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RESEARCH ARTICLE

The role of international knowledge acquisition and absorptive capacity as a predictor of international performance

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Abstract

The international business literature recognizes the central role of knowledge and learning as key determinants of the internationalization of firms. While the stages model underlined the influence of experiential learning, new research has shown that there are also other relevant types of knowledge acquisition, which can be structured following Huber's model (1991) as congenital, grafted, vicarious, and search knowledge acquisition. However, knowledge acquisition constitutes only a first step for learning. In this respect, absorptive capacity appears as a useful construct since it integrates knowledge acquisition, assimilation, transformation, and exploitation capacity. This paper analyzes the influence of the types of knowledge acquisition on international performance and considers absorptive capacity dimensions as moderator variables based on a sample of 200 Spanish SME exporters.

KEYWORDS
absorptive capacity, internationalization, knowledge, learning

Résumé

La literatura sobre negocios internacionales reconoce el papel crucial del conocimiento y el aprendizaje como determinantes claves dentro del proceso de internacionalización. Así, mientras que el modelo secuencia resalta la influencia del aprendizaje a través de la experiencia, nuevas evidencias han mostrado que existen otras formas de adquirir conocimiento, lo que según el modelo Huber (1991) serían: aprendizaje congénito, aprendizaje experimental, aprendizaje vicario, aprendizaje por injerto y aprendizaje a partir de la búsqueda. Sin embargo, la adquisición de conocimiento es sólo el primer paso para el aprendizaje. En este sentido, la capacidad de absorción emerge como un constructor útil en cuanto integra las capacidades de adquisición de conocimiento, asimilación, transformación y explotación. Este artículo analiza, a través de una muestra de 200 empresas, la influencia de las diferentes formas

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de adquisición del conocimiento sobre el rendimiento internacional, considerando la capacidad de absorción como moderadora de esta relación.

MOTS-CLÉS
apprentissage, capacitéd'absorption, connaissances, internationalization

JEL CLASSIFICATION
D83, L25, M16

1 | INTRODUCTION

Decisions throughout the internationalization process are driven by the knowledge a firm possesses or lacks with regard to the new market (Cohen & Levinthal, 1990; Huber, 1991; Klepper, 1996). Several decades ago, theorists, who relied on the behavioral model of the firm, created stages models of internationalizing that depicted internationalization as a sequential or stages process of learning in which knowledge acquisition through participation in new markets leads to increasing international commitment (Johanson & Vahlne 1977, 1990). This model implies a slow and gradual internationalizing while businesses acquire and accumulate experiential knowledge in a path-dependent process (Eriksson et al., 1997). Dissatisfied with this depiction, Oviatt and McDougall (1994) developed a new-venture internationalization perspective that similarly noted the importance of knowledge. By using the behavioral theory assumption, which states that managers seek to avoid uncertainty, the former model explained why most companies waited to expand abroad and subsequently proceeded slowly thereafter. The latter model employed a resource-based framework, which explains that new ventures with appropriate knowledge, stocks, and capabilities did not follow the incremental pattern but instead leapt ahead, and utilized their internationalization as a proactive, competitive strategy.

While both models used experiential knowledge as a key driver and could explain why some companies went slowly and others rapidly, neither model was specifically aimed at providing more insight into whether different knowledge acquisition activities might be more or less useful in predicting when the companies would actually start to sell abroad (Oviatt & McDougall, 2005). Furthermore, the ever-increasing literature on this topic is claiming a wider approach in the analysis of the role of different types of knowledge acquisition activities in the firm's internationalization process (De Clercq et al., 2012; Forsgren, 2002). However, knowledge acquisition (KA) is only one part of the learning process, especially when the firm acquires knowledge externally. Information gathered from external sources (such as promotion agencies, consultants, and public information about foreign markets) needs to be assimilated and interpreted by the firm managers for the international opportunities to be exploited. The learning process is shaped as a dynamic interaction between the stock of knowledge and new knowledge. in which managerial experience, absorptive capacity, and knowledge complementarity, among other factors, play a crucial role. Absorptive capacity (ACAP) determines the potential usefulness of new knowledge to generate new products and new behavior, or to enter into new markets (Cohen & Levinthal, 1990). According to Zahra and George (2002), knowledge acquisition is one of four dimensions of ACAP. The other three are assimilation, transformation, and exploitation capabilities. The role of ACAP in the internationalization process has barely been researched, although both the stages model and international entrepreneurship perspectives have recognized its relevance (Johanson & Vahlne, 2009; Zahra, 2005).

In an effort to fill this gap, our research analyzes the role of assimilation, transformation, and exploitation capabilities as three dimensions of the ACAP construct (Zahra & George, 2002): as a predictor of international performance; and as moderator variables of the relationship between different KA types (Huber, 1991), the first ACAP dimension (Zahra & George, 2002), and international performance. In essence, with this paper, we strive to answer the following research questions: How does ACAP influence the international performance of firms? Does ACAP directly influence international performance, does it moderate the effect of international knowledge acquisition activities, or both? We propose a model in which, following Huber's framework (De Clercq et al., 2012), the five types of international KA are considered, as well as the three ACAP post-acquisition dimensions proposed by Zahra and George (2002): assimilation, transformation, and exploitation capabilities. This model contributes by offering a holistic view of the international learning process, by simultaneously combining acquisition and absorptive capacity as explanatory variables of internationalization; by opening,

to a certain extent, the black box of learning processes regarding the internationalization process of the firm; and by guiding managers toward the relevance of the entire process of learning, beyond merely KA activities. Five hypotheses are proposed, and empirical research, based on a sample of two hundred Spanish international firms, is developed through structural equation modeling.

The structure of the paper is as follows. A brief summary is first provided of the research on the role of knowledge in internationalization processes, while highlighting the role of two main constructs traditionally used in the literature: KA activities and ACAP. An overarching hypothesis is then developed that links KA types and ACAP to international performance. Our methods, including sample selection, measurements, data validity, and analysis strategy, are described and the results are presented. The final section contains the discussion, implications, and conclusion.

2 | THEORETICAL DEVELOPMENT

Knowledge plays a key role as an explainer and accelerator of internationalization (Autio et al., 2000; Sapienza et al., 2006) and can occur at several levels in a company (Casillas et al., 2009). However, the consideration of knowledge as a key factor in internationalization is not new. The stages model depicted internationalization as a recursive process in which knowledge acquisition increases international commitment, and, in turn, commitment increases knowledge acquisition (Johanson & Vahlne, 1990). This perspective emphasizes the role of experiential knowledge: learning from activities reduces perceived risk and thereby encourages commitment. It suggests that how quickly a firm chooses to carry out a cross-border activity depends on managers' perceptions of the risks and of other alternatives available (Johanson & Wiedersheim-Paul, 1975). According to this model, companies internationalize by first exporting to nearby countries to reduce the perceived risks of entering distant markets. Thus, businesses first choose countries at the shortest psychic and geographical distance from the focal firm (Benito & Gripsrud, 1992; Johanson & Vahlne, 1977), and subsequently expand out from that point. This view suggests that risk perceptions are inversely related to knowledge, and hence knowledge is essential in explaining whether and where companies begin to trade across borders. Stages model assumptions dominated the literature on internationalization from the 1970s to the mid-1990s, and experiential learning consequently became the most analyzed source of knowledge acquisition.

The international entrepreneurship perspective also embraces the importance of knowledge and of learning (Oviatt & McDougall, 2005; Rialp et al., 2005). Unlike the stage perspective, this suggests that pre-existing (i.e., congenital) and other types of knowledge are also important (Autio et al., 2000; Oviatt & McDougall, 1994; Sapienza et al., 2006). Forsgren (2002) identified alternative sources of international knowledge as vicarious, grafted, and searching activities for objective information on foreign markets. Congenital and vicarious knowledge acquisitions are also investigated in the case of international new ventures (Bruneel et al., 2010; Fernhaber et al., 2009). Areas of knowledge identified as potentially relevant for exploration include the role of pre-existing knowledge and processes (McDougall et al., 2003; Oviatt & McDougall, 1994), the path-dependent nature of the experiential accumulation of knowledge (Autio et al., 2000; Johanson & Vahlne, 1990), the breadth, depth, and speed of recognizing and exploiting new knowledge opportunities (Zahra et al., 2000), and the role of active participation in international networks at individual, group, and organizational levels (Coviello & Munro, 1995; Johanson & Vahlne, 2009). Combinations of different types of knowledge acquisition are also of major interest. For example, Li et al. (2004) proposed a hybrid model that combined the role of experiential learning with that of systematic learning. Levesque et al. (2009) also theoretically explored the use of vicarious versus participative learning and proposed that the contribution of each type of learning to international performance would depend on the relative value of substituting costly participative learning with vicarious learning.

To sum up, knowledge constitutes one of the main determinants of internationalization behavior. Nevertheless, most research in this field focuses on a narrow range of learning types (Cohen & Levinthal, 1990; Huber, 1991). The expanding set of issues identified by researchers regarding the role of knowledge in internationalization suggests that a broader framework is needed to organize research effectively in this area. In this respect, De Clercq et al. (2012) propose that Huber's model (1991) can provide a holistic framework for the analysis of a wide range of knowledge acquisition for internationalization.

2.1 | Knowledge acquisition types

Knowledge acquisition (KA) is the process by which knowledge is obtained. It is an extensive and complex process in which other factors, such as information distribution, information interpretation, and organizational memory (Huber, 1991), also intervene. A consideration of KA types promises to inform both the congenital-

experiential learning debate implicit in the international new-venture and stages model perspectives (Sapienza et al., 2006), and to illuminate the role of the other knowledge types in the internationalization of firms. We now review the five types of knowledge acquisition activities in Huber's (1991) scheme: congenital, experiential, vicarious, grafted, and search.

Congenital KA refers to the processes involved in knowledge acquired prior to the inception of the business: "the individuals or organization that create new organizations have knowledge about the new organization's initial environment and about the processes the organization can use to carry out its creator's intentions, and they make this knowledge available to the new organization's members" (Huber, 1991, p. 91). Huber notes that congenital KA may involve institutionalized practices and procedures and context-specific KA by founders prior to start-up. The international new-venture perspective explicitly expects such pre-existing KA to be important for young firms' intentions regarding whether to begin or not to begin to internationalize (Oviatt & McDougall, 1994). Supporting this view, Bloodgood et al. (1996) found that the extent of internationalization one year after the initial public offering was positively related to the international experience and education of its executives prior to founding.

Experiential KA is the process through which knowledge is acquired by a firm via direct experience after its birth (Huber, 1991). This may involve planned and unplanned learning, although Huber notes that unintended learning is by far the most common. (Huber names five sub-processes, but, following the internationalization literature, only the simple general concept is examined herein). The stages model regards internationalization as an incremental accumulation of experiential international knowledge. Many studies provide evidence of the effects of accumulated experiential knowledge on internationalization (see, for instance, Johanson & Wiedersheim-Paul, 1975; Johanson & Vahlne, 1977, 1990). The international new-venture approach also recognizes the importance of path-dependent experiential knowledge. The aim of this perspective, however, has been to explain why certain companies rapidly internationalize even when they have only minimal experience (Autio et al., 2000).

The other three types of learning processes in Huber's typology (vicarious KA, grafted KA, and search KA) have remained relatively unexplored in the stages and new-venture models. Huber (1991) refers to *vicarious KA* as learning through the second-hand experience of other firms' strategies, practices, and technology. *Grafted KA* occurs when knowledge is brought into the firm by "acquiring and grafting on new members who possess knowledge not previously available within the organization" (Huber, 1991, p. 97). Finally, *search KA* is the process of obtaining knowledge by seeking and analyzing market information on external opportunities. It differs from vicarious KA in that search is more systematically or intentionally carried out on a variety of sources, not just through contact with or observation of competitors and similar firms (Huber, 1991).

These five KA types have several differences. Congenital and grafted KA capture the stock of knowledge accumulated by the prior international experiences of the founders and managers. Both congenital and grafted KAs, like experiential learning, are essentially unintentional because they are shaped by individual or organizational international experiences. They are difficult to transfer between firms and business units (Johanson & Vahlne, 2009). Nevertheless, search KA is essentially intentional, since it seeks objective knowledge of international markets, which is publicly available and easy to transfer between organizations (Forsgren, 2002). Vicarious learning is mostly intentional in the way in which it is acquired. Firms intentionally look at other businesses that present a certain legitimacy regarding international behavior to learn from their experience. In brief, congenital, grafted, and experiential KAs are mainly unintentional, while search and vicarious KAs are in essence intentional. In order to link the knowledge to the international performance, we assume a behavioral theory approach, and following prior works that establish how decisions to commit resources to foreign operations are grounded on the firm's knowledge logic (Johanson & Vahlne, 2009). Consequently, as a starting point, we propose:

H1 *KA activities (congenital (a), grafted (b), experiential (c), vicarious (d), and search (e)) exert a positive influence on international performance.*

2.2 | Absorptive capacity (ACAP)

As previously explained, prior research has recognized that internationalization is a learning process per se. In this respect, much research has focused on knowledge acquisition activities. Nonetheless, learning encompasses more than simple KA (Barkema & Vermeulen, 1998; Sun & Anderson, 2010). Learning involves internal processes of assimilation, interpretation, mobilization, transformation, and exploitation, among others. Learning processes need new knowledge to interact with existing knowledge to develop new capabilities to compete in the market (Cohen & Levinthal, 1990). Consequently, ACAP is crucial as a dynamic capability embedded in a firm's

routines and processes (Lane et al., 2006; Zahra & George, 2002), which influence the firm's ability to create and deploy the knowledge to build other organizational capabilities (see for instance internationalization).

In this context, Zahra and George (2002) divided ACAP into four consecutive dimensions: the acquisition, assimilation, transformation, and exploitation of knowledge. The first two are dimensions of potential capacity, while the latter two are dimensions of realized capacity. Acquisition refers to "a firm's capability to identify and acquire externally generated knowledge that is critical to its operations" (Zahra & George, 2002, p. 189). Assimilation refers to the "firm's routines and processes that allow it to analyze, process, interpret, and understand the information obtained from external sources" (Zahra & George, 2002, p. 189). Transformation captures the "firm's capability to develop the routines that facilitate combining existing knowledge and the newly acquired and assimilated knowledge" (Zahra & George, 2002, p, 190). And finally, exploitation is a firm's capability "based on the routines that allow firms to refine, extend, and leverage existing competencies or to create new ones by incorporating acquired and transformed knowledge into its operations" (Zahra & George, 2002, p, 190). In Zahra and George's conceptualization, KAs (Huber, 1991) are only the first stage of ACAP, and their impact on the performance of firms depends on the remaining internal dimension of ACAP (Cohen & Levinthal, 1990; Zahra & George, 2002).

These four dimensions are complementary and interdependent. Nonetheless, independently considered, the firm's capability of acquiring, assimilating, transforming, and exploiting external knowledge exerts a positive impact on innovative outputs, and other outcomes that pertain to the creation of a competitive advantage (Jansen et al., 2005; Zahra & George, 2002). The previous hypothesis recognizes the influence of international KA activities on international performance, and therefore a similar impact of the other three ACAP dimensions on international performance can be proposed:

H2 *ACAP dimensions (assimilation (1), transformation (2), and exploitation (3)) exert a positive influence on international performance.*

2.3 | KA activities and ACAP capabilities

The learning process is usually considered as a path-dependent process. KA activities shape the future stock of available knowledge, but the stock of knowledge accumulated over time simultaneously guides the searching activities for new knowledge. Cohen and Levinthal (1990) stated that a stock of past knowledge is essential in order to assimilate new knowledge. New knowledge can easily be absorbed when it is complementary to knowledge existing inside the firm. Similarly, Zahra and George (2002) proposed that past experience influences the development of potential ACAP due to three related effects. First, past experience influences the development of future acquisition capabilities. Second, experience is connected to organizational memory, which influences future actions and performance (Moorman & Miner, 1996). And finally, experience has a significant impact on managerial cognition, which influences the firm's ability to manage information.

Following Huber's typology of KA activities, the stock of knowledge accumulated by the individual experience of founders and/or managers in the past shapes how the firm will assimilate and manage future knowledge. In addition, experiential knowledge, developed through a learning-by-doing process over time has a potential effect on the firm's ability to assimilate, transform, and exploit new knowledge. As a consequence, we propose:

H3 *congenital (a), grafted (b), and experiential (c) KA activities exert a positive influence on assimilation (1), transformation (2), and exploitation (3) capabilities.*

ACAP is defined as a process itself (Zahra & George, 2002). Herein, KA is an antecedent of knowledge assimilation; knowledge assimilation influences knowledge transformation; and knowledge transformation affects knowledge exploitation. Acquisition, assimilation, transformation, and exploitation are consecutive steps of a continuous learning process that configures ACAP as a dynamic capability (Wu & Vahlne, 2020). *H3* assumes part of this process perspective of ACAP.

Following this logic, Zahra and George (2002) state that potential ACAP is an antecedent of realized ACAP, and both steps integrate the whole process of the firm's ACAP. Knowledge assimilation refers to the firm's capability to analyze, process, interpret, and understand the information obtained from external sources. The firm's higher assimilation capability improves its capacity to combine existing knowledge and the newly acquired and assimilated knowledge. A firm's transformation capability depends on how external information has previously been assimilated inside the firm. Similarly, the organizational capability of exploiting knowledge by incorporating internal knowledge into its operations depends on how external knowledge has been assimilated and transformed (Cohen & Levinthal, 1990; Zahra & George, 2002). Only knowledge that has already been

adequately internalized is ready to use. Following this process perspective of ACAP, we propose:

H4 *The assimilation capability of the firm exerts a positive influence on the firm's transformation capability (a), and the firm's transformation capability exerts a positive influence on its exploitation capability (b).*

The stages model asserts that experiential knowledge provides the driving force in the internationalization process of firms (Johanson & Vahlne, 1977, 2009). According to behavioral theory (Cyert & March, 1963), the basic assumption is that learning-by-doing is more valuable for managers than external and objective knowledge (Forsgren, 2002). Due to the tacit character of market knowledge (Johanson & Vahlne, 1977), knowledge is highly dependent on individuals, and is therefore difficult to transfer to other firms or contexts (Penrose, 1959). External knowledge needs to be internalized and integrated into a stock of individual and experiential knowledge in order for it to be exploited.

In this respect, ACAP is perceived as a dynamic capability that enhances the effect of external knowledge on its potential exploitation in international markets. External and intentional knowledge, like vicarious and search KA activities, has to be absorbed by the firm. It has to be assimilated, transformed, and exploited through a combination process of different complementary types of knowledge (knowledge internally stored inside the organization and externally-acquired knowledge). Consequently, assimilation, transformation, and exploitation capabilities enhance the effect of external and intentional KA activities on international performance. For this reason, we propose:

H5 *The ACAP dimensions positively moderate the influence of external KA activities, like vicarious (a) and search (b) KA on international performance.*

Figure 1 summarizes the model proposed.

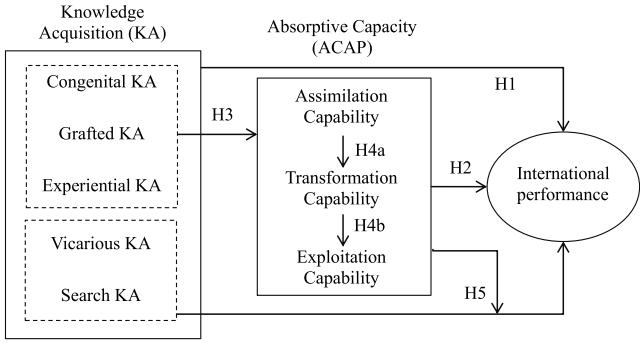

FIGURE 1 Model and hypotheses

3 | METHODOLOGY

3.1 | Sample

The sample was selected from the directory of Spanish exporters and importers, put together by the Superior Council of Chambers of Commerce (Consejo de Cámaras de Comercio), which uses information provided by Public Finance. Firms were selected from five different sectors, characterized by a high proportion of exporters (chemical, food and beverages, textile, manufacturing, and commerce). The total population was made up of 3,158 firms, from which approximately 50% were exporters. Questionnaires were sent to 1,524 firms, 221 of which no longer existed or had erroneous contact information. We achieved 200 valid responses (15.35% of 1,303) by using interviewers. The answers given by the firms were analyzed in terms of response timing, and no significant differences were found between those that answered first and the rest. The characteristics of the sample are shown in Table 1.

TABLE 1 Sample characteristics

	N	Percentage
Age		
Less than 10 years	29	14.50
From 11 to 25 years	63	31.50
From 26 to 50 years	71	35.50
From 51 to 100 years	27	13.50
More than 100 years	10	5.00
Total	200	100.00
Size		
Fewer than 10 employees	23	11.50
From 10 to 49 employees	103	51.50
From 50 to 249 employees	52	26.00
250 or more employees	22	11.00
Total	200	100.00
Sector		
Food and beverages	64	32.00
Chemicals	34	17.00
Manufacturing	64	32.00
Textile	18	9.00
Commerce	20	10.00
Total	200	100.00

3.2 | Variables

3.2.1 | International performance

The final endogenous variable has been measured in terms of export intensity (the ratio between exports and total sales), which is traditionally used as an indicator of export commitment (Filatotchev et al., 2008; Lages et al., 2008).

3.2.2 | Knowledge acquisition types

Five multi-item scales were created to measure the five KA types. Each item was measured on a seven-point Likert scale. We created the scales from a review of the literature and several interviews with three experts on internationalization, two members of two agencies for internationalization promotion, and one private consultant on internationalization (see Appendix A for the items). The questionnaire used by Casillas et al. (2015) showed coincidence with our objectives but omitted the influences of the export promotions agency (Acedo & Casillas, 2007). Thus, this questionnaire was modified accordingly and, once the questions had been written, they were personally passed to seven export managers in order to monitor that the items were well understood, and to three different managers in an export promotion agency to verify the adequacy of the modifications. In order to test whether our modifications lead to adequate results, the intraclass correlation coefficient (ICC), cross loadings, and Cronbach's alpha coefficient were employed to test the reliability between test and retest and internal consistency of all items, respectively. Furthermore, the questionnaires were split into subsamples, thereby obtaining adequate results with no significant difference in the application of this instrument. Our analyses showed that, as expected, five factors emerged, and each item was grouped in the factor proposed (one factor for each KA type [Huber, 1991], similar to that in Casillas et al. [2015]).

3.2.3 | Absorptive capacity

Three different Likert scales were used (seven points), one for each ACAP dimension (assimilation, transformation, and exploitation), as proposed by Jansen et al. (2005). A confirmatory factor analysis was also performed to ensure that the measures were reliable, and three different factors were found.

Finally, we have included three control variables. The first is the age at entry, measured as the number of years between the foundation and the firm's first international activities (Gabrielsson et al., 2008; Rialp et al., 2005). The second control variable is the firm's age (Autio et al., 2000; Sapienza, et al., 2006), and, finally, research and development intensity (Autio et al., 2000).

3.3 | Analysis

This model, despite being recursive in its nature as a learning process, is formed as a dynamic interaction between the stock of knowledge and new knowledge acquisition. Thus, "although in a state of constant flux, the firm can at any point in time be described in terms of its capabilities, resource positions [...] which in turn affect the processes in the next time period" (Vahlne & Johanson, 2017, p. 1089). By this approach, we try to infer the dynamic property of the model by linking state and change variables, transforming them as independent and dependent variables (Vahlne & Johanson, 2017) to deepen our insights into the constructs and relations commonly studied empirically. This approach has commonly been used both in the study of the internationalization process (Welch & Paavilainen-Mantymäki, 2014) and in learning-related studies (Casillas et al., 2015).

A structural equation modeling (SEM) is proposed to assess the relationships between the constructs, along with the predictive power of the research model. The partial least squares (PLS) technique was employed, since this tool is primarily intended for causal-predictive analysis in cases where the problems explored are complex and theoretical knowledge remains scarce. However, PLS is also an appropriate technique to use in a theory development situation (Hair, Risher, et al., 2019; Hair, Sarstedt, et al., 2019). Despite the substantial amount of literature regarding these issues, our model proposes that there is a link between the different constructs, which justifies the exploration of a theoretical extension of previously established theories (Chin, 2010; Hair, Risher, et al., 2019). Furthermore, PLS is particularly suitable for complex models that have a high number of constructs, indicators, and/or relationships, as is the case presented here (Chin, 2010; Hair, Risher, et al., 2019, Hair, Sarstedt, et al., 2019).

The model was estimated with SmartPLS 3.2.7 (Ringle et al., 2015). The different constructs were estimated in Mode A (correlation weights), which is advisable when the indicators are correlated (Becker et al., 2013).

Common method bias was controlled by performing a full collinearity test based on variance inflation factors (VIFs) (Kock, 2015) designed to evaluate both vertical and lateral collinearity. Each of the VIF values obtained for each construct lies below the 3.3 threshold that could lead to a statistical problem (Kock, 2015).

4 | RESULTS

Table 2 summarizes the main descriptive statistics and the correlation matrix. The analysis and interpretation of a PLS model involves a two-stage process. First, we assessed the reliability and validity of the measurement model; and second, carried out the evaluation of the structural model. This sequence ensures that the measures of the constructs are valid and reliable before attempting to draw any conclusions from the relationships existing between said constructs (Barclay et al., 1995).

The main parameters corresponding to the measurement model appear in Table 3. The first step consists of analyzing the reflective constructs through the reliability of scales (Cronbach's alpha). Table 3 first shows the lower value for loadings (reflective items) and weights (formative items) of each of the constructs to analyze their individual reliability. All items attain values above 0.7. The reliability of the reflective constructs is represented by the composite reliability (which should remain higher than 0.7, according to Fornell & Lacker [1981]). The table also includes the convergent validity of latent variables, measured using the average variance extracted (AVE), which must be over 0.5 (Fornell & Lacker, 1981). As Table 3 shows, all constructs surpass this threshold. Finally, the discriminant validity must be analyzed. This measures whether the constructs do indeed differ. For this purpose, the AVE should be greater than the variant

TABLE 2 Descriptive statistics and correlation matrix

	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12
1. International performance	41.88	29.550	1.000											
2. Congenital KA	3.356	2.070	0.230	1.000										
3. Grafted KA	3.968	1.964	0.272	0.646	1.000									
4. Experiential KA	5.031	1.520	0.473	0.435	0.455	1.000								
5. Vicarious KA	5.082	1.482	0.420	0.248	0.292	0.496	1.000							
6. Search KA	4.495	1.581	0.413	0.260	0.262	0.588	0.548	1.000						
7. Assimilation	4.923	1.543	0.216	0.257	0.210	0.294	0.240	0.383	1.000					
8. Transformation	4.193	1.392	0.260	0.325	0.310	0.498	0.418	0.514	0.671	1.000				
9. Exploitation	4.048	1.620	0.232	0.289	0.205	0.424	0.391	0.480	0.592	0.716	1.000			
10. Ln Firm age	3.320	2.482	0.156	−0.271	−0.102	0.031	0.018	0.068	−0.080	−0.046	−0.093	1.000		
11. Ln Age at entry	2.443	2.105	0.220	−0.038	0.036	0.168	0.108	0.101	−0.024	0.071	0.050	0.609	1.000	
12. R&D intensity	0.104	0.215	0.231	−0.043	0.104	0.076	0.022	0.108	0.023	0.007	0.056	0.003	−0.061	1.000

TABLE 3 Construct statistics

	AVE	Composite reliability	Cronbach's alpha	Communality
International performance	–	–	–	0.734
Congenital KA	3.504	1.223	0.851	0.897
Grafted KA	3.373	1.215	0.866	0.920
Experiential KA	1.991	1.146	0.852	0.936
Vicarious KA	1.783	1.175	0.796	0.950
Search KA	1.940	1.138	0.859	0.956
Assimilation	1.090	1.028	0.914	0.990
Transformation	1.266	1.037	0.898	0.958
Exploitation	1.239	1.034	0.912	0.949
Age	0.941	0.941	1.000	1.000
R&D intensity	2.943	2.943	1.000	1.000
Age at entry	0.544	0.544	1.000	1.000

shared between two constructs in the model. For suitable discriminant validity, the diagonal elements should be significantly greater than the off-diagonal elements in the corresponding rows and columns (Barclay et al., 1995). All of our constructs satisfy this condition.

Once the measurement model has been validated, the second stage then involves the estimation of the structural model. Structural models attempt to respond to two basic questions (Falk & Miller, 1992) regarding: the amount of the variance of the endogenous variables that can be explained by the latent variables that predict said variance; and the extent to which the predictive variables contribute toward the explained variance of the endogenous variables. In order to answer these questions, two basic indicators are usually employed: R^2 and the standardized path coefficient, β. As a measure of the predictive power, the R^2 can be interpreted in the same way as those obtained in multiple regression analysis. On this matter, Falk and Miller (1992) establish that suitable values are those that are equal to or greater than 0.1. Table 4 and Figure 2 summarize the main parameters (R^2 as a measure of the variance explained, and path coefficients, β). Bootstrapping (1,000 resamples) was applied to generate standard errors and t-statistics (Chin, 1998; Davidson & MacKinnon, 2000) to estimate the standard error and t-values of the parameters.

TABLE 4 R-square of endogenous variables

	R square
Assimilation	0.1732
Transformation	0.5198
Exploitation	0.6221
International performance	0.4509

Results show the high explicative power of the endogenous constructs. In the case of the final construct (international performance), R^2 shows that the model explains 45.09% of the variance. The variance explained by two of the three absorptive capacity constructs (transformation and exploitation capabilities) is even higher. In both cases, the predictors explain more than 50% of their variances (51.98% for the knowledge transformation capability, and 62.21% for the knowledge exploitation capability). However, the model explains only 17.32% of the variance of knowledge assimilation capability.

Once the explicative power of the model has been analyzed, we can center on the standardized path coefficients in order to test the five hypotheses proposed (results are summarized in Table 5). *H1* posits that international KA positively affects international

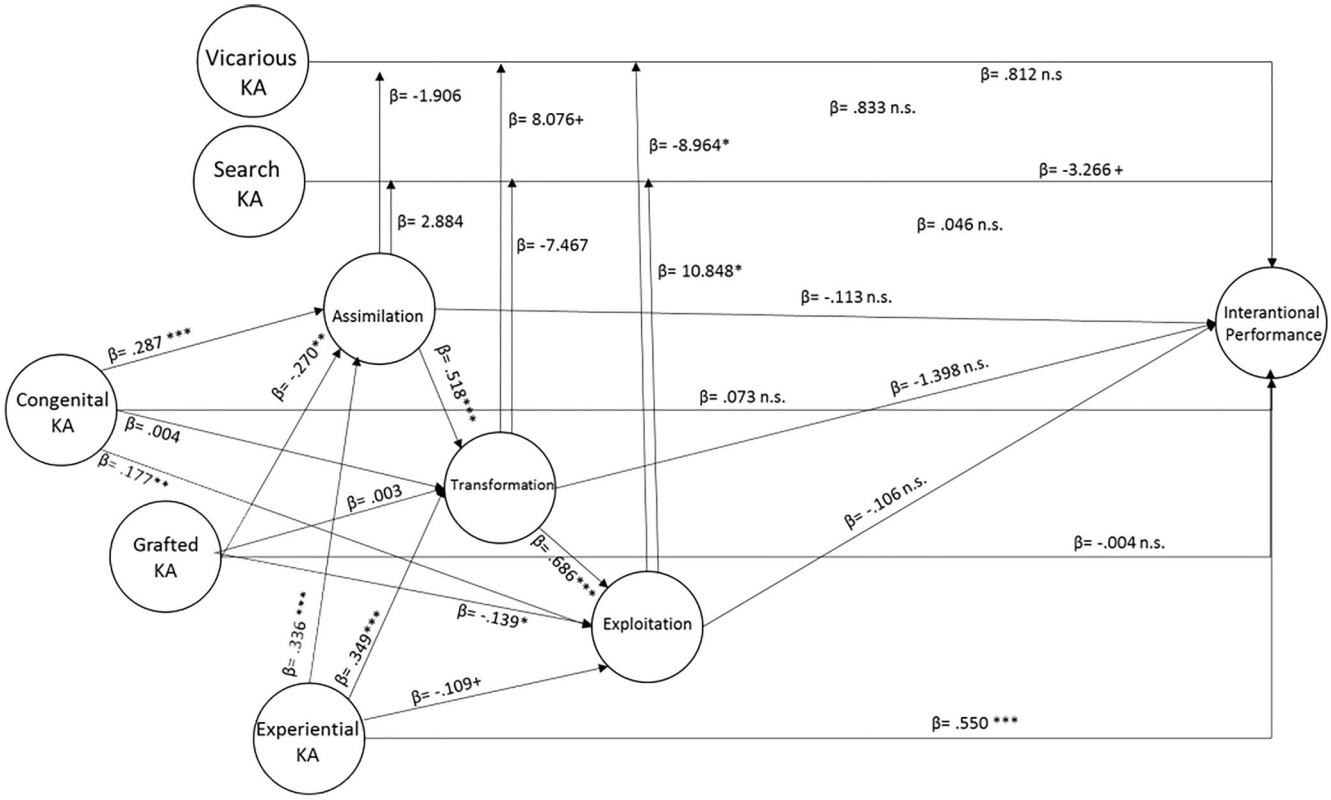

FIGURE 2 Structural equation modeling and hypothesis tests. †$p < 0.1$; *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$

performance and differentiates between five KA types (Huber, 1991). The results show that only experiential KA activities exert a positive and significant direct effect on international performance (path coefficient = 0.550; $p < 0.001$) according to the assumptions of the stages model relating to the central role of experiential learning in explaining the firm's internationalization process. However, an unexpected negative effect is also found of

TABLE 5 Hypothesis confirmation

		Significance
H1		
Congenital KA → International performance	NOT CONFIRMED	
Grafted KA → International performance	NOT CONFIRMED	
Experiential KA → International performance	CONFIRMED	***
Vicarious KA → International performance	NOT CONFIRMED	
Search KA → International performance	CONFIRMED	†
H2		
Assimilation → International performance	NOT CONFIRMED	
Transformation → International performance	NOT CONFIRMED	
Exploitation → International performance	NOT CONFIRMED	
H3		
Congenital KA → Assimilation	CONFIRMED	***
Grafted KA → Assimilation	CONFIRMED	**
Experiential KA → Assimilation	CONFIRMED	***
Congenital KA → Transformation	NOT CONFIRMED	
Grafted KA → Transformation	NOT CONFIRMED	
Experiential KA → Transformation	CONFIRMED	***
Congenital KA → Exploitation	CONFIRMED	**
Grafted KA → Exploitation	CONFIRMED	*
Experiential KA → Exploitation	CONFIRMED	†
H4		
Assimilation → Transformation	CONFIRMED	***
Transformation → Exploitation	CONFIRMED	***
H5		
Assimilation x Vicarious KA → International performance	NOT CONFIRMED	
Assimilation x Search KA → International performance	NOT CONFIRMED	
Transformation x Vicarious KA → International performance	CONFIRMED	†
Transformation x Search KA → International performance	NOT CONFIRMED	
Exploitation x Vicarious KA → International performance	CONFIRMED	*
Exploitation x Search KA → International performance	CONFIRMED	*
Control		
Age at Entry → International Performance	NOT CONFIRMED	
Age → International Performance	NOT CONFIRMED	
R&D intensity → International Performance	CONFIRMED	*

†$p < 0.1$; *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.

search KA on international performance (path coefficient = −3.266; $p < 0.1$).

H2 argues that three ACAP dimensions (assimilation, transformation, and exploitation capabilities) exert a positive impact on international performance. We found no significant effect of any of these ACAP dimensions on international performance.

H3 proposes that the stock of international knowledge (accumulated through congenital, grafted, and experiential KA activities) positively influences the assimilation, transformation, and exploitation capabilities. The results show that experiential knowledge exerts a positive impact on the assimilation (path coefficient = 0.336; $p < 0.001$), transformation (path coefficient = 0.349; $p < 0.001$), and exploitation (path coefficient = 0.109; $p < 0.05$) capabilities. Congenital KA shows a positive impact on the assimilation (path coefficient = 0.287; $p < 0.001$) and exploitation capabilities (path coefficient = 0.177; $p < 0.01$), but not on the transformation capabilities. Finally, grafted KA exerts a negative impact on the assimilation capabilities (path coefficient = -0.270; $p < 0.01$) and also on the exploitation capabilities (path coefficient = -0.139; $p < 0.01$). This is contrary to our hypothesis.

Following a process view of ACAP, *H4* suggests a positive influence of assimilation capabilities on transformation capabilities, and a positive influence of transformation capabilities on exploitation capabilities. In this case, the results support both suggestions and find a positive relationship between assimilation and transformation (path coefficient = 0.518; $p < 0.001$), and between transformation and exploitation (path coefficient = 0.686; $p < 0.001$).

H5 implies six relationships, three of which are significant. Assimilation appears not to exert any moderating effect. However, the transformation capability is found to positively moderate the effect of the vicarious KA activities on international performance (path coefficient = 8.076; $p < 0.1$). In the case of the exploitation capabilities, the results show a positive moderating effect in the influence of the search KA on international performance (path coefficient = 10.848; $p < 0.01$), but a negative interaction effect of vicarious KA on international performance (path coefficient = −8.964; $p < 0.05$).

Only one of the control variables has a significant effect on the final dependent variable: age at entry (path coefficient = 0.201; $p < 0.01$).

5 | DISCUSSION

The importance of knowledge and learning in the internationalization process has been extensively considered (De Clercq et al., 2012; Puthusserry et al., 2020), as has how distinct international knowledge acquisition strategies influence the internationalization process. Our results embrace the stages model, which posits knowledge as the main factor underlying the internationalization process of firms (Casillas et al., 2009; Forsgren, 2002). However, it must be acknowledged that the sources for new knowledge are diverse (Fletcher & Harris, 2012; Yeoh, 2005), and although experiential knowledge remains a crucial antecedent of the internationalization process, research has shown that it is time-consuming and requires specific learning capabilities (see for instance, Cyert & March, 1963; Lieberman & Asaba, 2006). In this respect, Casillas et al. (2009) theoretically considered the different needs of internal versus external knowledge in order to acquire and integrate such types of knowledge, and Casillas et al. (2015) analyzed the way this knowledge is acquired in the early stages of the internationalization process. However, in internationalization research, the processes that monitor how firms gain the required knowledge have remained implicit rather than explicit (Fletcher et al., 2021).

In this framework, absorptive capacity plays a crucial role in the process of learning, since it determines the extent to which knowledge acquisition can be exploited in foreign markets. At the same time, new knowledge determines the increase in the firm's stock of knowledge that is available for future internationalization decisions.

The first conclusion achieved involves the confirmation of the validity of the questionnaires used, not only those regarding KA, which have been adapted from previous studies, but also as regards ACAP, all within the Spanish economic environment. The use of these scales applied to the internationalization process is scarce, since the literature has mostly associated abortive capacity to the context of innovation. Furthermore, the combination of these two aspects in the study of the internationalization process is proposed herein, thereby advancing prior studies (Casillas et al., 2015; D'Angelo et al., 2020). It must therefore be understood that the internationalization process relies on both the stock of knowledge and also on the capability of incorporating new knowledge as firms mature through the different stages (Casillas et al., 2020; Michailova & Wilson, 2008).

Our results show that experiential KA exerts a positive influence on international performance, while the search for external KA presents a negative effect of knowledge on international performance. This latter relationship suggests that external and objective knowledge acquired from accessible resources, such as the internet, public databases, courses, and seminars, seems to negatively contribute toward increasing international

performance. Moreover, these results reinforce the key ideas of the stages model which state that experiential learning is crucial in the international expansion of firms (Johanson & Vahlne, 1977). Therefore, although other types of knowledge may be useful in various decisions associated with the internationalization process (Henisz & Delios, 2001), they exert less impact on performance. These results are not totally coincident with Casillas et al. (2015), although experiential learning remains crucial in both studies.

When the ACAP is incorporated as a possible moderator of such a relationship, all types of knowledge are valuable for the assimilation. Our results reinforce those of Cohen and Levinthal (1990). Consequently, on many occasions, firms that suffer from a lack of sufficient knowledge tend to incorporate new personnel to increase the firms' stock of knowledge. Hiring new managers with international experience therefore provides a way to integrate tacit international knowledge into the organization. However, this practice generates more problems in the assimilation and internalization of external knowledge and in the exploitation of this knowledge through international operations. One plausible explanation for this, as suggested by Johanson et al., (2020), is that not all the knowledge grafted is useful, since the knowledge must be relevant (Reuber & Fischer, 1997). As for congenital learning, it has been found to play a major role in the early internationalization phase (Puthusserry et al., 2020) but may not be useful in all stages of the process (Casillas et al., 2020).

In contrast to what is commonly suggested by many researchers, ACAP does not exert a direct relationship on export performance, despite previous empirical evidence (Gkypali et al., 2018). This result may be explained by the fact that ACAP is not a final construct but needs an intermediate variable to lead to greater performance. In this respect, two different aspects must be considered. First, firms present different starting points in their capability development, which in turn lead to different results (Wu & Vahlne, 2020). This approach has been suggested in the international entrepreneurship literature since ACAP enables the new venture to achieve the advantages generated by their learning advantage of newness (Wu & Voss, 2015), and therefore the new venture enjoys a flexible approach that will vary as the firm matures. This has also been reflected in our results by means of a control variable of age at entry.

Complementary to this, Zahra and George also suggest that "the components of ACAP could lead to and sustain a competitive advantage when deployed judiciously and in combination with a firm's other complementary assets" (2002, p. 196), and hence we can infer that the effect on performance is not 100% direct.

Finally, we propose that the effect of international knowledge acquired externally by the firm regarding foreign markets is moderated by the level of ACAP. Our results show that the interaction between vicarious KA and transformation capabilities increases international performance, as does the interaction between search KA and exploitation capabilities. These results suggest that the effect of external KA activities on international performance is moderated by realized ACAP, but not by potential ACAP, since the process by which the firm implements such knowledge into its strategy constitutes the key determinant. Thus, when firms seek knowledge from outside the organization, they strive to exploit it quickly, and to prohibit its assimilation by the focal firm. Notwithstanding, external KA (through vicarious and search KA activities) cannot be directly applied to foreign markets. International knowledge available regarding the environment is objective and generalist (such as knowledge on international markets, international regulations, and country risks) or specific to an external firm (such as international experience of competitors, and that of firms within its network). New external KA needs a certain transformation or adaptation in the transfer process from outside the firm for it to be exploited in the internationalization process. When this kind of transformation is developed, international performance increases. Additionally, although it is idiosyncratic in its history and in its bundle of resources and capabilities, our results show that when vicarious KA is directly exploited without transformation, international performance decreases.

6 | CONCLUSION

The present study strives to reaffirm the role of knowledge as one of the main determinants of internationalization behavior. Our intention, however, involves expanding our understanding regarding the different types of knowledge and their effect on international performance. Most research related to this issue focuses on a narrow range of learning types (Cohen & Levinthal, 1990; Huber, 1991). The stages model depicts internationalization as a recursive process in which knowledge acquisition increases commitment to international activities and resources, whereby, in turn, this commitment increases knowledge acquisition (Johanson & Vahlne, 1990; Erikkson et al., 1997, 2000). This perspective emphasizes the role of experiential knowledge: learning from activities reduces perceived risk and encourages increased cross-border expenditures. However, the model omits the way that any type of knowledge is incorporated into the organizational routines. In order

to compensate for this omission, the central role of ACAP is proposed as a determinant of the knowledge–performance relationship.

However, Forsgren (2002) identified new sources of international knowledge, such as vicarious, grafted, and searching activities. The expanding set of issues identified by researchers regarding the role of knowledge in internationalization (Bruneel et al., 2010; Fernhaber et al., 2009) suggests that a broader framework is needed to organize research in this field. De Clercq et al. (2012) used Huber's (1991) categorization of KA types to classify and evaluate the role of knowledge in early internationalization. Nevertheless, the learning process is far more complex than just the simple acquisition of knowledge. Knowledge has to be internalized and used by the organization. In this respect, absorptive capacity facilitates the understanding of the international learning process (Cohen & Levinthal, 1990). In this paper, Huber's model (1991) on knowledge acquisition (KA) activities is combined with the absorptive capacity (ACAP) (Zahra & George, 2002) in order to propose and test a model of the internationalization learning process, based on a sample of 200 Spanish international companies.

Not only does this confirm the replicability of the scales proposed in the Spanish context, but it also successfully opens a line of research into the study of knowledge acquisition and into how it is assimilated by the firm across the internationalization process, since these constructs have largely been associated in the context of innovation (Camisón & Forés, 2010).

The research tool used should be included among the key findings. We therefore propose, validate, and implement a questionnaire for the identification of the various types of knowledge associated to internationalization, incorporating new sources of knowledge omitted by prior research (Casillas et al., 2015).

Another contribution worthy of mention is that, although the international business literature has largely recognized the central role of knowledge and learning in the internationalization process, most research has neglected the way in which the learning process develops or has solely focused on the knowledge-acquisition process. In this work, this line of research is extended by combining KA processes with ACAP dimensions. Our research offers a panorama of the influence of the learning process, ranging from knowledge acquisition to knowledge exploitation, on international performance.

Furthermore, the empirical testing of the model has yielded results that enhance the role played by experiential learning in understanding export performance, which complements the effect of untangling how other types of knowledge indirectly affect said performance. In this indirect process, ACAP (Zahra & George, 2002) constitutes the tool by which knowledge conditions the search for further knowledge. Moreover, it should be borne in mind that the level of internationalization is also crucial for the learning process of firms to be understood, and that different stages may present different ACAPs. Firms with low levels of international experience but with the learning advantage of newness (Wu & Voss, 2015) therefore strive to procure international knowledge from external sources (vicarious and search KA activities), despite the fact that its effect is indirect and requires the application of transformation capabilities in order to improve international performance.

These conclusions are useful both for the academic community and for managers and consultants. In this respect, this research presents two salient lessons. First, we have shown that the internationalization process needs something more than just internationalization knowledge (since knowledge has to be assimilated, transformed, and exploited for it to increase international performance), and therefore the planning of this decision should be carefully analyzed. Second, our results indicate that experiential knowledge (including the past international experiences of the founders and managers) influences the potential ACAP of new knowledge for internationalization, which reinforces the path-dependent character of the process.

Quite aside from generic limitations derived from the analytical approach taken, such as the single country sample, the characteristics of the sample (different stages of the internationalization process and different industries), and the contingency of the moment of the study, there are certain limitations that have particular importance in this case. It must be acknowledged that we have analyzed the complexity of the process by reducing it to a single moment, and therefore the sequential aspects of our research are not based on empirical longitudinal data or evidence. We must assume that in our research we have used outcomes instead of process, and the processual concepts have been studied by means of relationships between variables (Welch & Paavilainen-Mäntymäki, 2014). Another limitation to be remarked is that the empirical tools employed for ACAP, based on the work by Jansen et al. (2005), omit other pre-validated scales, such as that proposed by Flatten et al. (2011).

Nevertheless, these limitations offer new research opportunities. In this respect, as mentioned in our discussion section, the use of samples of a more homogeneous nature, in terms of their internationalization stage, and their subsequent comparison, seems to present the logical direction for the continuance of this research. Furthermore, the creation of longitudinal datasets could provide a more accurate picture of the process itself, especially regarding the recursive character of the model and how the ACAP is

modified as the experiential learning increases. This also leads to the study of other research domains within the internationalization process, such as how ACAP affects the pacing in the internationalization process, how international experience affects ACAP, and whether there are different learning patterns that lead to different results. We are also of the view that more research is needed into the role of ACAP dimensions in the internationalization process, both for new international ventures and for traditional multinationals. Our research opens new avenues for investigation regarding knowledge management and learning in the internationalization process, in which knowledge and learning are considered to be the core resource and the capability, respectively.

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REFERENCES

Acedo, F. J., & Casillas, J. C. (2007). Age at entry in international markets of Spanish SMEs. *International Journal of Entrepreneurial Behavior & Research*, *13*(3), 130–150.

Autio, E., Sapienza, H. J., & Almeida, J. G. (2000). Effects of age at entry, knowledge intensity, and imitability on international growth. *Academy of Management Journal*, *43*(5), 909–924.

Barclay, D., Higgins, C., & Thompson, R. (1995). The partial least squares (PLS) approach to causal modeling: Personal computer adoption and use as an illustration. *Technology Studies*, *2*(2), 285–309.

Barkema, H. G., & Vermeulen, F. (1998). International expansion through start-up or acquisition: A learning perspective. *Academy of Management Journal*, *41*(1), 7–26.

Becker, J. M., Hai, A., & Rigdon, E. (2013). Predictive validity and formative measurement in structural equation modeling: Embracing practical relevance. *Proceedings of the International Conference on Information Systems*, 1–19.

Benito, G. R. G., & Gripsrud, G. (1992). The expansion of foreign direct investments: Discrete rational location choices or a cultural learning process? *Journal of International Business Studies*, *23*(3), 461–476.

Bloodgood, J. M., Sapienza, H. J., & Almeida, J. G. (1996). The internationalization of new high-potential ventures: Antecedents and outcomes. *Entrepreneurship: Theory and Practice*, *20*(4), 61–76.

Bruneel, J., Yli-Renko, H., & Clarysse, B. (2010). Learning from experience and learning from others: How congenital and inter-organizational learning substitute for experiential learning in young firm internationalization. *Strategic Entrepreneurship Journal*, *4*(2), 164–182.

Camisón, C., & Forés, B. (2010). Knowledge absorptive capacity: New insights for its conceptualization and measurement. *Journal of Business Research*, *63*(7), 707–715.

Casillas, J. C., Acedo, F. J., & Rodríguez-Serrano, M. Á. (2020). How does internationalization begin? The role of age at entry and export experience in the early stages of the process. *BRQ Business Research Quarterly*, *23*(2), 107–119.

Casillas, J. C., Barbero, J. L., & Sapienza, H. J. (2015). Knowledge acquisition, learning, and the initial pace of internationalization. *International Business Review*, *24*(1), 102–114.

Casillas, J. C., Moreno, A. M., Acedo, F. J., Gallego, M. A., & Ramos, E. (2009). An integrative model of the role of knowledge in the internationalization process. *Journal of World Business*, *44*(3), 311–322.

Chin, W. W. (1998). Issues and opinion on structural equation modelling. *MIS Quarterly*, *22*(1), 7–15.

Chin, W. W. (2010). How to write up and report PLS analyses. In V. Esposito Vinzi, W. W. Chin, J. Henseler, & H. Wang (Eds.), *Handbook of partial least squares* (pp. 655–690). Springer.

Cohen, W. M., & Levinthal, D. (1990). Absorptive capacity: A new perspective on learning and innovation. *Administrative Science Quarterly*, *35*(1), 128–152.

Coviello, N. E., & Munro, H. J. (1995). Network relationships and the internationalization process of small software firms. *International Business Review*, *6*(4), 361–386.

Cyert, R., & March, J. (1963). *A behavioral theory of the firm*. Prentice Hall.

D'Angelo, A., Ganotakis, P., & Love, J. H. (2020). Learning by exporting under fast, short-term changes: The moderating role of absorptive capacity and foreign collaborative agreements. *International Business Review*, *29*(3), 101687.

Davidson, R., & MacKinnon, J. G. (2000). Bootstrap tests: How many bootstraps? *Econometric Review*, *19*(1), 55–68.

De Clercq, D., Sapienza, H. J., Yavuz, R. I., & Zhou, L. (2012). Learning and knowledge in early internationalization research: Past accomplishments and future directions. *Journal of Business Venturing*, *27*(1), 143–165.

Eriksson, K., Johanson, J., Majkgard, A., & Sharma, D. (1997). Experiential knowledge and cost in the internationalization process. *Journal of International Business Studies*, *28*(2), 337–360.

Eriksson, K., Johanson, J., Majkgard, A., & Sharma, D. (2000). Effect of variation on knowledge accumulation in the internationalization process. *International Studies of Management & Organization*, *30*(1), 26–44.

Falk, R. F., & Miller, N. B. (1992). *A primer for soft modeling*. University of Akron.

Fernhaber, S. A., McDougall, P. P., & Shepherd, D. A. (2009). International entrepreneurship: Leveraging internal and external knowledge sources. *Strategic Entrepreneurship Journal*, *3*(4), 297–320.

Filatotchev, I., Stephan, J., & Jindra, B. (2008). Ownership structure, strategic controls and export intensity of foreign-invested forms in transition economies. *Journal of International Business Studies*, *39*(7), 1133–1148.

Flatten, T. C., Engelen, A., Zahra, S. A., & Brettel, M. (2011). A measure of absorptive capacity: Scale development and validation. *European Management Journal*, *29*(2), 98–116.

Fletcher, M., & Harris, S. (2012). Knowledge acquisition for the internationalization of the smaller firm: Content and sources. *International Business Review*, *21*(4), 631–647.

Fletcher, M., Harris, S., & Richey, R. G., Jr. (2021). Retrospective and prospective learning: Accelerating the internationalization process. *Journal of World Business*, *56*(3), 101191.

Fornell, C., & Lacker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, *18*(1), 39–50.

Forsgren, M. (2002). The concept of learning in the Uppsala internationalization process model: A critical view. *International Business Review*, *11*(3), 257–277.

Gabrielsson, M., Kirpalani, M., Dimitratos, P., Solberg, C. A., & Zucchella, A. (2008). Born globals: Propositions to help advance the theory. *International Business Review*, *17*(4), 385–401.

Gkypali, A., Arvanitis, S., & Tsekouras, K. (2018). Absorptive capacity, exporting activities, innovation openness and innovation performance: A SEM approach towards a unifying framework. *Technological Forecasting and Social Change*, *132*, 143–155.

Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review*, *31*(1), 2–24.

Hair, J. F., Sarstedt, M., & Ringle, C. M. (2019). Rethinking some of the rethinking of partial least squares. *European Journal of Marketing*, *53*(4), 566–584.

Henisz, W. J., & Delios, A. (2001). Uncertainty, imitation, and plant location: Japanese multinational corporations, 1990-1996. *Administrative Science Quarterly*, *46*(3), 443–475.

Huber, G. P. (1991). Organizational learning: An examination of the contributing processes and the literature. *Organization Science*, *2*(1), 88–115.

Jansen, J. J. P., Van den Bosch, F. A. J., & Volberda, H. W. (2005). Managing potential and realized absorptive capacity: How do organizational antecedents matter? *Academy of Management Journal*, *48*(6), 999–1015.

Johanson, J., & Vahlne, J. E. (1977). The internationalization process of the firm: A model of knowledge development and increasing foreign market commitment. *Journal of International Business Studies*, *8*(1), 23–32.

Johanson, J., & Vahlne, J. E. (1990). The mechanism of internationalization. *International Marketing Review*, *7*(4), 11–24.

Johanson, J., & Vahlne, J. E. (2009). The Uppsala internationalization process model revisited: From liability of foreignness to liability of outsidership. *Journal of International Business Studies*, *40*(9), 1411–1431.

Johanson, J., & Wiedersheim-Paul, F. (1975). The internationalization of the firm: Four Swedish cases. *Journal of Management Studies*, *12*(3), 305–323.

Johanson, M., Kao, P. T., & Lundberg, H. (2020). Knowledge grafting during internationalization: Utilizing localized professionals in the foreign market. *Journal of Knowledge Management*, *24*(9), 2009–2033.

Klepper, S. (1996). Entry, exit, growth and innovation over the product life cycle. *The American Economic Review*, *86*(3), 562–583.

Kock, N. (2015). Common method bias in PLS-SEM: A full collinearity assessment approach. *International Journal of e-Collaboration*, *11*(4), 1–10.

Lages, L. F., Jap, S. D., & Griffith, D. (2008). The role of past performance in export ventures: A short-term reactive approach. *Journal of International Business Studies*, *39*(2), 304–325.

Lane, P. J., Koka, B. R., & Pathak, S. (2006). The reification of absorptive capacity: A critical review and rejuvenation of the construct. *Academy of Management Review*, *31*(4), 833–863.

Levesque, M., Minniti, M., & Shepherd, D. (2009). Entrepreneurs' decisions on timing of entry: Learning from participation and from the experiences of others. *Entrepreneurship: Theory and Practice*, *33*(2), 547–570.

Li, L., Li, D., & Dalgic, T. (2004). Internationalization process of small and medium-sized enterprises: Toward a hybrid model of experiential learning and planning. *Management International Review*, *44*(1), 93–116.

Lieberman, M. B., & Asaba, S. (2006). Why do firms imitate each other? *Academy of Management Review*, *31*(2), 366–385.

McDougall, P. P., Oviatt, B. M., & Shrader, R. C. (2003). A comparison of international and domestic new ventures. *Journal of International Entrepreneurship*, *1*(1), 59–82.

Michailova, S., & Wilson, H. I. (2008). Small firm internationalization through experiential learning: The moderating role of socialization tactics. *Journal of World Business*, *43*(2), 243–254.

Moorman, C., & Miner, A. S. (1996). The impact of organizational memory on new product development. *Journal of Marketing Research*, *34*(1), 91–106.

Oviatt, B. M., & McDougall, P. P. (1994). Toward a theory of international new ventures. *Journal of International Business Studies*, *25*(1), 45–64.

Oviatt, B. M., & McDougall, P. P. (2005). Defining international entrepreneurship and modeling the speed of internationalization. *Entrepreneurship: Theory and Practice*, *29*(5), 537–553.

Penrose, E. (1959). *The theory of the growth of the firm*. Wiley.

Puthusserry, P., Khan, Z., Knight, G., & Miller, K. (2020). How do rapidly internationalizing SMEs learn? Exploring the link between network relationships, learning approaches and post-entry growth of rapidly internationalizing SMEs from emerging markets. *Management International Review*, *60*(4), 515–542.

Reuber, A. R., & Fischer, E. (1997). The influence of the management team's international experience on the internationalization behaviors of SMEs. *Journal of International Business Studies*, *28*(4), 807–825.

Rialp, A., Rialp, J., & Knight, G. A. (2005). The phenomenon of early internationalizing firms: What do we know after a decade (1993-2003) of scientific inquiry? *International Business Review*, *14*(2), 147–166.

Ringle, C. M., Wende, S., & Becker, J.-M. (2015). SmartPLS 3 [Software]. SmartPLS. www.smartpls.com

Sapienza, H., Autio, E., George, G., & Zahra, S. (2006). A capabilities perspective on effects of early internationalization on firm survival and growth. *Academy of Management Review*, *31*(4), 914–933.

Sun, P. Y. T., & Anderson, M. H. (2010). An examination of the relationship between absorptive capacity and organizational learning, and a proposed integration. *International Journal of Management Reviews*, *12*(2), 130–150.

Vahlne, J. E., & Johanson, J. (2017). From internationalization to evolution: The Uppsala model at 40 years. *Journal of International Business Studies*, *48*(9), 1087–1102.

Welch, C., & Paavilainen-Mäntymäki, E. (2014). Putting process (back) in: Research on the internationalization process of the firm. *International Journal of Management Reviews*, *16*(1), 2–23.

Wu, A., & Voss, H. (2015). When does absorptive capacity matter for international performance of firms? Evidence from China. *International Business Review*, *24*(2), 344–351.

Wu, J., & Vahlne, J. E. (2020). Dynamic capabilities of emerging market multinational enterprises and the Uppsala model. *Asian Business & Management*. https://doi.org/10.1057/s41291-020-00111-5

Yeoh, P. L. (2005). A conceptual framework of antecedents of information search in exporting. *International Marketing Review*, *22*(2), 165–198.

Zahra, S. A. (2005). A theory of international new ventures: A decade of research. *Journal of International Business Studies*, *36*(1), 20–28.

Zahra, S. A., & George, G. (2002). Absorptive capacity: A review, conceptualization, and extension. *Academy of Management Review*, *27*(2), 185–203.

Zahra, S. A., Ireland, R., & Hitt, M. A. (2000). International expansion by new venture firms: International diversity, mode of market entry, technological learning, and performance. *Academy of Management Journal*, *43*(5), 925–950.

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Appendix A

Knowledge acquisition items

All items inquired as to the extent to which the respondent agreed with the statements (1 = *totally disagree* to 7 = *totally agree*).

Congenital knowledge acquisition: International experience of the founders of your business before it was founded.

Congenital 1	They had international working experience.
Congenital 2	They obtained degrees or studied abroad.
Congenital 3	They participated in international cooperation networks.
Congenital 4	They studied foreign language(s).

Grafted knowledge acquisition: Sources of prior international learning of managers/executive added to the business after founding.

Grafted 1	They had international working experience.
Grafted 2	They obtained degrees or studied abroad.
Grafted 3	They participated in international cooperation networks.
Grafted 4	They studied foreign language(s).

Experiential knowledge acquisition: Experience of the company in international activities (excluding exportation itself).

Experiential 1	The company engages in a variety of international activities.
Experiential 2	The company is regularly involved in activities related to other exporters.
Experiential 3	We interact with many foreign clients.
Experiential 4	The company has managers that usually travel for business.

Vicarious knowledge acquisition: International knowledge obtained by the company through observing others.

Vicarious 1	The company interacts with foreign competitors who have started international expansion.
Vicarious 2	The company interacts with domestic competitors who have started international expansion.
Vicarious 3	The company pays close attention to companies that are growing internationally.

Search knowledge acquisition: Company activities to search for information about internationalization opportunities.

Search 1	The company devotes time and people to the search for opportunities abroad.
Search 2	The company has systems to gather information regarding foreign markets.
Search 3	The company actively searches for all kinds of information on possible opportunities abroad.
Search 4	The company frequently contacts public agencies for export activities.