ABSTRACT
This study investigates the influence of a business owner’s human and social capital on the starting venture’s export activities. We examine general human capital, in terms of formal education and management experience, specific human capital, in terms of industry and start-up experience, and bonding and bridging social capital. Furthermore, building on the knowledge based view of the firm, we assume the relationships between the owner’s characteristics and the firm’s export activities to be moderated by the organization’s ability to acquire, assimilate, and exploit external knowledge – its absorptive capacity. Flemish start-ups form this study’s empirical setting. Our results indicate that a start-up’s export activities (1) are driven by the business owner’s formal education and start-up experience, and (2) are hampered by his or her management experience and bonding social capital. Moreover, the organization’s absorptive capacity appears to excavate the direct effect of any experience-related human capital variable (e.g. management, industry, start-up). Implications and opportunities for future research are suggested.

INTRODUCTION
In this study we examine if and to what extent a business owner can call upon his or her human and social capital to drive a start-up’s export activities. Furthermore, employing the knowledge based view on the firm, we expect the possible effects of the owner’s human and social capital to be dependent on the organization’s absorptive capacity (Cohen and Levinthal, 1990). The term “absorptive capacity” refers to the ability of any organization to effectively and efficiently acquire and assimilate external information and put this information into concrete actions (Cohen and Levinthal, 1990).

Up to the early nineties export and entrepreneurship were deemed impossible to reconcile. A new venture first had to develop domestically before any international endeavor could be considered. As such, a start-up had to withhold from export and any other possible internationalization modi such as import, foreign investments, licenses, international cooperations, etc. The internationalization process was said to start late in the firm’s evolutionary path and proceed incrementally (Johanson and Vahlne, 1977, 1990; Rialp et al., 2005). Only when the firm decided to react to unsolicited export orders would the internationalization process be initiated (Johanson and Vahlne, 1977, 1990). In turn, this decision depended on the number of realistic international opportunities available to the firm, the amount of resources at its disposal and its ability to exploit these resources (Autio and Sapienza, 2000; Johanson and Vahlne, 1977). Because newly established ventures were (deservedly) expected to hold insufficient resources, procedures and experience to undertake any international project, they were excluded from the internationalization topic (Julien and Ramangalahy, 2003).

Though today, twenty years later, the internationalization phenomenon appears to be characterized by a new set of rules (Autio and Sapienza, 2000; Bell et al., 2003; Rialp et al., 2005). As previous contributions demonstrate, success of the internationalization process increasingly depends on the
firms’ ability to effectively cope with information and knowledge (Autio et al., 2000; Eriksson et al., 1997; Oviatt and McDougall, 1997; Rialp et al., 2005; Yli-Renko et al., 2002). As a result, new firms, especially those within knowledge intensive industries, might also succeed in becoming international (at founding or shortly thereafter) if they manage to adequately derive value from (accumulated) knowledge (Rialp et al., 2005). Apparently, the competitive advantage of (international) organizations is increasingly rooted in knowledge and scarce information (Barkema and Vermeulen, 1998; Barney, 1991; Conner and Prahalad, 1991; Zahra et al., 2000). A swift and efficient consumption of this information may very well represent the means for a start-up to head of larger competitors and allow it to successfully become international.

In this article we recognize the business owner as a knowledge and information provider. More specifically, we argue that the start-up’s export activities benefit from (1) the personal knowledge accumulated by the owner through human capital investments and (2) the information provided through his or her network of family, friends, acquaintances and professional contacts (bonding and bridging social capital). Meanwhile, we expect the effect of the owner’s human and social capital on the new venture’s export activities to be stronger depending on the organization’s ability to acquire, assimilate and exploit information (absorptive capacity). That is to say, we believe that the owner’s influence on the start-up’s international development is conditioned by the capability of the latter to comply with the current set of internationalization rules.

In this study, we make two contributions to the international entrepreneurship literature. First, we answer the call of Rialp et al. (2005) to address the topic of internationalization antecedents, an area still very little is known of. By exploring the impact of business owner human and social capital on start-up export activities, we shed light on two possible drivers of the internationalization process within young ventures. Second, contrary to previous work we do not restrict our methodological strategy to high technological start-ups or sectors (e.g. Autio and Sapienza, 2000; Autio et al., 2000; Jones, 1999; McDougall et al., 1994; Zahra et al. 2000, 2003). Instead, we opt for a representative sample of dynamic and non-dynamic, high and low tech ventures that operate in a variety of industries. As such, our results might confirm or reject previous findings that stem from a narrower, technology-dominated empirical base as well as broaden our understanding of early internationalization.

This article proceeds as follows. First, we address the concept of start-up internationalization and review the importance of knowledge within an international environment. Next, we focus on internationalization through export and explore how the business owner’s human and social capital might add to the start-up’s export development. Meanwhile, we identify gaps in existing research and formulate several hypotheses. We then describe our research methodology with special interest towards sampling procedures and used measures. Finally we present and discuss our findings and conclude with some caveats and opportunities for future research.

**START-UPS, INTERNATIONALIZATION AND ABSORPTIVE CAPACITY**

During the last decade the internationalization phenomenon has become an important item on the political, economic and academic agenda (Burgel and Murray, 2000; Presutti et al., 2007). Whereas during the nineties the habitat of start-ups was believed to be border restricted, it became obvious ever since the eve of the new millennium that start-ups can well be internationally active and successful (Oviatt and McDougall, 1994; Presutti et al., 2007; Rialp et al., 2005; Yli-Renko et al., 2002). Intrigued by this remarkable evolution, Rialp et al. (2005) examined 38 recent studies on international new ventures and global start-ups. They conclude that the internationalization success of young ventures that become international at or near founding is triggered by changed market conditions, recent technological advancements, a growth in importance of worldwide networking, and an increase in individual skills and capabilities. This urges Rialp et al. (2005) to question the traditional dimensions of the internationalization process, which date back to the seventies and eighties. According to Rialp et al. (2005) (and other authors), the original interpretation of the internationalization process (Process Theory of Internationalization), whereby international activity is initiated late and incrementally as a reaction to unsolicited export offers while building on a solid domestic footing (Johanson and Vahlne, 1977, 1990), is no longer applicable.

In search of a new definition for the internationalization phenomenon, researchers have employed various theories. For instance, Peng (2001) and Zahra et al. (2003) refer to the “resource-based view” of the firm (Barney, 1991). They connect the internationalization pattern of new ventures to the presence of valuable, rare, imperfectly imitable and non-substitutable technological resources.
Similarly, in their study on UK technology-based start-ups Burgel and Murray (2000) adopt the “organizational capability perspective” whereby resources available to the international start-up are contrasted with customer needs. Meanwhile, Autio et al. (2000), Barkema and Vermeulen (1998), Eriksson et al. (1997), McDougall et al. (1994) and Zahra et al. (2000) build on the “knowledge-based view” of the firm which is in fact a stringent interpretation of the resource-based view as it depicts knowledge creation and learning capabilities as the predominant drivers of the (international) development and growth of (young) firms. According to this view, the accumulation of knowledge, its interpretation and rejuvenation is what determines the organization’s path of evolution (Yli-Renko et al., 2001). Consequently, knowledge is labeled the organization’s main strategic asset which enables it to produce a deeply rooted competitive advantage.

Perceiving knowledge and knowledge processes as a source of competitive strength is especially applicable in Western economies. By effectively identifying and interpreting external information and putting this information into concrete actions, organizations attempt to head of their competitors. In their conceptual foundation, Cohen and Levinthal (1990) introduced the term “absorptive capacity” to refer to this process of acquiring, assimilating and exploiting external information. They consider absorptive capacity to be cumulative by nature, whereby “accumulating absorptive capacity in one period permits its more efficient accumulation in the next” (Cohen and Levinthal, 1990, p. 136). In other words, prior knowledge and the distribution of expertise within the organization allow the firm to better cope with and make use of external information. Within their reconceptualization of the absorptive capacity construct, Zahra and George (2002) add to the definition of Cohen and Levinthal (1990) that the distinct abilities of knowledge acquisition, assimilation, and exploitation build upon each other in order to compose a multidimensional, constantly evolving organizational ability, which is embedded in the firm’s routines and processes and enables it to harvest a competitive advantage.

In sum we find that (1) some start-ups commence their international activities at or early after founding, (2) their competitive strength and international success is largely conditioned (especially in Western economies) by their ability to effectively acquire, assimilate and exploit information and knowledge, and (3) this process of information acquisition to knowledge exploitation is commonly referred to as the organization’s “absorptive capacity”. In what follows we examine the role of the business owner vis-à-vis the international development of the start-up. More specifically, we are interested in the relationship between his or her human and social capital and the export activities of the starting venture.

EXPORT AND BUSINESS OWNER HUMAN AND SOCIAL CAPITAL

Despite the abundance of studies on the importance of knowledge for early internationalization, Rialp et al. (2005) argue that the need for empirical contributions on the factors that give rise to start-up internationalization still exists. Hence their request for research that addresses start-up internationalization antecedents. In this article, we attempt to answer this request by exploring the role of the business owner in the export development of the start-up. De facto, an entrepreneur as a person disposes of two kinds of capital which he or she can employ to stimulate the start-up development, namely his or her “human capital” and “social capital” (Davidsson and Honig, 2003; Gimeno et al., 1997; Ucbasaran et al., 2008).

Human capital refers to all knowledge and skills that individuals accumulated through experience and/or education which enables them increase their cognitive abilities and enhance their efficiency and productivity (Becker, 1964, Davidsson and Honig, 2003; Shultz, 1959; Ucbasaran et al., 2008). Human capital theory traditionally assumes that entrepreneurial individuals with relatively more human capital are better equipped to perceive profitable opportunities and successfully exploit them (Shultz, 1959; Davisson and Honig, 2003). Furthermore, researchers commonly distinguish between “general” and “specific” human capital (Gimeno et al., 1997; Ucbasaran et al., 2008). While the former refers to all kinds of knowledge that is easily transferable across a wide range of situations (e.g. occupational alternatives, economic settings), the latter relates to knowledge and skills that is/are only applicable in a limited number of economic contexts (Gimeno et al., 1997; Mosey et al., 2007; Ucbasaran et al., 2008). Possible sources of general human capital are formal education, work experience and general management experience (Bates, 1990; Gimeno et al., 1997). Meanwhile, experience with starting up a business (start-up experience) and understanding the specific rules and regulations of an industry (industry experience) act as indicators of human capital especially applicable in an entrepreneurial context (Gimeno et al., 1997; Mosey et al., 2007; Venkataraman, 1997; Ucbasaran et al., 2008).
In their research on firm survival, Gimeno et al. (1997) conclude that formal education and management experience are positively related to venture performance. More specifically, they find that entrepreneurs with higher levels of education and more management experience attain significant better business results compared to their colleagues with medium levels of education and/or less management experience. Similarly, Bosma et al. (2002) discover a significant positive effect of education on venture profitability. Davidsson and Honig (2003) and Areius and De Clerq (2005) argue that education renders entrepreneurs more prone to discover profitable opportunities. Furthermore, management experience is said to aid entrepreneurs in improving their purposiveness, communication skills and negotiation power (Kim et al., 2006; Davidsson and Honig, 2003; Ucbasaran et al., 2008). According to Hatch and Dyer (2004) and Ucbasaran et al. (2008) business owners with relatively more general human capital are better equipped to tackle the complex problems inherent to entrepreneurship. By employing their superior cognitive abilities, highly educated and/or management-experienced entrepreneurs are able to link facts and pieces of information faster than lower educated or less management-experienced business founders.

Given the above findings, we expect a business owner to capitalize on his or her formal education and management experience to quickly gain a profound understanding of the foreign market, to efficiently recognize export opportunities and to effectively cope with problems that are innate to selling abroad. As such, we posit that start-up owners with more general human capital are better equipped to underpin the export activities of their venture, ceteris paribus. Hence we hypothesize:

Hypothesis 1a: The business owner’s general human capital, in terms of formal education, is positively associated with the start-up’s export activities.

Hypothesis 1b: The business owner’s general human capital, in terms of management experience, is positively associated with the start-up’s export activities.

Specific human capital. Apart from general human capital, business owners may also accumulate (entrepreneurship-)specific human capital, such as experience with starting up a venture and/or an understanding of the rules and regulations of the industry. Davidsson and Honig (2003) argue that industry experience assists entrepreneurs in “reading” the market and anticipating changes in the firm’s environment. In addition, both industry and start-up experience add to the ability of the entrepreneur to identify lucrative business opportunities (cfr. general human capital), as well as to the capacity to evaluate and exploit already identified opportunities (Davidsson and Hong, 2003; Ucbasaran at al., 2008). Finally, through his or her specific human capital an entrepreneur learns how to collect resources, how to deal with suppliers and customers, and how to market products and services (Shane and Khurana, 2003; Ucbasaran et al., 2008).

In conformity with these findings we believe that a business owner is able to employ his industry and start-up experience to advance the export activities of the start-up. For instance, for any internationalizing start-up it is paramount to effectively identify, evaluate and, if feasible, exploit export opportunities. As such, having a business owner who is well up in opportunity recognition, evaluation and exploitation should be advantageous. Moreover, thanks to his or her industry experience, the owner may be acquainted with the modi operandi of international firms, thereby enabling him or her to fathom competitive strategies or to appropriately approach potential associates. In sum, we posit that:

Hypothesis 2a: The business owner’s specific human capital, in terms of industry experience, is positively associated with the start-up’s export activities.

Hypothesis 2b: The business owner’s specific human capital, in terms of start-up experience, is positively associated with the start-up’s export activities.

Previous work indicates that business owners distill more entrepreneurial value from their specific human capital than from their general human capital. For instance, Davidsson and Honig (2003) point out that specific human capital significantly contributes to opportunity identification, evaluation and exploitation, whereas the impact of general human capital remains restricted to the identification of opportunities. Similarly, Ucbasaran et al. (2008) demonstrate that the opportunity cost of identifying and pursuing an opportunity is lower for entrepreneurs with higher levels of specific human capital compared to those with higher levels of general human capital. Additionally, Bosma et al. (2002) conclude that specific human capital investments reap greater value in terms of explaining venture performance. While their results show that education (work experience) improves firm profitability
Hypothesis 3: The business owner’s specific human capital, in terms of industry experience and start-up experience, is stronger associated with the start-up’s export activities (= explains more of the variance in the start-up’s export activities), compared to the owner’s general human capital, in terms of formal education and management experience.

Apart from human capital, business owners also build knowledge by investing in “social capital”. Social capital relates to the ability to benefit from social structures, networks, memberships and community-based relationships through the provision of tangibles (e.g. financial capital) or intangibles (e.g. information on business opportunities) (Davidsson and Honig, 2003; Nahapiet and Ghoshal, 1998). Much like human capital, researchers generally distinguish between two types of social capital: “bridging” social capital and “bonding” social capital. Bridging social capital or loose network relationships with, for instance, other professionals (weak ties), functions as an interface for the exchange of otherwise unavailable information and scarce resources. Meanwhile, bonding social capital or associations with family and close friends (strong ties), is rooted in a collective interpersonal trust and can equip the owner with permanent access to a limited stack of specific resources (e.g. advice, aid) (Davidsson and Honig, 2003; Granovetter, 1985).

In short, both bridging and bonding social capital allow the business owner to access specific information. For example, a colleague-entrepreneur might inform the owner on the conditions he or she negotiated with a common supplier (bridging social capital). Likewise, a parent-entrepreneur might teach the owner how to effectively penetrate a niche market (bonding social capital). Regarding export development, a business owner could ask foreign colleagues about customer product expectations (bridging social capital) or may request a friend to explore foreign market possibilities (bonding social capital).

Because start-ups have only access to a limited amount of resources, the decision to consume these resources has to be thoroughly considered. As such, extensive market studies, elaborate customer surveys and detailed test projects are often called too expensive. Therefore, in order not to blindly estimate (changes in) customer demands, the market and the firm’s environment, start-ups may find the social capital of an individual such as the business owner instrumental in obtaining critical information (Arregle et al., 2007). Davidsson and Honig (2003) conclude that the owner’s bridging and bonding social capital significantly add to the identification and exploitation of business opportunities. Not only does social capital expose the business owner to new ideas, different views and market shifts, it also provides them with a network to procure crucial resources (Aldrich and Zimmer, 1986; Davidsson and Honig, 2003).

Given the above findings, the limited resource stack available to start-ups and the ability of the business owner to use his or her social capital to acquire tangible and/or intangible assets, we expect the export activities of the start-up to benefit from the bridging and bonding social capital of its owner. For instance, by exposing the business owner to otherwise concealed information, his or her bridging and bonding capital might assist the new venture in discovering foreign possibilities. Also, the start-up may be able to understand or interpret foreign information based on the advice of or the insights from professional contacts or friends. Finally, owner relationships with (foreign) investors or venture capitalists could provide the start-up with the necessary financial capital to procure critical machinery which allows for the production of additional products intended for export. This leads to the following hypotheses:

Hypothesis 4a: The business owner’s social capital, in terms of bridging social capital, is positively associated with the start-up’s export activities.
Hypothesis 4b: The business owner’s social capital, in terms of bonding social capital, is positively associated with the start-up’s export activities.
We already mentioned in the previous paragraph that knowledge is to be considered a vital value-adding resource of organizations, especially of those operating in an international environment (Yli-Renko et al., 2002). We argued that today more than ever, the international success and competitive advantage of a business is largely conditioned by its ability to effectively cope with information and knowledge (its absorptive capacity). As such, Yli-Renko et al. (2002) maintain that firms expand internationally because they are able learn and use these learning skills more efficiently than other businesses. Likewise, McDougall et al. (1994) and Oviatt and McDougall (1997) place knowledge processes at the heart of the newly founded, internationally evolving venture. Given the aforementioned predominant role of knowledge in the internationalization process (cfr. previous paragraph), we expect the business owner’s impact on the international activity of the start-up to be dependent on the organization’s capacity to deal with information and knowledge. In other words, we believe that the information and knowledge provided by the business owner through his (general and specific) human capital and (bridging and bonding) social capital, will have a stronger influence on the export activities of the start-up, if the latter knows how to acquire, assimilate and exploit this information and knowledge. Consequently, we posit that the more the absorptive capacity of the starting venture is evolved, the more the owner will be able to employ his human and social capital to affect the export activities of the start-up:

Hypothesis 5a: The start-up’s absorptive capacity acts as a positive moderator of the relationship between the business owner’s general and specific human capital and the start-up’s export activities.

Hypothesis 5b: The start-up’s absorptive capacity acts as a positive moderator of the relationship between the business owner’s bridging and bonding social capital and the start-up’s export activities.

METHODOLOGY

Sampling procedures

This study builds upon an extensive survey (2007) on start-ups located in Flanders, Belgium, called START-2007. This is a biennial population survey of Flemish incorporated companies aged between one and three years and with a minimum of one and a maximum of forty-nine employees at the moment of measurement. Previous internalization research on newly established ventures traditionally focuses on high technology start-ups or on businesses within high tech sectors (e.g. Autio and Sapienza, 2000; Burgel and Murray, 2000; McDougall et al., 1994; Presutti et al., 2007; Yli-Renko et al., 2002; Zahra et al., 2000). However, by restricting sample selection to high technological firms or sectors, study findings only apply to a specific subset of start-ups. In order to broaden our understanding of the early internationalization phenomenon and to expand the applicability of our results, we accommodate our sample for all start-ups, dynamic and non-dynamic ones, high and low technological ventures, exporting as well as non-exporting businesses, operating in various sectors such as industry, transportation and professional services.

The total population of Flemish start-ups that satisfy START-conditions consisted of 3251 firms in 2007. Due to obsolete company data, 301 of these start-ups could not be reached. Out of the 2950 remaining start-ups, 249 usable surveys were obtained that comply with our study requirements. Respectively 96 (38.6%) and 113 (45.4%) start-ups were active in the industrial or professional services sector. The remainder (40 start-ups, 16.1%) consisted of transportation companies. The survey’s targeted respondent was the start-up’s principal business owner.

Measures

Export activities. There is much debate on how to effectively measure export activities. The most frequently used measures are export intensity (= export sales as a percentage of the total amount of sales), export growth and export profitability (= the amount of profits from export compared to those from domestic activity) (Julien and Ramangalahy, 2003; Madsen, 1987). In this article we determine the export activity of a start-up by looking at the export volume of the previous fiscal year (2006). More specifically, we asked each respondent for the amount of exports of 2006 expressed as a percentage of the total sales of 2006.
Absorptive capacity: Much like with export activities, the concept of absorptive capacity is subject of much controversy. In the past, researchers have operationalized absorptive capacity with one-dimensional proxies such as R&D investments, patents, organizational age, and organizational size (Mowery et al., 1996; Muscio, 2007; Rao and Drazin, 2002; Tsai, 2001). However, not only do these proxies induce the reification of the absorptive capacity construct (Lane et al., 2006), they also fail to capture its multidimensional nature (Liao et al., 2003).

That’s why in this study, we measure absorptive capacity using a multi-dimensional construct representing (1) the identification and acquisition of valuable information, (2) the assimilation of acquired information, and (3) its exploitation and application in commercial actions (Cronbach’s alpha = 0.800). For that, respondents were asked to rate a five-point Likert scale on six statements regarding market intelligence. Similar to Liao et al. (2003), we opt for a market oriented measure of absorptive capacity. As we mentioned before, start-ups are compelled to be market oriented because of their limited stack of available resources. As such, start-ups commonly use direct contacts with their customers and organizational network as an external source of market intelligence (Keh et al., 2007). The scale items used to measure market oriented absorptive capacity are adapted from Kohli et al. (1993). Items and loadings are displayed in Appendix A.

General and specific human capital. We measure formal education by asking each respondent for his or her highest level of graduation. Possible answers range from primary education (1) to doctorate (6). In the case of multiple business owners, we determined the average level of formal education. With regards to management experience, we requested each business owner for his or her total number of years of management experience. Likewise, we used the total number of years of industry experience as a measure of the owner’s specific human capital. Contrary to formal education, we opt for an aggregate measure of management and industry experience whenever multiple business owners are present. Our underlying rationale for choosing an average (education) or aggregate (management and industry experience) measure is the following: Because of the idiosyncratic nature of experience (management and industry), two business owners with each 5 years of experience will probably have accumulated a larger combined amount of knowledge than a single colleague with 5 years of experience, ceteris paribus. Even if these business owners were active within the same industry, their odds of having different experiences (and building different knowledge) are considerable. Conversely, when it comes to education, we perceive an owner’s level of formal education as a proxy of his or her intelligence level. Because levels of intelligence are impracticable to add up, we cannot maintain that three business owners with secondary schooling (scale position = 2) are mutually as intelligent as one business owner with a PhD (scale position = 6). Hence our preference for an average measure for education and an aggregate measure for management and industry experience. In addition, we also employ a dummy variable indicating whether or not any of the start-up’s business owners ever attempted to start a business before. This dummy was coded one if at least one of the business owners of the start-up possessed start-up experience.

Bridging and bonding social capital. We determined social capital by use of two factors. Respondents were asked to rate three statements on the possible benefits extracted from their network constituted of friends, family and acquaintances (bonding social capital) as well as six statements on the benefits extracted from their network of professional contacts or business network (bridging social capital). Again, possible answers varied from entirely disagree (1) to entirely agree (5). The Cronbach’s alphas of these factors are 0.668 (bonding social capital) and 0.885 (bridging social capital). All items and factor loadings are displayed in Appendix A.

Control variables. To isolate our hypotheses from other rival ones and to minimize extraneous variation, we included firm size, the age of the business activities, start-up continuation and sector dummy variables as control variables. We measured organizational size in terms of the number of employees and owners active in the firm. Although all start-ups in our sample are between one and three years of legal age, not all of them consist of novo start-ups (e.g. take-over of a bankrupt business). This implies that business activities could already be carried out before the current organization was established. Therefore, we control for the actual age of the business activities as well as for start-up continuation. The latter is done by including a dummy variable (= “start-up continuation”) indicating whether or not business activities were existent prior to the current organization. Finally, we introduced a series of dummy variables to control for the different market conditions within each of the three sectors. Two dummies were included in our analyses, using the industrial sector (metal, food etc.) as a reference category.
Statistical procedures

Hierarchical regression analyses were used as the statistical procedure to test our hypotheses. The variables were mean-centered before creating the interaction terms with absorptive capacity. Because of the skewed nature of the dependent, we utilized the log transformation of the export activities as a response variable in our analyses. We opted for SPSS as a statistical package.

RESULTS

Table 1 represents the means, standard deviations and correlations of the study’s variables. Following Hair et al. (1998) the highest common variance is below 0.80, which is an indication against the possible presence of multicollinearity. Results of the hierarchical regression analyses are listed in Table 2. Model 1 in Table 2 consists of the “control model” and includes only the control variables. Model 2 relates to the general human capital indicators and the control variables. Model 3 includes the indicators of specific human capital together with the control variables. Model 4 consists of control variables, human capital indicators and social capital indicators. Model 5 is the “full model”, which encompasses the control variables, the human and social capital variables, as well as the different interactions with the start-up’s absorptive capacity. Remark that the highest VIF-statistic is 2.56 which is below the recommended maximum value of 3. This also demonstrates the absence of multicollinearity (Kleinbaum et al., 1998).

Hypotheses 1a and 1b are tested in relation to Model 5 of Table 2. Business owners with higher levels of formal education appear to significantly stimulate the export activities of their venture. Hypothesis 1a that suggested that the business owner’s general human capital, in terms of formal education, is positively associated with the start-up’s export activities is therefore supported. Conversely, as shown in Model 5 of Table 2, the effect of management experience is significant yet negative, suggesting that business owners with higher levels of management experience increasingly hinder the export development of their venture, ceteris paribus. As a result, hypothesis 1b, stating that the business owner’s general human capital, in terms of management experience, is positively associated with the start-up’s export activities, is not supported.

Hypothesis 2a proposed that the business owner’s specific human capital, in terms of industry experience, is positively associated with the start-up’s export activities, as did hypothesis 2b in terms of start-up experience. Model 5 of Table 2 points out that only business owners with start-up experience are associated with increased export activities of their start-up. That is to say, only the standardized coefficient of start-up experience is positive and (marginally) significant. In contrast, having accumulated much industry experience does not exert a significant influence on the start-up’s export development. As such, only hypothesis 2a is corroborated by our results.

We tested hypothesis 3 based on Models 2 and 3 of Table 2. Hypothesis 3 assumed that the business owner’s specific human capital is stronger associated with (= explains more of the variance of) the start-up’s export activities compared to his or her general human capital. Model 2 of Table 2 shows that the inclusion of the general human capital indicators makes a significant contribution over and above the control model (Model 1) (ΔF = 4.567, p < 0.05). Conversely, as indicated by Model 3, the inclusion of the specific human capital variables makes no significant contribution on top of the control model (ΔF = 0.938, p > 0.10). Although the indicators of general human capital are characterized by an opposite sign (formal education vs. management experience), we are unable to provide any statistical evidence for hypothesis 3 based on Table 2. Consequently, hypothesis 3 is not supported.

Hypothesis 4a stated that a business owner’s bridging social capital is positively associated with the start-up’s export activities. Hypothesis 4b stated the same for his or her bonding social capital. Looking at Model 5 of Table 2, we notice that the relationship between bridging social capital and export activities is negative and insignificant. In addition, the relationship of bonding social capital with export activities is significant but negative. As a result, neither hypothesis 4a nor hypothesis 4b is corroborated by our results.
Table 1: Descriptive statistics and correlations

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<tr>
<th>Variables</th>
<th>Mean</th>
<th>S.D.</th>
<th>1.</th>
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<tr>
<td>1. Export activities (Log)</td>
<td>2.86</td>
<td>1.34</td>
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<td>2. Age business activities</td>
<td>9.05</td>
<td>12.77</td>
<td>-0.026</td>
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<td>3. Size</td>
<td>8.58</td>
<td>10.45</td>
<td>-0.81</td>
<td>0.242**</td>
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<tr>
<td>4. (Continued) start-up</td>
<td>0.52</td>
<td>0.50</td>
<td>0.027</td>
<td>0.070**</td>
<td>-1.24</td>
<td>1</td>
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<tr>
<td>5. Industry</td>
<td>0.39</td>
<td>0.49</td>
<td>-0.206*</td>
<td>0.249**</td>
<td>0.054</td>
<td>0.180**</td>
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<tr>
<td>6. Transport</td>
<td>0.16</td>
<td>0.37</td>
<td>0.099</td>
<td>-0.081</td>
<td>0.010</td>
<td>-0.151*</td>
<td>-0.347**</td>
<td>1</td>
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<td>7. Services</td>
<td>0.45</td>
<td>0.50</td>
<td>0.134</td>
<td>0.184**</td>
<td>-0.060</td>
<td>-0.065</td>
<td>-0.722**</td>
<td>-0.399**</td>
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<tr>
<td>8. Formal education</td>
<td>0.00</td>
<td>1.37</td>
<td>0.237**</td>
<td>-0.044</td>
<td>0.041</td>
<td>-0.124</td>
<td>-0.289**</td>
<td>-0.212**</td>
<td>0.435**</td>
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<tr>
<td>9. Management experience</td>
<td>0.00</td>
<td>14.09</td>
<td>-0.213*</td>
<td>0.230**</td>
<td>0.045</td>
<td>0.097</td>
<td>0.101</td>
<td>0.030</td>
<td>-0.121</td>
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<td>10. Industry experience</td>
<td>0.00</td>
<td>17.42</td>
<td>-0.079</td>
<td>0.161*</td>
<td>0.230**</td>
<td>0.039</td>
<td>0.092</td>
<td>0.043</td>
<td>-0.087</td>
<td>0.700**</td>
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<tr>
<td>11. Start-up experience</td>
<td>0.16</td>
<td>1.18</td>
<td>0.118</td>
<td>-1.173**</td>
<td>0.184**</td>
<td>0.186**</td>
<td>0.070</td>
<td>-1.118</td>
<td>0.154*</td>
<td>0.127</td>
<td>-0.018</td>
<td>0.066</td>
<td>0.143*</td>
<td>-0.060</td>
<td>0.005</td>
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<td>12. Bridging social capital</td>
<td>0.00</td>
<td>23.36</td>
<td>-0.007</td>
<td>0.067</td>
<td>-0.011</td>
<td>-0.019</td>
<td>-0.070</td>
<td>0.044</td>
<td>-0.100</td>
<td>-0.015</td>
<td>-0.029</td>
<td>0.029</td>
<td>-0.033</td>
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<td>13. Bonding social capital</td>
<td>0.00</td>
<td>21.24</td>
<td>-0.022</td>
<td>-0.048</td>
<td>-0.010</td>
<td>0.063</td>
<td>0.116</td>
<td>-0.021</td>
<td>-0.023</td>
<td>0.063</td>
<td>0.009</td>
<td>-0.023</td>
<td>0.416**</td>
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<td>14. Absorptive capacity</td>
<td>0.00</td>
<td>21.98</td>
<td>0.118</td>
<td>-1.173**</td>
<td>0.184**</td>
<td>0.186**</td>
<td>0.070</td>
<td>-1.118</td>
<td>0.154*</td>
<td>0.127</td>
<td>-0.018</td>
<td>0.066</td>
<td>0.143*</td>
<td>-0.060</td>
<td>0.005</td>
<td></td>
</tr>
</tbody>
</table>

**. Correlation is significant at the 0.01 level (2-tailed) - *. Correlation is significant at the 0.05 level (2-tailed) - *. Significant at the 0.10 level.

Table 2: Results of hierarchical multiple regression

<table>
<thead>
<tr>
<th>Variables</th>
<th>MODEL 1</th>
<th>MODEL 2</th>
<th>MODEL 3</th>
<th>MODEL 4</th>
<th>MODEL 5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Control variables (CV)</td>
<td>CV + General HC</td>
<td>CV + Specific HC</td>
<td>CV + GHC + SIC + SC</td>
<td>Model 4 + interaction terms</td>
</tr>
<tr>
<td>Age business activities</td>
<td>-0.058</td>
<td>0.016</td>
<td>0.059</td>
<td>0.020</td>
<td>0.030</td>
</tr>
<tr>
<td>Size</td>
<td>0.121</td>
<td>0.111</td>
<td>0.142</td>
<td>0.067</td>
<td>0.035</td>
</tr>
<tr>
<td>(Continued) start-up</td>
<td>0.116</td>
<td>0.145</td>
<td>0.134</td>
<td>0.144</td>
<td>0.151</td>
</tr>
<tr>
<td>Transport</td>
<td>0.197**</td>
<td>0.214**</td>
<td>0.185*</td>
<td>0.228**</td>
<td>0.288***</td>
</tr>
<tr>
<td>Services</td>
<td>0.217**</td>
<td>0.107</td>
<td>0.192*</td>
<td>0.081</td>
<td>0.069</td>
</tr>
<tr>
<td>Formal education</td>
<td>0.226**</td>
<td>0.117</td>
<td>0.122</td>
<td>0.146</td>
<td>0.146</td>
</tr>
<tr>
<td>Management experience</td>
<td>-0.192**</td>
<td>-0.111</td>
<td>-0.148</td>
<td>-0.174*</td>
<td>0.175*</td>
</tr>
<tr>
<td>Industry experience</td>
<td>-0.117</td>
<td>-0.111</td>
<td>-0.148</td>
<td>-0.174*</td>
<td>0.175*</td>
</tr>
<tr>
<td>Start-up experience</td>
<td>-0.056</td>
<td>-0.060</td>
<td>-0.091</td>
<td>-0.337**</td>
<td>0.021</td>
</tr>
<tr>
<td>Bridging social capital</td>
<td>1.334</td>
<td>4.567**</td>
<td>0.938</td>
<td>0.804</td>
<td>2.702**</td>
</tr>
<tr>
<td>Bonding social capital</td>
<td>0.016</td>
<td>0.082</td>
<td>0.015</td>
<td>0.088</td>
<td>0.191</td>
</tr>
</tbody>
</table>

Adjusted R²

Beta values enlisted. HC = Human capital; SC = Social capital. **. Significant at 0.01 level - *. Significant at 0.05 level - *. Significant at 0.10 level.
Hypothesis 5a suggested that the start-up’s absorptive capacity acts as a positive moderator of the relationship between the business owner’s general and specific human capital and the start-up’s export activities. The association of the owner’s (general and specific) human capital on the venture’s export activities is thus expected to be stronger (more positive) for start-ups with high absorptive capacity compared to those with low absorptive capacity. However, if anything, Model 5 of Table 2 suggests that the relationship between human capital and export development is weaker for start-ups with high absorptive capacity, as opposed to those with low absorptive capacity. The graphical representation of the significant interaction terms involving a human capital indicator (Figures 2 to 4 below) confirms that the actual relationship between the human capital of the owner and the export activities of the start-up is not in accordance with our expectations formulated in hypothesis 5a. In addition, Model 5 of Table 2 also indicates that only the interactions including an experience-related (human capital) variable are significant, whereas the cross-product of formal education and absorptive capacity is insignificant. Alternatively, we find no proof of hypothesis 5b that proposed that the start-up’s absorptive capacity acts as a positive moderator of the relationship between the business owner’s bridging and bonding social capital and the start-up’s export activities. More specifically, both cross-products involving a social capital indicator appear to be insignificant. Therefore, we conclude that hypotheses 5a and 5b are not supported.

**Figure 2:** Interaction effect of the owner’s management experience and the start-up’s absorptive capacity on export activities

**Figure 3:** Interaction effect of the owner’s industry experience and the start-up’s absorptive capacity on export activities

**Figure 4:** Interaction effect of the owner’s start-up experience and the start-up’s absorptive capacity on export activities

Source: START 2007 & ModGraph

Source: START 2007 & ModGraph

Source: START 2007 & ModGraph
DISCUSSION

The objective of this study was to empirically examine if and to what extent a business owner might capitalize on his or her human and social capital to stimulate the export activities of a start-up. We subsequently explored general and specific human capital, bridging and bonding social capital, and various cross-products with the organization’s absorptive capacity as drivers of the start-up’s export development. In doing so, we did not restrict our sample to high tech businesses or ditto sectors. Instead, our sample consisted of a plurality of starting ventures, operational within the industrial, transportation and professional services sector. Five main hypotheses have been tested. In general, support for the hypotheses was partial.

**General and specific human capital.** Focusing on the business owner’s general human capital, we found a significant positive effect of formal education on the start-up’s export activities together with a significant negative effect of management experience. Regarding the former, we discern a possible explanation in the work of Cooper et al. (1994). According to these authors, higher educated entrepreneurs accumulate more maturity, discipline, and self-confidence during their education which renders them better equipped than their lower educated colleagues for the various complexities that accompany the task of running a business (e.g. internationalization issues). However, this implicitly implies that the entrepreneurial added value of soft skills exceeds that of codifiable bookish knowledge. In order to validate this line of thought in an international context, future research on the impact of education and educational components on export development and international activity is necessary.

Apart from the stimulating effect of formal education, our results also revealed a negative effect of management experience. Unsure as to what mechanisms determine this outcome, we distinguish two possible explanations. First, it might be that some sort of risk aversion, which is induced by management experience, negatively influences start-up export development. More specifically, management experience may urge business owners to restrict the scope of their venture to an environment familiar to them because these owners know from experience that they possess sufficient stock-in-trade and supervisory skills to assist their start-up in taking up the inherent challenges and problems innate to this environment. In addition, Lévesque et al. (2002) conclude that risk-aversion increases as individuals age, while their willingness to work and ambition decrease. The fact that the average business owner in our sample possesses more than 18 years of management experience and is 41 years of age seems to add to the above reasoning. However, we cannot forget that starting a new business also invites the owner to take risks (which enfeebles the above argument) and that prior management experience might be (partially) international as well. That’s why we also consider a second, less radical explanation. It may be that the owners in our sample temporarily prioritize national business development over any export project. In order not to bite of more than he or she can chew, the owner might disregard export opportunities or could prefer to first explore the feasibility of other internationalization modi (license, cooperation, etc.). Given that our sample accommodates different industries, in which international activity is no conditio sine qua non, we believe that postponing export endeavors is fairly possible behavior. However, whether the effect of management experience is inspired by risk aversion, export postponement or another mechanism is something to be determined by additional research.

As far as specific human capital is concerned, the hypothesized effect on export activities was (marginally) confirmed by start-up experience. This is not that surprising since starting a new business and internationally developing an existing one both entail the identification and efficient exploitation of opportunities. Therefore, having experience in opportunity management from prior entrepreneurship should prove to be beneficial when pursuing any international possibility. By contrast, being able to “read” the market and understand its specific rules and regulations (= industry experience) caused no measurable effect on the start-up’s export activities. This is inconsistent with previous findings of internationalization research which traditionally emphasize the importance of sector specific, market related industrial knowledge (e.g. Autio and Sapienza, 2000; Bell et al., 2003). Yet as mentioned before, prior contributions tend to unilaterally focus on high tech sectors and/or ditto born globals (e.g. IT, biotechnology, etc.). Conversely our sample consists of dynamic and non-dynamic, high tech and low tech, and international and national new ventures. As a result, we suspect that the significance of industry experience on export development (and internationalization as a whole) is conditioned by the level of technology of the firm and/or of its sector. This is in keeping with the popular belief in international entrepreneurship literature that posits early venture internationalization as a sector specific, technology-bound phenomenon.
Another contribution of this study is the exploration of the relative overall importance of an owner’s specific and general human capital vis-à-vis export development. In short, our findings suggested that general human capital has higher explanatory power with regard to start-up export activities compared to specific human capital. Consequently, our assumption on human capital specificity, stating that specific human capital explains more of the variance in the start-up’s export activities than general human capital, is not supported. However, the observed pattern does not necessarily contradict previous work on the entrepreneurial importance of specific human capital (e.g., Davidsson and Honig, 2003; Diochon et al., 2008; Ucbasaran et al., 2008). Though we find that general human capital is stronger associated with export development, it would be mistaken to infer from our results that general human capital exerts a stronger overall stimulation of start-up export activities compared to specific human capital. Specifically, the significant and positive export contribution of formal education might very well be excavated by the also significant but negative export influence of management experience, possibly resulting in an overall negative influence of general human capital. Meanwhile, as the indicators of specific human capital are positive, we cannot statistically reject the interpretation of entrepreneurship-specific human capital as key to venture fruition based on our results.

**Bridging and bonding social capital.** Summarizing our social capital findings, we discovered no effect of bridging social capital, whereas a marginally significant but negative export effect was found of bonding social capital. However, previous research informs us that indicators of social capital not always significantly influence the international development of newly established ventures (e.g., Presutti et al., 2007; Yli-Renko et al., 2002). One plausible explanation could be that it takes some time for the business owner to construct a network of relationships. Another, perhaps coexisting, interpretation implies that investments in social capital take time before their (true) effect becomes clear. Finally, there is also the possibility that the aid and advice from professional contacts (bridging social capital, no significant effect) and from family and friends (bonding social capital, negative effect) offer the business owner little help when dealing with international issues.

**Interaction effects with absorptive capacity.** Other than the above main effects, our results also revealed several interesting interaction effects. In general, our findings suggested that the organization’s ability to acquire, assimilate and exploit knowledge lessens the personal impact of the business owner on the start-up’s export development. That is to say, start-ups with well developed absorptive capacity will experience inferior owner influence on their export activities, originating from his or her management, industry and start-up experience, than start-ups with poorly developed absorptive capacity, ceteris paribus. Not sure as to what drives this outcome, we reach back to the original assumptions and propositions about the absorptive capacity construct formulated by Cohen and Levinthal (1990). These authors argue that an organization’s absorptive capacity builds on the “individual absorptive capacity” of each of its constituents. Specifically, individuals are also able to gather information and put new knowledge into memory. Afterwards, they can recall and use this acquired knowledge in order to generate additional insights, thereby cumulatively creating an individual knowledge base and ditto absorptive capacity (Cohen and Levinthal, 1990). In all, the organization’s absorptive capacity boasts the accumulated knowledge of all of its members, including the owner and each of its employees. As such, it could be that any internationalization influence which originates from the owner’s human capital is first contrasted with the organization’s accumulated knowledge, which in turn builds on the knowledge acquired and interpreted by the owner and employees. If it then turns out that an action planned by the owner might cause damaging consequences for the organization, the owner may be advised against undertaking it. In other words, as the start-up’s absorptive capacity not only capitalizes on the knowledge of the business owner but also on that of all of the other employees, their insights, know-how and expertise will be consulted too when the owner delineates certain internationalization actions. Consequently, the direct impact of the business owner on the firm’s international development might become conditioned by the organization’s ability to acquire, assimilate and exploit knowledge.

The above findings should not be interpreted without some caveats in mind. First of all, our data might be biased with social desirability since our survey targeted a single respondent, namely the start-up’s business owner. However, the threat of common-method variance was weakened by the nature of the questionnaire (mixed type of questions) and the kind of employed measures since they concern both factual and verifiable behaviors and events. Furthermore, it is difficult to judge causality based on a cross-sectional research design. In order to validate the posited relationships, a longitudinal research design should be set up. Finally, export activities were determined based on information provided by the respondent. While we expect this information to be fairly accurate, little deviations from reality may exist. Therefore, future research could adopt more stringent export measures.
Through our model and findings advanced in this article, we identify additional opportunities for future research. First, individual abilities that contribute to a firm’s export activities and international development might be further uncovered and investigated. Examples of additional indicators of human and social capital are the nature of the education (economic/technical), attendance to business classes, the number of organizations worked for, the amount of associations participating in, motivational factors, etc. Second, while our sample includes various sectors (industry, transportation and professional services), there exist additional economic sectors that are not represented in our study (e.g. agriculture, construction, banking and insurances). As these remaining sectors constitute an important part of economic activity, their international development should not be overlooked. Third, future research may seek to replicate the above findings in other countries and cultural contexts. Otherwise, the applicability of our study results remains restricted to the Flemish economy and culture which, even in a European context, is rather limited. Finally, researchers interested in the role of the business owner vis-à-vis the international development of the venture might explore the internationalization effect of interactions between human and social capital indicators. For instance, the owner’s education could induce a greater involvement in associations and easier access to others possessing scarce resources and knowledge (Dakhli and De Clercq, 2004), thereby influencing the international possibilities of the firm.

CONCLUSION

This study develops theory on how a start-up’s business owner may employ his or her human and social capital to stimulate the export activities of the venture. In addition, we consider the organization’s absorptive capacity (Cohen and Levinthal, 1990) as an essential moderator of the business owner’s impact. This research focuses on an international entrepreneurship literature gap since attention on business owners’ characteristics as antecedents of international activity has been very scarce. The study further integrates international entrepreneurship literature, absorptive capacity literature and literature on human and social capital. It measures and models the effects of the owner’s general and specific human capital, his or her bridging and bonding social capital as well as various cross-products with the organization’s absorptive capacity. The analyses were performed on a diverse sample of 249 new ventures operating in the industrial, transportation and professional services sector. Results suggested that a start-up’s export activities build on the business owner’s formal education and start-up experience, while they are hampered by his or her management experience and bonding social capital. Moreover, the organization’s ability to acquire, assimilate and exploit new external information appeared to excavate the effect of the owner’s experience-related human capital indicators (management, industry and start-up experience).

REFERENCES


