquisition for internationalizing firms. This is followed by a discussion of data collection and statistical analyses used in the study. Thereafter a cluster analysis is presented which identifies four knowledge acquisition profiles using knowledge acquisition sources as grouping variables. These profiles are then regressed on market knowledge which is followed by a discussion, leading into conclusions and contributions of the study. Limitations and suggestions for further research are also addressed.

2. Literature review

2.1 Market knowledge

Market knowledge concerns knowledge about the local institutional setting and the local actors (Eriksson, et al., 1997; Eriksson, Johanson, Majkgård, & Sharma, 2000; Fletcher & Harris, 2012). The

institutional knowledge involves laws and norms of the foreign market as well as the practices of the regulatory system. It is also held that rules for import and export, language and culture are parts of the institutional market knowledge (Eriksson, et al., 1997; Hilmersson, 2012; Hilmersson & Jansson, 2012). The knowledge about local actors are primarily pertaining to knowledge about resources, capabilities, and behavior of the actors operating in the local market, such as suppliers, competitors, and first and second tier customers (Fletcher & Harris, 2012) and has been referred to as business network knowledge (Hilmersson, 2012; Hilmersson & Jansson, 2012). Thus, societal knowledge and business network knowledge show a increasing degree of specificity by pertaining to the macro and meso environment respectively (Hilmersson & Jansson, 2012).

Since the introduction of internationalization-process theory market knowledge has had a central role as reducing perceived uncertainty and risk as firms expand geographically (Fletcher & Harris, 2012; Forsgren, 2002). Market knowledge is gradually accumulated and develops with market commitment and, iteratively, market commitment increases with increased market knowledge (Johanson & Vahlne, 1977). More knowledge leads to lower perceived risk (Forsgren, 2002) and a reduced perceived knowledge gap in the foreign market (Petersen, Pedersen, & Lyles, 2008) and, therefore, increased investments in the market. As “more knowledge increases international involvement proportionately” (Petersen, et al., 2003) additional knowledge acquired has a pivotal influence on the internationalization of firms.

2.2 Market-knowledge acquisition in internationalization

Acquisition of market knowledge primarily concerns ‘expanding the scope of information search beyond existing customers or markets’ (Zhou & Li, 2012, p. 1092). The acquisition of knowledge can be discussed along two dichotomies: experiential knowledge versus objective knowledge having its origin in internal or external sources (Fletcher & Harris, 2012). This has implications for discussing the sources of new knowledge. Following the division between internal-external sources and experiential-objective knowledge four distinct knowledge acquisition sources can be identified: direct experience, indirect experience, external search, and internal information (Fletcher & Harris, 2012; Huber, 1991).

Experiential knowledge is divided into direct experience and indirect experience. Direct experience concerns experiential knowledge that is developed by the firm itself about operations in foreign markets and is primarily related to market-specific knowledge (Eriksson et al, 1997). Conversely, the firm can rely on indirect knowledge developed by others when they internationalize (Fletcher & Harris, 2012; Schwens & Kabst, 2009), also learning from the mistakes of others (Kuivalainen, Saarenketo, & Puimalainen, 2012). Although direct experiential knowledge is at the core of internationalization process theory (Forsgren, 2002; Johanson & Vahlne, 1977) there is a need to acknowledge indirect experience as well (Forsgren, 2002). Firms can acquire indirect experiential knowledge by incorporating other units as well as imitating other, established firms’ behavior. Also the importance of knowledge acquisition from other actors to improve firm operations has previously been shown (Yli-Renko, Autio, & Sapienza, 2001). Knowledge acquisition can take place through inter-unit experience sharing between sister units (Kim, Lu, & Rhee, 2012) and in subsidiary relations (Park, 2012).

Likewise, firms can gain objective knowledge when internationalizing, external (Fletcher & Harris, 2012; Forsgren, 2002; Huber, 1991) and internal (Fletcher & Harris, 2012; Huber, 1991) to the organization. Objective knowledge refers to knowledge that is explicit or codified (Fletcher & Harris,

2012). Sources for external information concerns focused search for objective knowledge from external sources such as chambers of commerce, trade publications, newspapers etc. Internal information, on the other hand, refers to codified explicit experiential knowledge that is made accessible in the firm's internal systems for knowledge sharing. Although objective knowledge has been held to be less important in internationalization than experiential knowledge (Blomstermo & Choi, 2003) it is still necessary to include in order to understand firm internationalization behavior (Forsgren, 2002).

The different knowledge acquisition sources are summarized in Table 1.

Table 1. Knowledge acquisition sources in international business literature

Activity	Description	Studies
Direct experience	<i>Experiential knowledge acquired in the market by the firm's own, ongoing operations. This creates first-hand experience from the local market.</i>	E.g. Bruneel, et al. (2010); Eriksson, et al. (1997); Fletcher and Harris (2012); Huber (1991); Johanson and Vahlne (1977, 2009); Schwens and Kabst (2009)
Indirect experience	<i>Experiential knowledge possessed by others that can be accessed by the firm. Relates to vicarious learning (imitative learning) and grafting (acquisitions of firms or business units and recruiting personnel). Consequently, using the second-hand experience without going through the direct learning process.</i>	E.g. Brennan and Garvey (2009); Bruneel, et al. (2010); Fletcher and Harris (2012); Forsgren (2002); Huber (1991); Schwens and Kabst (2009)
External search	<i>Focused search for objective market knowledge from external sources, such as chambers of commerce, consultants, trade publications etc.</i>	E.g. Fletcher and Harris (2012); Forsgren (2002); Huber (1991); Petersen, et al. (2003)
Internal information	<i>Objective knowledge about the market that can be found in the firm. Codified and recorded experiential knowledge that is made accessible in the firms information systems.</i>	E.g. Fletcher and Harris (2012); Huber (1991); Petersen, et al. (2003)

The internationalizing firm needs to recognize what new knowledge to search for and the sources to be used in any situation, which guides firm knowledge-acquisition behavior (Casillas, et al., 2009). This implies that firms need to make strategic choices for how to acquire new knowledge. Firms can therefore be expected to differ in terms of their knowledge-acquisition strategy configuration, along the lines of using direct experience, indirect experience, internal information and external search in different patterns, based on their differing new-knowledge need.

3. Method

Due to the two-step nature of the research question which addresses, first, the identification of knowledge-acquisition strategies and, second, the effects of these strategies on market knowledge

there is a need for a two-step method. This study relies on a sequential approach starting with a cluster analysis followed by validation of the clusters with the use of linear regression incorporating a dependent variable that is external to the cluster analysis. The regression analysis tests hypotheses referring to the effects of these clusters. This two-step approach has been used in previous research (e.g. Pehrsson, 2006).

More detailed descriptions of the respective techniques are presented below. In this section general information about data and the clustering variables are presented, which feeds into the cluster analysis. After the presentation of the results of the cluster analysis, and prior to the presentation of the regression results, the methodological considerations about the regression analysis are discussed. Consequently, discussions about the methods used are found in two places in the article. SPSS Statistics 21 was used in the analyses.

3.1 Data

Primary data was collected through an online survey between January and April 2013. The questionnaire was sent to 203 firms in southern Sweden with experience of cross-border sales to China, Russia, Poland or the Baltic states. These countries were chosen on the basis that they differ substantially from the Swedish home market and therefore the market knowledge from Sweden is less applicable in the host market. Consequently, the sources for knowledge acquisition in the focal host markets can be expected to influence the level of market knowledge more than in a similar country. The survey was addressed to the CEO, the export manager, the area sales manager of the countries included, or similar. This was done to ensure that the informants had good insight into the areas of interest. All firms in the sample are exporters with no sales subsidiaries in the focal market and the representatives are instead often travelling to meet customers. The person with the best insight to their focal market activities were identified and approached. While the use of one single informant per firm might cause method bias due to common rater effects (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003) the use of one single informant for all variables was driven by the fact that for many of these companies only one person has the full overview of the activities carried out in the specific market (Gray, 1997). Since all firms' used direct export or sales via intermediary there was only the one person at the Swedish unit who had the overview of the firm's knowledge acquisition at the focal market. Furthermore, as publicly available data on the firms' internationalization processes is rarely found, this study follows the widely accepted use of self-reported, subjective data from managers (Zapkau, Schwens, & Kabst, 2013). Subjective data has been argued to be both reliable and valid. Tests for common method bias is presented in 4.2.4 below.

Late 2012 an introductory letter about the study was sent by mail to the firms in the sample, after which a personal email was sent to all firm representatives with an individual link to the questionnaire. Reminders were sent to non-responding firms and the reminders were also followed-up by phone calls. After reminders by email and phone 144 firms filled in the questionnaire. 16 firms declined to answer the survey and 26 firms did not respond. A post-hoc analysis shows that of the non-respondents 7 firms were acquired by other organizations and 10 firms had gone into bankruptcy. This gives a response rate of 70,9 %, which is higher than most previously surveys on firm internationalization.

3.2 Clustering variables

The literature review suggests that new knowledge acquisition is discussed along the lines of the four knowledge acquisition sources: direct experience, indirect experience, external search, and internal information (Fletcher & Harris, 2012).

Direct experience was measured as the extent to which the organization acquires knowledge by developing own experience in the focal market. *Indirect experience* was measured as the extent to which the organization copies other successful firms. *External search* was measured as the extent to which the organization reads and access new focal-market information through internet, newspapers, books etcetera. Lastly, in order to measure the acquisition of *internal information* the firms were asked to answer to what extent they collect market related knowledge in written documents, such as board reports and follow-ups of market activities. The use of the knowledge that is documented can be expected to reflect whether the firms collect knowledge in written form and whether they are aware of this knowledge. If so, they gather and can access this knowledge. All these variables were measured using a seven-point scale. The anchors were strongly disagree (1) and fully agree (7). The indicators are presented in Appendix, Table A1. A discussion on validity is provided in the section about common method variance below.

4. Analysis and findings

This section is divided in two stages following the duality of the research question. First, in 4.1, clusters are defined and interpreted. Second, in 4.2, the effect of the clusters on market knowledge is analyzed.

4.1 Defining knowledge acquisition strategies

The cluster analysis was performed using the four clustering variables. In line with the recommendations of Ketchen and Shook (1996) the clustering variables are based on a theoretical foundation. The variables have identical scales which allow them to contribute equally to the cluster identification. Furthermore, as suggested by Hair, Anderson, Tatham, and Black (1998) and Ketchen and Shook (1996), the clustering was made using a two-stage approach starting with a hierarchical method followed by a subsequent nonhierarchical method.

Determining numbers of clusters by the agglomeration coefficient in hierarchical cluster analysis using Wards method indicate that a two to six-cluster solution would be equally suitable. However, the three-, five-, and six-cluster solutions were difficult to interpret conceptually. Furthermore, the approach suggested by Lehmann (1979) state that between $n/50$ and $n/30$ clusters are appropriate. Having $n=144$ responses indicates that a solution with between 2,88 and 4,8 clusters is the most suitable. Therefore two K-means cluster analyses were performed with three- and four-cluster solutions respectively, leaving the four-cluster solution the most conceptually suitable. The four-cluster solution also gave clusters that are comparable in size. The K-means method was chosen for the final solution due to its robustness (Punj & Stewart, 1983). Table 2 shows the group means and the F-value for each grouping variable, respectively. The table also includes a Sheffe test which was made to show which cluster differences are significant.

Table 2. Cluster means and significance tests

Variable	Cluster 1 n=34	Cluster 2 n=34	Cluster 3 n=31	Cluster 4 n=45	Anova <i>F</i>	Sheffe tests
Direct experience	5,64	2,85	5,58	4,56	37,639***	1, 3, 4 > 2*** 1,3 > 4**
Indirect experience	2,83	1,88	4,90	3,00	47,562***	3, 4 > 2*** 1 > 2** 3 > 1, 4***
External search	2,94	2,15	5,32	4,86	67,349***	3, 4 > 1, 2*** 1 > 2*
Internal information	5,15	3,85	5,94	3,75	24,209***	1, 3 > 2, 4***

* Significant at $p < 0,05$, ** significant at $p < 0,01$, *** significant at $p < 0,001$
Numbers in bold indicate significant differences

The four clusters that are found represent different profiles identified as strategies for knowledge acquisition, based on the variation in use of the knowledge acquisition sources.

4.1.1 Cluster 1 - Endogenous learners

The first group of firms is focused on acquiring knowledge from internal sources primarily. These firms show high cluster means for developing own experiential knowledge in the local market and for internal information while showing low means on indirect experience and on external search. These differences are significant ($p < 0,001/p < 0,01$). Consequently, these firms put more emphasis on learning from internal, endogenous, sources of knowledge than from external sources. Therefore, these firms are labeled Endogenous learners. Endogenous learners utilize endogenous sources, such as developing direct experience through own operations and utilizing internal information, for acquiring market knowledge rather than using external sources.

4.1.2 Cluster 2 – Passive learners

The firms belonging to cluster two show low means on all clustering variables. The low cluster-variable means for Passive learners, as opposed to clusters with high means, are statistically significant along all clustering variables ($p < 0,001$). This indicates that they lack focus on how to acquire knowledge about the foreign market and that their efforts to acquire knowledge is passive in general. Thus, these firms are named Passive learners. Passive learners focus neither on internal nor on external knowledge sources. Nor do they utilize any combinations of these sources. These firms have a passive approach to acquiring knowledge from foreign markets.

4.1.3 Cluster 3 – Diversified learners

The cluster-analysis grouped firms in cluster three which focus on using multiple ways to acquire knowledge in foreign markets. These firms show high means on all four independent variables which indicate that they actively engage in knowledge acquisition from internal as well as external sources. These high means are statistically significant ($p < 0,001/p < 0,01$). As these firms have a diversified approach to how they learn in foreign markets they are labeled Diversified learners. Diversified learners have an active and diversified approach to knowledge acquisition in foreign markets, utilizing all available sources to a high degree.

4.1.4 Cluster 4 - Exogenous learners

The fourth profile has an orientation towards external sources of knowledge. The cluster mean for external search is significantly higher ($p < 0,001$) than the means for Endogenous learners and Passive learners. The group mean for indirect experience is significantly higher ($p < 0,001$) than Passive learners. However, the mean for indirect experience compared to Endogenous learners is higher but not statistically significant. One reason for this result might be that the measure for indirect experience does not fully capture the multidimensionality of the indirect experience construct. Fletcher and Harris (2012) argue that indirect experience can be divided into grafting and imitation. This study, however, only incorporates imitation, which might influence the findings in this respect. Still, compared to the Passive and Endogenous clusters the orientation for external, exogenous, sources of knowledge is relatively high. Therefore, this group is labeled Exogenous learners. Exogenous learners learn from external sources, such as indirect experience and external search, primarily.

4.2 The effects of cluster belonging on market knowledge

4.2.1 Hypotheses

Direct experiential knowledge has received much attention and been discussed as the main source of knowledge for internationalizing firms (Eriksson, et al., 1997; Forsgren, 2002; Petersen, et al., 2003). Therefore this is the natural starting point for hypothesizing the clusters' effect on market knowledge. Based on the clusters' various utilization of the sources of market knowledge different levels of market knowledge can be expected. This difference is driven by the relative use and combinations of the various sources available. Two of these combinations are Endogenous learners, who are utilizing internal knowledge sources primarily, and Passive learners, who are relatively passive concerning all sources of knowledge. Since Endogenous learners utilize internal sources for knowledge acquisition while Passive learners show low utilization on all knowledge sources it can be expected that this also has a consequence on market knowledge. This difference makes it reasonable to expect that the level of market knowledge is higher for Endogenous learners than for Passive learners. Thus, it is hypothesized that:

Hypothesis 1: Endogenous learners are associated with higher levels of market knowledge than Passive learners.

In previous internationalization literature developing own experience is pivotal for the internationalizing firm. Other sources for knowledge acquisition have not only received significantly less attention but also been considered less important for developing market knowledge (Blomstermo & Choi, 2003; Eriksson, et al., 1997). Consequently, it has been theorized that direct experience is the central source of knowledge and, therefore, ought to have the highest impact on the market knowledge held by the firm. Hence, it can be assumed that internally developed experience from operations in the market and the direct objective knowledge derived from these efforts are the most important sources for knowledge acquisition. The Endogenous learning strategy relies strongly on the development of direct experience in combination with knowledge acquired from internal information. Conversely, Exogenous learners are primarily oriented towards utilizing indirect experience and external search, which have been regarded less important than internal sources. This would then mean that Endogenous learners are likely to acquire more market knowledge than Exogenous learners. Therefore, it is hypothesized that:

Hypothesis 2: Endogenous learners are associated with higher levels of market knowledge than Exogenous learners.

The cluster analysis showed that Diversified learners are utilizing all four sources of knowledge to a high degree. In line with Hypothesis 2 it can be expected that Endogenous learners hold higher levels of market related knowledge than Passive learners. However, while utilizing internal knowledge sources, if also employing external sources for knowledge acquisition the result in terms of market knowledge can be expected to increase even further. Although more complex to manage (Schwens & Kabst, 2009) – the more sources of knowledge the more knowledge gets acquired. Consequently, adding external knowledge in addition to the knowledge acquired from internal sources is likely to have a positive influence on the level of market knowledge the firm holds. It is therefore reasonable to assume that Diversified learners, who are utilizing all four knowledge sources, acquire more knowledge than Endogenous learners, who primarily utilize direct experience and internal information. Consequently, it is hypothesized that:

Hypothesis 3: Diversified learners are associated with higher levels of market knowledge than Endogenous learners.

In line with Hypothesis 3, it is expected that the more sources of knowledge that are used to acquire knowledge the higher the level of market knowledge. Consequently, firms that show low propensity to acquire knowledge from internal as well as from external sources can be expected to learn less than firms using a variety of sources of knowledge. Diversified learners are actively utilizing internal as well as external sources of knowledge while Passive learners are significantly less active using those sources. This is likely to influence the resulting market knowledge. Therefore, the levels of market knowledge can be expected to be lower for Passive learners than for Diversified learners. Hence, it is hypothesized that:

Hypothesis 4: Diversified learners are associated with higher levels of market knowledge than passive learners.

4.2.2 *Dependent variable*

Knowledge about local markets has two dimensions (Blomstermo & Choi, 2003; Eriksson, et al., 1997; Eriksson, et al., 2000; Petersen, et al., 2003): business knowledge and institutional knowledge. A composite measure of seven items was used measuring the degree to which the responding firms have well developed knowledge about the local market, in terms of societal knowledge and business network knowledge. The societal knowledge included knowledge about laws, the political system, culture, and authorities. Business network knowledge incorporated knowledge about existing customers' needs, potential customers, and competitors. All indicators were measured on a seven-point scale with strongly disagree (1) and fully agree (7) as the anchors. While using the same scale format and scale anchors for all measured variables might influence covariation it also helps the respondent complete the questionnaire because of a standardized format (Podsakoff, et al., 2003). Furthermore, using the same scale format allows for analysis of relations between the independent and dependent variables without the need for any transformation, such as standardization. To test for reliability of the dependent variable Chronbach's alpha was derived, which shows that the indicators reflect market knowledge well. The generally accepted cutoff value of 0,7 (Nunnally & Bernstein, 1994), which indicates a moderate reliability, is exceeded ($\alpha=0,938$).

4.2.3 *Control variables*

In line with previous studies of internationalization, *firm size*, measured as the natural logarithm of number of employees held by the firm, and *international experience*, measured as the natural

logarithm of years since the first export, was controlled for. Control for firm size is common in international business studies (e.g. Aguilera-Caracuel, Hurtado-Torres, & Aragón-Correa, 2012; Park, 2012; Petersen, et al., 2008; Schwens & Kabst, 2009; Yao, Yang, Fisher, Ma, & Fang, 2013; Yli-Renko, et al., 2001; Zahra, Ireland, & Hitt, 2000), as is international experience (e.g. Petersen, et al., 2008; Zahra, et al., 2000). It is reasonable to assume that the number of employees can have an effect on the level of market knowledge held by the firm as the individual employees functions as the identifiers of problems and opportunities (Forsgren, 2002). The international experience is likely to influence the level of market-related knowledge as presence in international markets over time gives more time to learn. Table 4 show means and standard deviations for the dependent variable and the control variables.

Table 4. Cluster means for dependent variable and control variables

Cluster	Market knowledge	Firm size	International experience
Endogenous learners	4,37 (1,24)	4,26 (0,93)	3,43 (0,74)
Passive learners	2,94 (1,10)	4,03 (0,85)	3,45 (0,41)
Diversified learners	5,25 (0,95)	4,64 (0,91)	3,55 (0,41)
Exogenous learners	4,50 (1,18)	4,64 (1,18)	3,42 (0,75)
Full sample	4,27 (1,38)	4,40 (1,02)	3,45 (0,61)

The table shows the respective group means. Standard deviations in parentheses

4.2.4 Common method variance

As the data used in this research is based on same-informant replies there is a need to perform validity checks to account for possible common method variance (CMV) (Chang, van Witteloostuijn, & Eden, 2010; Podsakoff, et al., 2003; Podsakoff & Organ, 1986). As suggested by Chang, et al. (2010) multiple tests have been performed. A Harman's single-factor test, where all indicators were entered, into an exploratory factor analysis showed that more than one single factor emerged. The first factor accounted for 55 % of the variance. As Harman's single-factor test alone does not give enough information (Chang, et al., 2010; Podsakoff, et al., 2003) a partial correlation test was performed using a marker variable to control for CMV (Lindell & Whitney, 2001). This test is especially suitable to test for common scale format and common anchors (Podsakoff, et al., 2003). The test concerns whether partialling out the marker variable "reduces the original correlation among substantial variables to statistical non-significance" (Williams, Hartman, & Cavazotte, 2010, p. 479). Zero-order correlations were compared to partial correlations and partialling out the theoretically unrelated marker variable¹ made little difference ($\leq 0,011$) on the correlation coefficients. All significance levels among variables remained. This shows very small relationships between the marker variables and the other variables, which is an indication for very low CMV. Furthermore, as the items for knowledge sources are used to create clusters and the cluster belonging, rather than the knowledge-source items themselves, are used as predictors in the regression, the risk of implicit theories (Podsakoff, et al., 2003) is low. The

¹ As marker variable, the informants were asked the extent to which the economic situation in the focal market has had big influence on their business in the market during the last five years.

conclusion from these tests is that the data does not suffer enough from CMV to have any substantial negative impact on the results.

4.2.5 Regression analysis on learning outcomes

In order to validate the clusters that have been identified, using variables external to the clustering process (Ketchen & Shook, 1996), and to explain their effect on the firm's knowledge about foreign markets a regression analysis was performed. The clusters identified (Endogenous learners, Passive learners, Diversified learners, and Exogenous learners) were regressed on the level of market knowledge possessed by the firms. The Endogenous learners were used as the reference category to which all other categories are compared in the regression analysis (Hair, et al., 1998). The reason for using Endogenous learners as the reference category is that internationalization process literature has a strong emphasis on direct experience (Forsgren, 2002; Petersen, et al., 2003). Cluster membership of Passive learners, Exogenous learners, and Diversified learners are dummy variables that were coded as 1 for membership and 0 for non-membership respectively. Endogenous learners were coded 0 for all three cluster dummies. No observation was coded 1 for more than one cluster. Consequently, all cluster coefficients are interpreted as differences in intercepts in relation to Endogenous learners.

Furthermore, VIF was calculated and ranged from 1,043 to 1,631 which is lower than the threshold value of 10 suggested by Pallant (2007) and Hair, et al. (1998). Therefore, no multicollinearity problems have been identified. The result of the regression is reported in Table 5. The control variables included in the regression show no significant results in the final model, neither firm size nor international experience.

Table 5. Effects of knowledge acquisition strategies on market-related knowledge

Independent variables	Model 1	Model 2
Intercept	2,612 (0,739)***	3,446 (0,639)***
<i>Control variables</i>		
Firm size	0,314 (0,113)**	0,149 (0,098)
International experience	0,079 (0,187)	0,086 (0,157)
<i>Hypothesized (dummy) variables</i>		
Passive learners		-1,398 (0,274)***
Exogenous learners		0,075 (0,258)
Diversified learners		0,809 (0,282)**
Adjusted R ²	0,045	0,332
Change in adjusted R ²		0,287
F change	4,375	21,156
n	144	144

Dependent variable: Market-related knowledge

The table show unstandardized coefficient and standard errors in parentheses

* Significant at $p < 0,05$, ** significant at $p < 0,01$, *** significant at $p < 0,001$

Table 5 shows that the coefficient (-1,398) for Passive learners is negative and significant ($p < 0,001$). This means that Passive learners hold less market knowledge than the reference category, Endogenous learners. Endogenous learners are thus associated with higher levels of market knowledge than Passive learners and *Hypothesis 1* is thereby supported.

Hypothesis 2 suggests that Endogenous learners have higher levels of market knowledge than Exogenous learners. The results show that there were no significant differences between Exogenous learners and the reference category. This means that the difference between strategies focused on external sources and strategies aiming at internal sources is not significant. Consequently, Endogenous learners do not hold more market knowledge than Exogenous learners and there is no support for *Hypothesis 2*, why it is rejected.

Hypothesis 3 predicts that Diversified learners are associated with higher levels of market-related knowledge than Endogenous learners. The results show a positive and significant ($p < 0,01$) coefficient for diversified learners in relation to the reference category. This means that Diversified learners hold a significantly higher level of market knowledge than Endogenous learners. This supports *Hypothesis 3*.

As shown in the support of *Hypothesis 1*, Passive learners have significantly lower levels of market knowledge than Endogenous learners. Furthermore, the support of *Hypothesis 3* indicates that Diversified learners hold significantly higher levels of market knowledge than Endogenous learners. Consequently, as Diversified learners have higher levels of market knowledge than Endogenous learners which, in turn, have higher levels than Passive learners, Diversified learners must have higher levels of market knowledge than Passive learners. This relation was also tested separately with Passive learners as the reference category and showed significant results ($p < 0,001$), supporting this reasoning. Thus, *Hypothesis 4* is supported.

Although one control variable (firm size) showed significant prediction of market knowledge in Model 1, the independent variables, when included in Model 2, contribute more to explain the variation in dependent variable (adjusted $R^2 = 0,332$) than the control variables alone (adjusted $R^2 = 0,045$).

5. Discussion

Extant theory on internationalization has put strong emphasis on developing experiential knowledge in the organization (Brennan & Garvey, 2009) However, as noticed in previous research (e.g. Fletcher & Harris, 2012; Huber, 1991) also other types of knowledge sources need to be taken into account for the internationalizing firm. The results from this study show support for this notion and adds that the strategy for knowledge acquisition in the local market is an important determinant for the firm's level of market knowledge.

With only a few exceptions, previous theoretical contributions on learning in internationalization are primarily conceptual or case studies based. Previous studies (Bruneel, et al., 2010; Schwens & Kabst, 2009) have shown the effect of a selection of knowledge acquisition sources on early internationalization and extent of internationalization. The present study incorporates all four sources of knowledge acquisition suggested by Fletcher and Harris (2012). Setting out from two dichotomies, internal or external sources of experiential or objective knowledge, four knowledge-acquisition

strategies can be identified: Diversified learners, Exogenous learners, Endogenous learners, and Passive learners. These various strategies indicate that focusing on the development of direct experience is not enough when studying internationalizing firms. In order to validate the clusters these strategies' relation to market knowledge was tested.

Increased market knowledge has an uncertainty-reducing effect (Forsgren, 2002) and increases market involvement (Petersen, et al., 2003). It has previously been advocated that direct experiential knowledge is the most important (Blomstermo & Choi, 2003). As there were no significant differences between Endogenous learners and Exogenous learners this study does not support the notion that experiential knowledge developed by the firm in the ongoing operations is more important than other types of knowledge-acquisition activities. Instead, the study shows a twofold result that contributes to theory on learning in internationalization. First, firms that are utilizing internal knowledge sources, one of which is developing direct experiential knowledge, possess more market knowledge only when compared to firms that do not actively engage in acquiring market knowledge. Second, a possibly more important finding for the internationalizing firm is that firms having a diversified knowledge acquisition strategy hold more market knowledge than Endogenous learners, Exogenous learners, and Passive learners. It has been emphasized that leveraging simultaneous use of internal and external sources of learning is difficult (Schwens & Kabst, 2009). However, the result of this study shows that firms that manage the complexity of parallel learning acquisition activities gain more market knowledge. It is therefore important to understand better how firms manage diversified knowledge acquisition.

Following the reasoning above, supported by reasoning in previous research (e.g. Brennan & Garvey, 2009; Bruneel, et al., 2010; Forsgren, 2002; Petersen, et al., 2003) this study suggests that the relative importance for direct experience as a source for market knowledge in firm internationalization needs to be reevaluated. Firms which employ a diverse knowledge acquisition strategy hold more knowledge than firms with a focused strategy, whether exogenous or endogenous, and more than firms with a passive strategy. Theoretically, this study suggests that we should not underestimate the importance of knowledge acquisition, neither from external sources nor from sources of objective knowledge. Instead, this study shows that knowledge acquisition in internationalization is more multidimensional than what most of the previously empirical studies have shown. In contrast to extant theory on internationalization processes (Blomstermo & Choi, 2003; Johanson & Vahlne, 1977) it cannot be held that learning from internal experience render more market knowledge than learning from external sources, or vice versa. It can, instead, be argued that actively acquiring knowledge from a variety of sources is better than focusing on one, or none of them. In particular the results suggest that the change aspect of stage models (Johanson & Vahlne, 1977) deserve broadening. It is reasonable to assume that additional acquired market knowledge will have a further uncertainty-reducing effect and potentially also an effect on the speed of internationalization. Managing the complex process of knowledge acquisition from a variety of sources, as opposed to just learning from direct experience, has an impact for market knowledge, and consequently, internationalization behavior.

Furthermore, Forsgren (2002) argues that the development of experiential learning is a reflection of a need for tacit knowledge, on the basis that tacit knowledge is difficult to acquire by other means. This calls for further reflection on the use of terminology to describe the knowledge that firms acquire from the market. It is likely that some interplay between experiential and objective knowledge exists. If we instead turn to the conceptualization of knowledge suggested by Nonaka, Toyama, and Konno (2000), and distinguish between tacit and explicit knowledge, we can utilize theory of knowledge conversion to better understand how knowledge is transformed between different types of knowledge. This might allow for a fruitful extension of the theorizing about knowledge acquisition further offering a more in-

depth description of knowledge acquisition activities, e.g. learning tacit knowledge from other actors in the local business network such as alliance firms (Inkpen, 1998).

6. Conclusion and contributions

This research establishes profiles of knowledge acquisition strategies among internationalizing firms and validates the effects of these strategies. Previous research has been inconclusive regarding sources for the internationalizing firm's knowledge acquisition. While some have argued that direct experience is the dominating source (Johanson & Vahlne, 1977, 2009) others have pointed out that also other sources matter (Brennan & Garvey, 2009; Bruneel, et al., 2010; Forsgren, 2002; Petersen, et al., 2003). This research validates the standing-point that more sources than direct experience needs to be taken into account in order to understand the behavior of internationalizing firms. Taking a broad perspective, this research shows that firms that utilize all available sources of knowledge learns more than those who do not. This supports the questioning of the dominating role of direct experience as a determinant for guiding firm behavior. Seemingly, firms can replace internal sources with external sources, for objective as well as experiential knowledge, and still reach similar levels of market knowledge. There is also strong evidence that passive firms learns less than those who are active. As acquiring and using relevant knowledge is essential to international growth (Barkema & Drogendijk, 2007), the more active the firm is in using the multitude of available sources of knowledge the better the firm's ability to grow on international markets.

This research contributes to internationalization process theory, taking off from stage theory. As learning is central also in international new venture literature (Casillas, et al., 2010; Casillas, et al., 2009) this conclusion is an important contribution to this stream of literature as well. Since knowledge in the organization decrease risk and uncertainty about foreign markets (Forsgren, 2002; Johanson & Vahlne, 1977), increase firm competitiveness (Barney, 1991), and increase the ability to be dynamic in unstable environments (Teece, Pisano, & Shuen, 1997), it can be expected that firms managing their knowledge acquisition well will have a faster internationalization, to a wider scope of markets while simultaneously increasing their competitiveness. The ability to manage unstable market can have an important role to play for the internationalizing firm, especially for firms entering developing countries.

7. Limitations and suggestions for further research

This study relies on a rather small sample from one geographical and cultural context. This could potentially influence the results that have been found. Consequently, further studies based on larger, multinational samples might be beneficial in order to validate the results from this study. As no support was found concerning the difference between Exogenous learners and Endogenous learners more knowledge on the potential differences between these two strategy types could provide further insight into knowledge acquisition for internationalizing firms. In line with this, future studies incorporating a multidimensional measure of indirect experience could shed more light on the importance of learning from indirect experiential knowledge. One important avenue for future research which seem to gain momentum in current theorizing is to reveal whether the different strategies for knowledge acquisition has an impact on the speed at which the firm learns when internationalizing, and subsequently, if this speed of learning has an impact on the speed of internationalization. This would contribute to our understanding about differences in how fast firms internationalize, i.e.

providing a better understanding for the development of international new ventures. Furthermore, although this study shows differences in knowledge acquisition, it does not show which internal processes influence the organizational learning process through which the acquired knowledge becomes institutionalized in the organization.

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Appendix

Table A.1 Constructs and indicators

Variable names and indicators (1=Strongly disagree, 7= Fully agree)
New knowledge sources <i>Direct experience</i> In our organization, we acquire knowledge about customers/competitors/intermediaries in X by generating our own experience <i>Indirect experience</i> In our organization, we acquire knowledge about customers/competitors/intermediaries in X by studying other successful firms <i>External search</i> In our organization, we acquire knowledge about customers/competitors/intermediaries in X by reading and searching for new information on the internet/in newspapers/books etc. <i>Internal information</i> In our organization, we often collect market-related knowledge in written documents such as board reports and follow-ups on market activities
Market knowledge (Chronbach's alpha = 0,938) <i>Societal knowledge</i> We have well-developed knowledge about the legal environment in X We have well-developed knowledge about the political system in X We have well-developed knowledge about the culture in X We have well-developed knowledge about the government in X <i>Business network knowledge</i> We have well-developed knowledge about our customers in X needs and wants We have well-developed knowledge about potential customers in X We have well-developed knowledge about our competitors in X

X represents the market for which the informant answers: China, Russia, Poland or the Baltic states