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The impact of knowledge sharing on SME internationalization

Abstract

Internationalization of SMEs is beset by numerous obstacles and constraints, among which limited resources and lack of foreign market knowledge. Collaboration with other SMEs is one important way of overcoming these obstacles. In this paper we investigate how knowledge sharing about markets on which an SMEs is already present and knowledge sharing about new markets impact the level of SME internationalization. Our empirical investigation is based on a sample of 181 French SMEs operating in an array of industries. We find that knowledge sharing has a significant influence on the speed of internationalization, but that it has no significant influence on the share of foreign sales and the number of markets served. Our findings contribute to the research stream investigating how networks help SMEs internationalize, by providing a fine-grained analysis on the influence of knowledge sharing on the three dimensions of internationalization.

Keywords: internationalization, SMEs, collaborative practices, knowledge sharing, internationalization speed.

Introduction

Whilst increasing numbers of SMEs engage in selling abroad, internationalisation is still a difficult endeavour for these firms because they lack resources and face a higher degree of uncertainty in foreign markets than larger groups (Cahen, Lahiri and Borini, 2016; Chen, Hsu and Chang, 2014; Chetty and Wilson 2003; Leonidou 2004). Their CEOs do not always have the ability to ensure a thorough scrutiny of international opportunities, which sometimes leads them to make suboptimal decisions (Buckley and Ghauri, 1999). In other words, because of a lack of resources and a lack of knowledge about international markets, many SMEs do not venture abroad, although they could be potentially successful if they did so. Moreover, by limiting their operations to their home country, SMEs miss the opportunity to gain foreign market knowledge, which can be important for improving their operations, including their innovative performance (Williams, Colovic and Zhu, 2016).

There are several ways in which SMEs can overcome obstacles to internationalization. One is building the internationalization capabilities in-house, but this is a long and difficult process for firms of small size and limited resources. Another way is calling upon internationalization intermediaries. This requires a planned approach to internationalisation by SMEs, for which, in some cases, they are not adequately prepared. A third way of overcoming the obstacles is collaboration with other players, namely other SMEs. Indeed, academic literature shows that collaboration with other SMEs can provide these companies with access to the knowledge they need to grow internationally (Freeman, Edwards and Schroder, 2006). However, Agostini and Nosella (2018) point out that the collaborative practices of SMEs remain poorly studied and that it is necessary to advance understanding of their impact on international expansion.

Network theory has become a major analytical lens for studying the internationalization of SMEs (Agostini and Nosella, 2018), as illustrated in particular by the integration of the

capacity to build networks (“networking capability”) and the relational capacity into the Uppsala model (Vahlne and Johanson, 2013). An SME is part of a domestic network that provides it with opportunities and resources. Its partners include customers, distributors, suppliers or competitors (Johanson and Mattsson, 1988). The network acts as a conduit through which resources flow, including information (Kilduff and Brass, 2010: 330). The literature review conducted by Paul, Parthasarathy and Gupta (2017) concludes that social capital is an intangible resource and that networks are considered “critical resource bases for international activities in small firms” (334). Collaboration can therefore be part of the international strategy (Chetty and Blankenburg Holm, 2000a).

SMEs can collaborate with actors in their country of origin or abroad. Several scholars have highlighted the positive effect of collaboration between domestic partners on the level of internationalization (Boehe 2013; Lamotte and Colovic, 2015; Ryan, Evers, Smith and Anderson 2019, Haase and Franco 2015). Other authors indicate that these collaborations mainly have an impact on the social network, but not on the business network (Manolova, Maney and Gyoshev, 2010), or that they can even have a negative effect if the partners are not sufficiently internationalized (Milanov and Fernhaber, 2014). Consequently, research on the effects of collaborative practices between SMEs on their level of internationalisation has remained inconclusive. Our work aims to contribute to this debate by investigating how knowledge sharing practices impact SME internationalisation. Specifically, we investigate collaborative practices that consist in sharing knowledge about international markets, through the prism of ambidexterity. Leonidou (2004) identifies three main obstacles to internationalization: the lack of information to locate and analyze markets, the inability to contact clients abroad and the inability to identify business opportunities abroad. One of the main obstacles to the international development of SMEs is therefore their lack of knowledge relative to the internationalisation process. In line with Hughes (2018) and

Wilden, Hohberger, Devinney and Lavie (2018), we will use the prism of ambidexterity to categorize knowledge sharing relative to exploration and exploitation.

The specific research question that we investigate in this research is therefore the following: *what is the effect of collaborative practices between SMEs, and in particular knowledge sharing, on the level of internationalization of SMEs?* To answer this question, we conducted a survey of 181 French SMEs operating in several different sectors. SMEs are defined as companies employing less than 250 people and whose annual turnover does not exceed 50 million euros.

The paper is organized as follows. We will first present the theoretical framework on which we draw to develop our hypotheses. We will then present our methodology. This will be followed by the findings section, discussion and conclusion.

Theoretical framework

The resource-based view (Barney 1991; Barney and Clark 2007; Wernerfelt 1984) posits that the competitive advantage of a firm derives primarily from the resources to which it has access. These resources may be tangible or intangible (Barney, Wright and Ketchen, 2001). The latter include knowledge, which is seen by some researchers (Nahapiet and Ghoshal, 1998) as a major source of competitive advantage. Paul, Parthasarathy and Gupta (2017) recommend studying informal and formal groups of firms and relationships between peers. Other authors also call for more research on collaborative inter-firm arrangements, including informal ones (Pinho and Prange 2016; Zhou, Wu and Luo, 2007). This is the focus of our research.

Ahuja (2000) shows that collaboration provides access to resources, mainly know-how and knowledge. He studies “collaborative inter-firm linkage” defined as “a voluntary agreement

between independent organizations to share resources” (Ahuja, 2000: 426). In our research, collaboration refers to any action that SMEs can take in order to develop internationally collectively rather than individually. It can be a single action or an action that is repeated over time. These inter-organizational practices can be formal or informal.

Initiated by the work of March (1991), the concept of ambidexterity has been attracting growing interest in recent years (Wilden, Hohberger, Devinney and Lavie, 2018). This concept, which distinguishes exploitation-related activities (improvement of the existing activities) from those related to exploration (search for novelty), presents an interesting perspective for studying collaboration between SMEs. As the term has been used quite generically (Hughes 2018; O’Reilly and Tushman 2013), it is useful to recall that March (1991) originally described exploitation as the improvement of the existing, the search for greater efficiency linked to existing markets, products and techniques. Conversely, exploration represents the company’s deployment towards novelty, change, risk-taking, discovery and innovation.

The analysis of the literature shows that the authors have applied the concept of ambidexterity to inter-firm relations, mainly for studying large groups (Stettner and Lavie, 2014), with SMEs receiving less attention (Hughes, 2018). Wilden et al. (2018) recommend studying access to knowledge and other types of resources, the role of environmental factors and inter-firm exchanges in relation to exploration and exploitation. Some scholars call for a greater understanding of the ambidexterity of the firm “in its ecosystem” and its environment (O’Reilly and Tushman, 2013: 333). Hughes (2018) considers that further research on ambidexterity is needed, particularly in the area of SME networks.

For Prange and Verdier (2011: 131), “international ambidexterity is the foundation of a sustainable international firm”. Collaborative international exploration represents collaboration between companies seeking entry into new foreign markets to serve new clients.

The company is confronted with novelty, which is out of its scope of knowledge and its routines, and the markets it usually operates in. Exploration brings new solutions to the company, protects it against the major risk of missing out on opportunities and prepares it for its renewal (Sharma, Nguyen and Crick, 2018: 225). On the other hand, international exploitation brings an incremental improvement of knowledge on foreign markets; it helps to better understand customers and reduces the risk of errors. Knowledge sharing in the form of exploitation consists in operating within the scope of the knowledge, skills and routines already used by the company by developing and improving them. These actions, carried out in partnership with other SMEs, are aimed at improving sales, market share, and profitability, increasing the number of customers or level of customer satisfaction in foreign markets already served by the focal company. To sum up, knowledge acquisition is exploitative when it relates to existing markets, and explorative when it relates to new markets.

To study the internationalization of SMEs, we follow the recommendations by Sullivan (1994) to adopt a multidimensional approach to internationalization. In the international business literature, three factors are often used to determine the level of internationalization of companies: (1) the share of foreign sales, (2) the number of markets served and (3) the speed of internationalization (Hadley and Wilson, 2003; Stoian, Rialp and Rialp 2011; Villar, Alegre and Pla-Barber, 2014).

Hypotheses development

The activities of SMEs are based on interactions with other agents embedded in a social context (Kilduff and Brass, 2010). The people in charge of the internationalization of companies (managers, export managers, zone managers, etc.) have links with people working in other companies. Interactions with these actors provide access to useful knowledge for the international development (Andersen, 2006). Nahapiet and Ghoshal (1998) argue that ““who you know” affects “what you know”” (p. 252), and that the network thus provides resources in the form of knowledge. Identifying opportunities internationally is for Ellis (2011), “a highly subjective process, shaped by entrepreneurs’ existing ties with others” (p. 100). Knowledge available through the network can take the form of general knowledge of internationalization (“international social capital” for Lindstrand et al., 2017), often based on the experience of the partners. Relationships with other SMEs can provide access to market-specific experiential knowledge (Stieg, Cesinger, Apfelthaler, Kraus and Cheng, 2018) or to knowledge that is more broadly related to the internationalization process (Blomstermo et al., 2004; Fletcher and Harris, 2011). These are also business opportunities that actors have identified in foreign markets and are willing to communicate to others (Zhou et al., 2007).

To better fit into an exploratory context, we rely on the definition of export market exploration of Lisboa et al. (2013). It “represents a deviation from existing practice and involves entirely new market knowledge, skills and processes” (p. 215). The exploratory nature of the acquired knowledge can therefore come from the fact that it exposes the firm to new and heterogeneous information on customers and competitors, which differs from existing skills, knowledge and experiences (Kim and Atuahene-Gima 2010, p.520). It should be noted that interactions with other SMEs can act very early on. In that case the relationships do not facilitate the exploration of new markets but they rather trigger it. In this case, the

leaders' relationships are used to "open their eyes" (Schweizer, 2013: 100) on the interest of starting an international activity.

The literature shows that knowledge is a resource that the network of an SME can increase. This resource positively impacts the internationalization of companies (Zhou et al., 2007). This phenomenon is highlighted both for companies in developed and emerging countries (Ciravegna et al., 2014), and when opportunities emerge through the network (Haahti et al., 2005). In addition, opportunities may affect new countries and lead to an increase in the number of markets served.

Experiential knowledge allows SMEs to reduce the preparation time before entering a new market, benefiting from the mistakes and lessons of others (Hadley and Wilson, 2003). In addition, by reducing the number of errors committed, they can reach a satisfactory level of development and profitability in a market more quickly, which enables them to free up resources in order to approach new markets faster. Paul and Parthasarvathy (2017) observe in their literature review that "experience is an essential factor for the success of exporters in overcoming and tackling export problems" (333). This aspect is confirmed by the literature (Forsgren, 2002; Tang, 2011; Zain and Ng, 2006) including by Tapia Moore and Meschi (2010) who show, based on a sample of French SMEs, that the level of experiential knowledge influences positively the speed of internationalization.

Based on the arguments above, we formulate the following three hypotheses:

Hypothesis 1a: The more an SME shares knowledge about new markets with other SMEs, the greater its share of foreign sales.

Hypothesis 1b: The more an SME shares knowledge about new markets with other SMEs, the greater the number of markets it serves.

Hypothesis 1c: The more an SME shares knowledge about new markets with other SMEs, the greater its internationalization speed.

Knowledge accessible through the partners can also be used to better exploit the markets on which an SME is already present. In this case, the SME can access new business opportunities in the country (Ellis, 2011), for example in areas not yet served or with new local distributors. It can also be better informed about the situation of its distributors on the spot and the commercial policy that they put in place for its products. SMEs can also share general information about competitive and regulatory conditions and the market trends in areas in which they already operate. This information will serve to improve the commercial offer in the countries concerned. The information provided by the partners can also help to change the modes of presence previously used, leading for example to the use of more efficient distributors, or opting for the opening of subsidiaries or online sales. Chetty and Agndal (2007) show that, in a sample of 20 New Zealand SMEs, 36 modes of presence in foreign markets have been modified due to relationships with other SMEs.

Learning about the market in the form of exploitation thus refers, for Kim and Atuahene-Gima (2010: 520), to the acquisition and use of information on customers and competitors within the current experience and expertise of the firm. For these authors, the challenge is to better understand markets and competitors in order to act more effectively. On the basis of these elements, we can propose that the knowledge obtained on the existing markets is a resource that will allow to better follow the evolution of these markets and relations with customers and distributors. This can result in more productive partnerships or better geographic coverage, more quickly.

Accordingly, we formulate the following three hypotheses:

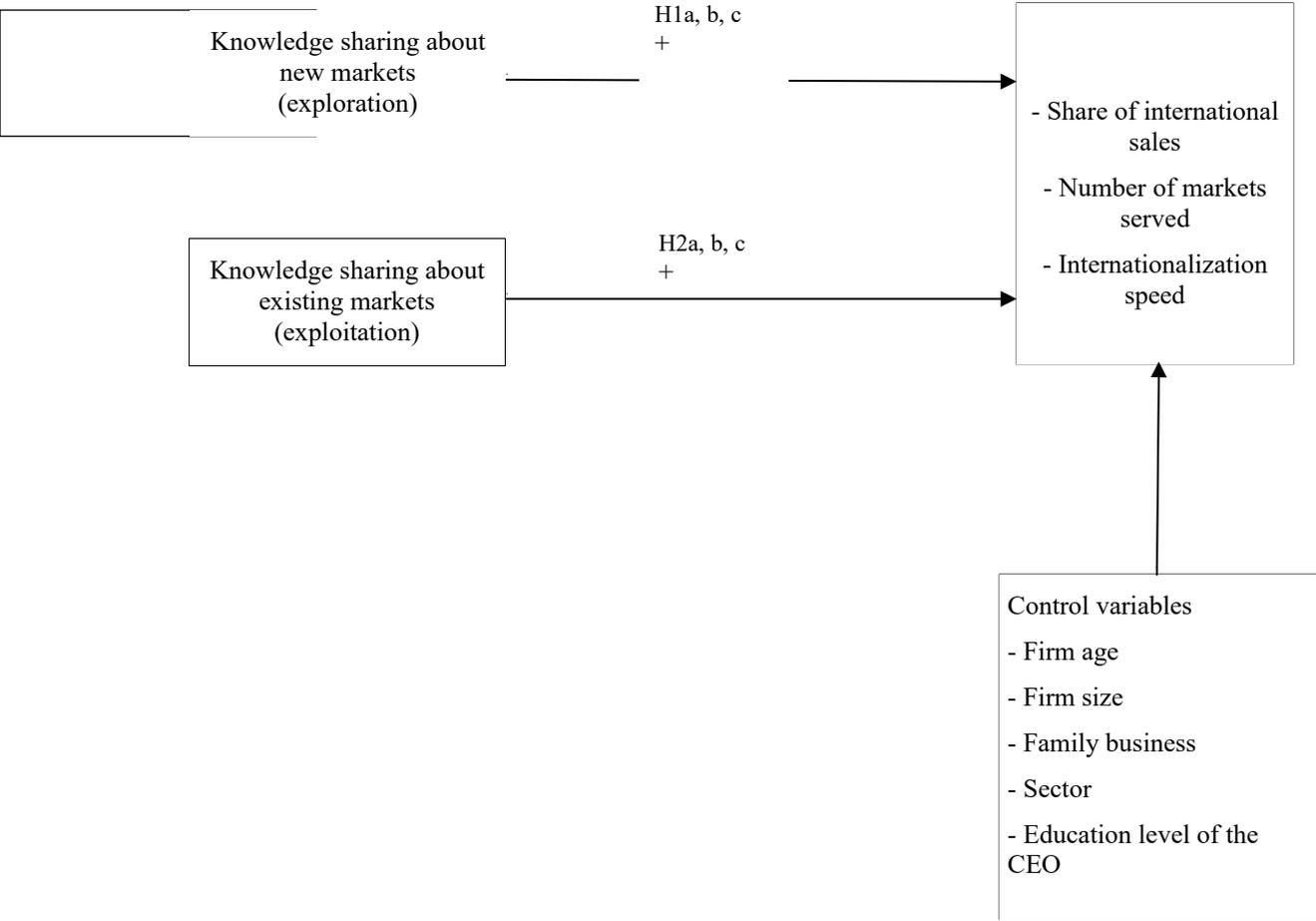
Hypothesis 2a: The more an SME shares knowledge about its existing markets with other SMEs, the greater the share of its foreign sales.

Hypothesis 2b: The more an SME shares knowledge about its existing markets with other SMEs, the greater the number of markets it serves.

Hypothesis 2c: The more an SME shares knowledge about its existing markets with other SMEs, the greater its internationalization speed.

Our research model is depicted in Figure 1.

Figure 1. Research model



Methodology

Our empirical study is based on a survey of 181 French SMEs, operating mainly in the manufacturing sectors (capital goods, machinery, machine tools, electrical equipment, consumer goods, etc.), where French companies are highly represented. The questionnaires were administered between October 2017 and September 2018. The overall response rate is 5.88%. The average number of employees of the surveyed firms is 53.61 with a median of 27, which clearly places respondents in the category of SMEs of modest size. The average age of the companies is 37.8 years. These are SMEs that have approached the international markets from inception (24.3%), in the first three years (16%), between 3 and 6 years of existence (17.1%) or after 6 years of existence (42.5%). Their share of foreign sales amounts, on average, to 32%, which is close to other studies on French or European SMEs (D'Angelo and Buck, 2019).

To test our research model, we used a multiple regression analysis. Since the independent variables related to exploration and exploitation are correlated at a positive coefficient of 0.696 (sig <0.01), we chose to perform the tests separately. The independent variables and control variables have been previously min-centered in order to account for possible multicollinearity effects (Aiken and West, 1991). The operationalization of the independent, dependent and control variables is shown in Table 1.

Table 1: Operationalisation of variables

Variable	Operationalisation	References
Collaborative practice (knowledge sharing)	7-point Likert scale ranging from 1 – never to 7 – very often. Indicates whether the respondent has collaborated with other SMEs to obtain information and knowledge concerning new markets (exploration) or existing international markets (exploitation). The question concerns last three years.	Cesinger, Hughes, Mensching, Bouncken, Fredrich and Kraus (2016); Stieg, Cesinger, Apfelthaler, Kraus and Cheng (2018) : the measure of collaboration intensity based on 3 items and a 5-point Likert scale
Share of foreign sales	$(\text{Foreign turnover} / \text{Total turnover}) \times 100$ Scale ranging from 0 to 100 ; the 0 scores were removed from the sample before the statistical analysis.	Katsikeas, Leonidou and Morgan (2000); Zahra and George (2002); Manolova et al. (2010)
Number of markets served (scope)	Scales in the questionnaire: - Number of markets served: scale with 8 intervals: 0, 1 to 5, 6 to 10, 11 to 15, 16 to 20, 21 to 25, 26 to 30, 31 and more (responses of 0 were removed from the sample before the statistical analysis). - Number of regions served: seven regions proposed with a possibility of multiple choice Scale for the analysis Responses with 0 countries served are removed from the sample. The rest of the responses were coded 1 to 7. A score ranging up to 14 was calculated (total of the score for the number of countries served + number of regions).	Zahra and George (2002) Hadley and Wilson (2003) Stoian, Rialp and Rialp (2011)
Internationalization speed	Duration between entry to two new countries Scale with four options: maximum one year, from two to three years, from three to five years, six years and more. Responses are coded 1 to 4.	Tapia Moore and Meschi (2010)
Age	Number of years from the creation of the firm to the response in the questionnaire	Majocchi, Bacchiocchi and Mayrhofer (2005)
Size	Number of full-time employees	Zahra and George (2002); Majocchi, Bacchiocchi and Mayrhofer (2005) Lindstrand Hanel (2017)
Family business	Double condition of detaining the majority of capital and of company management by a member of a family. Binary variable for each of the questions.	Cesinger et al. (2016)
Sector	Categorical variable 8 modalities based on the French National statistics institute (INSEE) nomenclature	Hadley and Wilson (2003) ; De Clercq and Sapienza (2006); Solis-Molina et al. (2018)
Education of the CEO	5-point scale based on the French educational system, ranging from secondary school degree to higher than Master's degree.	Helfat and Peteraf (2015); Stieg et al. (2018)

Findings

The results of the regression analyses relative to the impact of exploration-related knowledge sharing on the level of internationalization of SMEs are shown in Table 2. They show that knowledge sharing about new markets influences share of international sales in a positive but non significant way. Hypothesis 1a is therefore rejected. Knowledge sharing does not significantly influence the number of markets served, although a positive relationship is observed, which leads us to also reject hypothesis H1b. On the other hand, the exploratory type of knowledge sharing influences the speed of internationalization in a positive and significant way (model 3). Hypothesis H1c is therefore validated.

Table 2. Regression results relative to exploration

	Share of foreign sales	Total number of markets served	Speed
	Model 1	Model 2	Model 3
Age	2,187 (1,999)	1,128*** (0,279)	-0,060 (0,075)
Size	-0,679 (1,918)	0,626** (0,268)	-0,013 (0,072)
Family business	-14,366*** (4,151)	-1,365** (0,578)	-0,371** (0,155)
Activity: new technologies ^a	-11,883 (7,590)	-0,369 (1,563)	-0,065 (0,283)
Activity: consumption goods ^a	-11,500*** (4,167)	-0,882 (0,581)	0,155 (0,155)
Activity: services and commerce ^a	-9,795 (6,239)	-0,467 (0,874)	0,003 (0,233)
Education of the CEO	2,602 (1,920)	0,077 (0,269)	0,114 (0,072)
Exploration knowledge sharing	0,667 (1,895)	0,345 (0,265)	0,193*** (0,071)
Constant	47,851 (3,923)	8,479 (0,548)	3,199 (0,146)
Significance	0,001	0,001	0,023
R ²	0,145	0,201	0,097
R ² adjusted	0,105	0,164	0,055
ΔR^2	0,001	0,008	0,039
Durbin Watson	1,816	2,044	2,160
F	3,619	5,410	2,297
VIF	1,108	1,105	1,108
N	180	181	180

The results of the regression analyses relative to the impact of exploitation-based knowledge sharing on the level of internationalization of SMEs are detailed in Table 3. They reveal that the effect of knowledge sharing on the share of international sales is negative and not significant. Hypothesis 2a is therefore rejected. The impact of knowledge sharing on the number of markets served is positive, but not significant, which leads us to reject hypothesis 2b as well. Finally, knowledge sharing has a positive and significant effect on the speed of internationalization. Hypothesis H2c is validated.

Table 3. Regression results relative to exploitation

	Share of foreign sales	Total number of markets served	Speed
	Model 4	Model 5	Model 6
Age	2,358 (2,000)	1,113*** (0,279)	-0,057 (0,075)
Size	-0,506 (1,924)	0,607** (0,269)	-0,011 (0,072)
Family business	-14,422*** (4,151)	-1,380** (0,576)	-0,376** (0,156)
Activity: new technologies ^a	-12,115 (7,584)	-0,393 (1,059)	-0,085 (0,284)
Activity: consumption goods ^a	-11,441*** (4,172)	-0,898 (0,580)	0,147 (0,156)
Activity: services and commerce ^a	-9,634 (6,247)	-0,500 (0,873)	-0,003 (0,234)
Education of the CEO	2,586 (1,913)	-0,027 (0,269)	0,090 (0,072)
Exploitation knowledge sharing	-0,261 (1,899)	0,407 (0,265)	0,171** (0,071)
Constant	47,861(3,924)	8,501 (0,587)	3,206 (0,147)
Significance	0,001	0,140	0,041
R ²	0,144	0,204	0,088
R ² adjusted	0,104	0,167	0,044
ΔR^2	0,000	0,011	0,031
Durbin Watson	1,816	2,044	2,160
F	3,603	5,507	2,070
VIF	1,113	1,114	1,113
N	180	181	180

Regarding the control variables (see Table 4), our results show that the size of the company has a positive and highly significant effect on the number of markets served. The age of the

company also positively affects the number of markets served. The family character of the business clearly decreases the share of foreign sales, the number of markets served and the speed of internationalization. Companies producing consumption goods have a lower share of international sales than those of the reference group (capital goods), all other things being equal.

Table 4. Regression results relative to control variables

	Share of foreign sales	Number of markets served	Speed
Age	2,309 (1,963)	1,189*** (0,276)	-0,025 (0,075)
Size	-0,558 (1,882)	0,688** (0,265)	-0,023 (0,072)
Family business	-14,410*** (4,139)	-1,395** (0,578)	-0,384** (0,158)
Activity: new technologies ^a	-12,065 (7,554)	-0,467 (1,062)	-0,117 (0,288)
Activity: consumption goods ^a	-11,469*** (4,155)	-0,869 (0,581)	0,164 (0,158)
Activity: services and commerce ^a	-9,689 (6,216)	-0,413 (0,875)	0,033 (0,237)
Education of the CEO	2,566 (1,912)	0,059 (0,269)	0,104 (0,073)
Constant	47,869 (3,912)	8,491 (0,549)	3,203 (0,149)
Model significance	0,000	0,001	0,169
R ²	0,144	0,193	0,058
R ² adjusted	0,109	0,160	0,019
F	4,139	5,410	1,503
N	180	181	180

Nonstandardized coefficients

^a Reference group: equipment goods

Discussion and conclusion

Through which kind of collaborative practices can SMEs overcome the obstacles to internationalization is an important topic in the literature stream focusing on internationalization of SMEs. Indeed, research has suggested that SMEs can mitigate

internationalization constraints by forming networks with other SMEs (Zain and Ng, 2006) and engaging in a variety of collaborative practices within these networks.

In this research we focus on one type of collaborative practices between SMEs- knowledge sharing. Using the theoretical lens of ambidexterity, we distinguish between knowledge sharing that is focused on exploitation, that is on the markets in which the firm is already present, and knowledge sharing that is focused on exploration, that is on the new markets on which the firm is not present. We hypothesized a positive relationship between these practices and the three dimensions of the level of internationalization – share of foreign sales, number of markets served, and internationalization speed.

The results of our statistical analyses show that knowledge sharing between SMEs of the same country does not systematically produce positive and significant effects on the level of internationalization. It appears that knowledge sharing between managers of SMEs makes it possible especially to increase the speed of internationalization, whether to conquer new markets (exploration) or to reinforce the presence on existing markets (exploitation). This result is in line with the findings of Chetty and Blankenburg Holm (2000b), Fletcher and Harris (2011), and Kontinen and Ojala (2011a, b and c) who point out that social connections provide faster access to opportunities abroad. More generally, it is in line with the approach of Nahapiet and Ghoshal (1998) for whom the companies that mobilize social capital have greater success. It is also in line with Loane and Bell (2006) who show that the mobilization of the network accelerates the international deployment of born global enterprises. This knowledge of foreign markets is therefore an intangible resource (Barney, Wright and Ketchen, 2001) which has a significant effect on international performance (Musteen, Datta and Butts, 2014).

The network thus appears as a conduit through which knowledge can be accessed (Gulati, Lavie and Madhavan, 2011). Thus, our research is aligned with the findings of Haahti et al.

(2005) that demonstrate a mediating effect of knowledge intensity between the use of network and international performance. However, building on the assertions of these authors, our results go further and show that this effect is also valid for links with domestic actors, and not only with foreign ones.

These results also go beyond the conclusions of Vasilchenko and Morrish (2011) for whom the social personal network is the only one that identifies opportunities in foreign markets. It appears that the business network also fulfills this function and that it does not only serve to enter the new markets.

Conversely, knowledge sharing between SMEs in the same country does not have a significant effect on the share of foreign sales and the number of markets served. This surprising result can have several explanations. On the one hand, it is possible that knowledge is a sufficient resource to enter new markets but that it is not rich enough to grow sales in foreign markets (Koka and Prescott, 2002).

In addition, this point can be compared with the conclusions of Fletcher and Harris (2011), who show that market knowledge is acquired thanks to the network, but not the knowledge relative to the internationalization process. Thus, SMEs identify opportunities and choose to seize them by entering new markets. However, collaboration would not allow them to access the knowledge that would allow them to more effectively address these new markets. Blomstermo, Eriksson, Linsdtrand and Sharma (2004) show that experiential knowledge has a positive effect on international performance. Without a sufficient level of experiential knowledge, which would make it possible to learn from the mistakes others have made (Hadley and Wilson, 2003), SMEs do not get a rise in their international turnover or fail to maintain their position in certain markets.

These results also serve to nuance the claims by Chetty and Blankenburg Holm (2000b) that networks and knowledge play a key role in international deployment. It seems that other

resources are needed to increase the number of markets served or the share of international sales.

On this point, our results can be compared with those of Milanov and Fernhaber (2014), that show that collaboration affects the share of foreign sales only if the domestic partners themselves have a sufficient level of internationalization. If this is not the case, the share of foreign sales decreases, as partners do not bring the international knowledge and experience sought by other SMEs. It is also possible that it is especially the links with foreign market players that make it possible to increase sales (Andersen, 2006; Milanov and Fernhaber, 2014). The company, when it is present on a market, reduces the liability of foreignness and that of being excluded from the local networks (liability of outsidership). Its knowledge of the local market and its commitment can then facilitate its entry into new markets (Vahlne and Johanson, 2013).

Our research shows that knowledge sharing is not a sufficient resource to increase the number of markets served or the share of international sales. A first assumption could be that this knowledge is not a sufficiently rich resource. Network players potentially share knowledge about market opportunities, and some elements of knowledge about foreign markets; however, the most useful knowledge does not circulate sufficiently, with each player preferring to keep it under control so as not to favor potential rivals (Dyer and Singh 1998; Lavie 2006). Another explanation would be that other resources, potentially accessible also through the network, are needed to succeed internationally. These will include products tailored to the target markets, adequate financial resources, as well as the ability to select the best foreign partners (Klute-Wenig, Rebsch, Holzmuller and Refflinhaus, 2017) and entry modes.

Our research shows that it is necessary to consider several indicators when measuring the level of internationalization, because the effect of some factors may be different depending on

the chosen indicator. Our findings can encourage SMEs to create closer links with other SMEs in their country to accelerate their international expansion. The use of this type of network seems particularly suitable for companies starting their internationalization, for example those with a Born Global (Cavusgil and Knight, 2015) or International New Venture profile or those that are late internationalizers (Bell, McNaughton and Young, 2001).

Like other research, this study has some limitations that open opportunities for future research. Thus, it seems necessary to analyze in greater depth the nature of SME partners (type of activities, size). Elements related to the personality of leaders could also be included in the analysis, such as trustworthiness (Brunetto and Farr-Wharton, 2007), ability to develop relationships with other SMEs (Johanson and Vahlne, 2009), ability to mobilize these relationships (networking capability) (Naudé et al., 2014) or to manage them strategically (Hughes et al., 2017).

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