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**THE ROLE OF KNOWLEDGE IN THE
INTERNATIONALIZATION PROCESS
OF FIRMS – A REVIEW OF SELECTED
RESEARCH LITERATURE**

Abstract

Knowledge is the centerpiece in theories on firm's internationalization, however the understanding of how internationalization knowledge is acquired, retained, transformed and transferred has developed significantly over the past decades. This paper aims at presenting the results of selected literature review on diverse approaches to the role of knowledge in the process of internationalization of companies. Both the sequential perspective and the international new venture approach are taken into account. Significant differences in the way specific knowledge aspects are emphasized in each approach, as well as their role in the process of internationalization, are presented. A more holistic, knowledge-based conceptualization of internationalization, that integrates dominant, yet conflicting perspectives in the literature is called upon, aiming to facilitate future research progress in this area.

Keywords: *internationalization process, internationalization theory, sources of knowledge*

Introduction

Knowledge constitutes one of the major factors behind a company's international expansion process. Yet more than three decades after the concepts of internationalization and knowledge were explicitly associated, certain gaps still remain regarding theoretical development in this field. These concern mainly the very conceptualization of knowledge, depending what perspective it is analyzed from – the sequential perspective (internationalization process theory), represented mainly by J. Johanson, J. Valne and F. Wiedersheim-Paul or international entrepreneurship (international new ventures) perspective with B. Oviatt and P. McDougall being the main theorists. Secondly the type of knowledge emphasized, the role that knowledge plays in internationalization and the sources of this knowledge are the next areas of disagreement among internationalization researchers. The aim of this paper is to present these diverse approaches to understanding the role of knowledge in the process of internationalization of companies, supported by relevant research results, as well as to point out future research directions in the field.

1. Knowledge as a central explicative factor in the internationalization theories – the sequential approach versus the international new ventures approach

Knowledge nowadays plays a far more complex role than assumed in the internationalization models of the previous century, which is illustrated, i.a. by the “Born Global” phenomenon (Petersen, Pedersen, Sharma, 2003). The internationalization theories of the 70s and 80s, the UPPSALA and innovation models in particular, posit that the critical kind of knowledge in the internationalization process is experiential (Johanson, Vahlne, 1977). According to those models the lack of knowledge about foreign markets is an important obstacle to the development of international operations and the necessary knowledge may be acquired mainly through operations abroad. This market experience is perceived as country-specific, which means that it is not generalizable easily to other countries. Furthermore decisions and implementations concerning foreign operations are made incrementally due to market uncertainty. Incrementalism can be seen as management learning process in which “learning by doing” is the basic logic (Forsgren, 2002). The more the firm knows about the market, the lower the perceived risk and the higher the level of involvement in that market. In the Uppsala model the tacitness of internationalization knowledge is predetermined (Petersen, Pedersen, Sharma, 2001). This means that this knowledge is highly personal, hard to formalize and, therefore, difficult to communicate to others (Nonaka, 1991).

Almost two decades ago, Oviatt and McDougall (1994) underlined the growing importance of companies that did not fit into the sequential model of internationalization process. The researchers of the process have noticed that companies do not always expand to the markets that are closest with regard to so called psychic distance (Brennan, Garvey, 2009), but more and more frequently enter foreign markets quickly and leapfrog the stages indicated in the former, traditional models. The business practice has proved that the slow process of learning from one’s own mistakes may be considerably shortened through access to the knowledge resources of other companies, without the necessity of having similar experiences. Such a shortcut may take place through mergers, alliances or acquisitions of local firms, equipped in the necessary knowledge, employing workers possessing desired kind of knowledge or simply through observing the activities of other companies and imitating their behavior and implemented solutions. Furthermore Christensen and Jacobsen (1996) in their study of newly established international firms in Denmark, conclude that firms have different routes to in-

ternationalization depending on the knowledge acquired prior to the formation of the business or prior to expanding internationally. This prior knowledge may have been generated at an individual level (knowledge accumulated by the founder and/or senior management) or at an organizational level, through the firm's historical behavior.

Likewise, according to the "internationalization knowledge" concept (Eriksson et al., 1997; Yu, 1990), relevant knowledge may be of different types, varying in terms of how it is acquired and with what level of difficulty. Three types of international knowledge have been defined:

- internationalization knowledge (IK),
- business knowledge (BK),
- institutional knowledge (NK).

The first type is described as general knowledge, relating to the very process of internationalization or a firm's capability to engage in international operations. This is not unique to any particular foreign market, but is inseparably related to a given enterprise; it is embedded in its procedures, shared values and structure and it requires a great deal of proactive involvement to integrate. This kind of knowledge integrates and coordinates all activities connected with a company's internationalization. These involve knowledge about the management of subsidiary network, including issues such as communication forms or research and development cooperation. Usually certain resources of this kind of knowledge can be found in the company since the moment it is established, thanks to the prior knowledge of its owners. In contrast, the next kind of knowledge, specified as "business knowledge", concerns clients and customers, competitive situations in specific markets and other factors of a particular foreign market environment. Finally institutional knowledge is one relating to governance and institutional structures, their rules, regulations, norms and values. To a certain extent, business knowledge is knowledge about the close environment and institutional knowledge corresponds to the distant environment of a given market.

Using Huber's seminal terminology (1991) Fletcher and Harris (2012) propose an organizational learning framework for internationalization knowledge (Figure 1) to understand in greater depth the knowledge acquisition process of internationalizing firms. Objective (explicit or codified) knowledge versus experiential (tacit or implicit) knowledge has long been distinguished in the literature (Johansson, Vahlne, 1977; Nonaka, Takeuchi, 1995). A distinction between internal and external knowledge sources has been made in recent research on knowledge sources and their implications for internationalization (Casillas et al., 2009).

Figure 1. A framework for new knowledge acquisition sources

	Internal source of knowledge	External source of knowledge
Experiential knowledge	– direct experience	– indirect experience ▪ vicarious learning and grafting
Objective knowledge	– internal information	– external search

Source: Fletcher, Harris (2012).

Direct experience means that firms acquire some of their knowledge in the internationalization process through their own operations in the foreign market. As it has already been mentioned, internationalization process theory affirms current business activity to be the main source of knowledge for internationalization. Indirect experience refers to knowledge that has not been learned directly; rather firms learn from the experience of others, for example by observing them in a network or through licensing or strategic alliances (vicarious knowledge acquisition). Grafting on the other hand involves hiring people or acquiring other businesses that possess the required knowledge.

As far as external sources of knowledge are concerned firms also have the possibility of acquiring knowledge on international markets from objective sources, such as ones published by chambers of commerce, trade associations, consultancy and research agencies as well as trade publications. They can also engage in conducting their own marketing research or undertake education and training to learn from others (Fletcher, Harris, 2012). As companies often “do not know what they know” (Huber, 1991), this framework also emphasizes the internal knowledge of the organization. Firms can develop new knowledge by piecing together items of information already present within the firm, with the internal staff and systems being the sources of that knowledge. Effort should be assigned to codify and record information to improve learning.

Developments in the understanding of knowledge challenge some of the earlier assumptions about internationalization knowledge. According to L. Brennan and D. Garvey, who present the synthesis of the research to date on this phenomenon (Brennan, Garvey, 2009), the following assumptions about the role of knowledge in the internationalization process partly explain the “Born Global” phenomenon, which means start-up companies attempting early and rapid internationalization strategies:

- there is already internationalization knowledge accumulated in the company through individual founders on the formation of the company;
- different knowledge constructs (IK, BK and NK) are acquired in different ways. The research suggests that internationalization knowledge (IK) may be

- gained experientially, acquired through the hiring of individuals with relevant knowledge or acquired through international alliances;
- some constructs of knowledge – mainly institutional (NK) are more easily acquired than others (IK and BK). The more internationalized the industry is, the potentially higher level of institutional knowledge;
 - knowledge is not necessarily accumulated experientially on a market basis but perhaps on an individual, firm and industry basis.

2. Factors affecting knowledge in the internationalization of firms – research review

Considerable work by international business scholars in the tradition of Johanson and Vahlne has focused on learning by internationalizing firms. Researchers have investigated how factors such as time length of domestic operations (Autio et al., 2000; Blomstermo et al., 2004) and variation in foreign operations (Eriksson et al., 2000) affect the accumulation of knowledge in internationalizing firms. The findings of these studies indicate that the duration of domestic activities prior to the inception of internationalization is fundamental for knowledge development in a firm. It is easier for firms, in terms of absorptive capacity*, to expand abroad soon after their inception. It poses more difficulty for firms with long domestic experience to change their mental models and processes (Blomstermo et al., 2004). Autio et al. (2000) indicated that the earlier firms expand abroad the greater their knowledge intensity and the faster they grew internationally, thus adopting an international identity. As firms get older they develop mental models that hamper their ability to grow in new environments. Table 1 presents the description of some selected direct research on factors affecting knowledge in the internationalization process, conducted from the year 2000 onwards.

* Absorptive capacity is the ability of a firm to recognize, assimilate and apply information from the external environment and influences its ability to enhance market knowledge in the context of internationalization (Eriksson and Chetty, 2003).

Table 1. Direct research on factors affecting knowledge in the internationalization process

Authors of the study, year of publishing the results	Research topic	Profiles of the researched companies	Method/sample size	Major results of the study
E. Autio, H.J. Sapienza, J.G. Almeida, 2000	The learning effects of age at foreign entry and knowledge intensity impact on international growth	Finish electronics industry companies	Panel data/134 firms	As firms get older, they develop learning impediments that hamper their ability to successfully grow in new environments. The flexibility of newer firms allows them to rapidly learn the competences necessary to pursue growth in foreign markets
K. Eriksson, J. Johanson, A. Majkgard, D.D. Sharma, 2000	The effect of variation of international business operations on experiential knowledge development	Swedish service firms engaged in international operations	Questionnaire-based survey/774 firms	Variation or diversity has a positive effect on the accumulation of knowledge in internationalizing firms (2000 study). The length of domestic operations effects the accumulation of knowledge in the internationalizing firm (2004 study)
A. Blomstermo, K. Eriksson, D.D. Sharma, 2004	The influence of domestic operations on knowledge accumulation in internationalizing firms			
S. Khavul, G.D. Bruton, C. Zheng, E. Wood, 2007	Impact of timing of international entry and developing network relationships in the process of internationalization on learning	Firms from China, India and South Africa active selling internationally	Survey using structured questionnaire, administered in person/216 firms	Firms learn from their internationalization effort (not simply before or immediately post entry), adapt and build knowledge over time taking advantage of diverse learning opportunities
J. Bruneel, H. Yli-Renko, B. Clarysse, 2010	Identification of how young firms can compensate for a lack of international experiential knowledge	Technology based firms in Belgium	Two rounds of structured, face-to-face interviews/114 firms	The lower a firm's experiential learning, the more significant the effects of the start-up team's prior international knowledge base and the knowledge and skills acquired through key partners
M. Fletcher, S. Harris, 2012	Identification of where and how various types of knowledge in the internationalization process are sourced	Scottish firms participating in internationalization programme run by a governmental agency	Multiple case study involving interviews in 3 consecutive years/15 cases	External knowledge sources are especially important for the internationalizing smaller firms with limited experience

Source: Based on the published results of the quoted research.

The latest studies on factors influencing knowledge development in the process of internationalization focus on the role of relationships, both pre-existing and newly formed (Freeman et al., 2010). The most crucial part regarding the role of knowledge in the network perspective on internationalization, which highlights the relations linking a company to a number of entities in its environment, such as customer, suppliers, other business partners, institutions and competitors, is the importance of gradual learning and knowledge development as a result of mutual influences within the network. In this approach main emphasis is on the need to learn from other companies (Gorynia, Jankowska, 2007). Both internationalization process and international new ventures approaches have emphasized the role of networks. By regarding the business environment as a network of relationships, Johanson and Vahlne revised model (2009) sees relationships leading over time to knowledge exchange and the creation of new knowledge. Oviatt and Mcdougall (1994) perceive network structures as even more powerful resource-conserving alternative for new ventures.

In their theoretical study focusing on born-global firms Freeman et al. (2010) argue that managers can use pre-existing and newly formed relationships to quickly and proactively develop new knowledge for rapid commercialization of their products. The proactive, advanced relationship-building capability by born-global managers is based around locating partners with technological and other types of knowledge to ensure ease of knowledge sharing. However network relationship may not be the complete solution in all circumstances (Fletcher, Harris, 2012). Entrepreneurial firms often start without having previous networks and while being important source of technological and market information, network firm have neither sufficient knowledge of the firm's capabilities and resources, nor the time to interact with the firm to provide internationalization knowledge. Fletcher and Harris pose that there might be other important sources of knowledge for firms seeking internationalization, than network relationships and direct experience, with the latter taking considerable time and effort. They point especially to the needs of internationalizing smaller firms, for whom external sources of knowledge, such as government advisors and consultants, might be of crucial importance in the absence of experienced international managers, who can offer internationalization knowledge. Khavul et al. (2007) posit that entrepreneurial firms from emerging markets have to be more observant and learning-focused than their developed country counterparts. They need to begin the internationalization effort early enough so that they do suffer from the so called "dominant logic", other authors referred to (Autio et al., 2000; Blomstermo et al., 2004), but also they need to have some depth of operation

that will allow them to make sense of new information the internationalization process uncovers and to assimilate into their routines the identified solutions.

Another factor enhancing firms' knowledge on foreign markets is the effective use of Internet technology. Irrespective of whether or not e-commerce transactions are carried out, the Internet offers firms an information-intensive environment, allowing them to disseminate, acquire and share information. Firms can access a lot of information on foreign markets, which is of immense value in the context of internationalization (Prashantham, 2005). This is especially significant for the internationalizing smaller firms, having limited resources at their disposal.

3. An integrative model of the role of knowledge in the internationalization process

There has been a number of calls in the literature for an eclectic approach, that would combine theories, models and approaches to knowledge being at the core of received wisdom of internationalization (Prashantham, 2005; Casillas et al., 2009; Mejri, Umemoto, 2010).

Casillas et al. (2009) propose a model to integrate the influence of knowledge on international behavior based on the literature on organizational learning in multinational companies, that would integrate the sequential point of view and the international entrepreneurship-based perspective. This model involves several phases: (1) the availability of prior knowledge, (2) search for new knowledge, (3) the combination of prior knowledge with new knowledge and action and (4) the learning process that arises from the outcome of these actions. In their model Casillas et al. state that it is not sufficient for a company just to develop a new knowledge acquisition process. The information acquired has to be assimilated, combined with prior information and formed into knowledge that can be directly applied through particular behavior patterns in the new target marketplace. The company's ability to assimilate new knowledge depends on the existence of routines and procedures that enable such new information to be analyzed, processed, interpreted and understood. Table 2 presents some crucial assumptions of the analyzed model.

Table 2. Basic assumptions of the model of knowledge influence on the internationalization process

Stage in the model	Important assumptions	Fields for future research
Prior knowledge	<ul style="list-style-type: none"> - may be based on earlier experience of the firm's founder/senior management, - may come from participation in inter-organizational networks, - may come from characteristics of the domestic market and sector where the firm operates 	Understanding the relative importance of each of these three sources of knowledge, discovering the nature of this knowledge

table 2. contd.

Acquisition of new knowledge	<ul style="list-style-type: none"> – the ability to absorb new knowledge is a factor explaining the decision to expand, – two main groups of information sources may be defined: internal and external information 	<ul style="list-style-type: none"> – studying the learning processes through different points of access to information (experiential, systematic and tacit knowledge), – decision about what new knowledge is required to pass from a state of perceiving an opportunity to actually exploiting that opportunity
Combination of prior knowledge with new knowledge	How new knowledge is integrated with prior knowledge and what bearing this integration has on decisions related to the firm's international behavior	<ul style="list-style-type: none"> – capability to absorb new knowledge, – degree to which new knowledge is compatible with prior knowledge, – efficiency in developing new knowledge
Learning arising from international experience	Relationship exists between knowledge generated through the firm's previous international behavior in the past and the rate of its internationalization process in later stages	<ul style="list-style-type: none"> – what type of knowledge is generated by the firm's international experience? – how this new experiential knowledge integrates with the background knowledge the company had before this foreign experience, – how this new experiential knowledge affects the need for new knowledge perceived by the decision-makers, – how it influences the speed of the internationalization process

Source: Based on Casillas et al. (2009).

Within the model different courses of action are identified for further research into the process of company internationalization. This is perceived as a learning process in itself, and not exclusively dependent on the knowledge acquired in other areas of business (Casillas et al., 2009).

Conclusions

A more holistic, knowledge-based conceptualization of internationalization, that integrates dominant, yet conflicting perspective in the literature, aims to facilitate future research progress in this area. A particularly interesting subject of empirical research are the smaller knowledge-intensive firms, due to their proactive and accelerated internationalization. Their need for knowledge is great but their ability to resource is often limited. They need to recognize what they do not know and to develop learning processes and organizational learning culture to address these gaps. In their case internationalization is view as an continuous effort through which those entrepreneurial firms build knowledge over time taking advantage of diverse learning opportunities (direct experience, vicarious learning, grafting, external search, etc.). When researching these entities one cannot confine to one aspect of internationalization theory, such as the process approach, international new

ventures or the network perspective. Rather, an integrative approach should be applied pointing out a number of options regarding knowledge acquisitions.

The results of the literature review included in this paper will constitute a starting point for a deeper investigation of Polish knowledge-intensive firms in their internationalization process.

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