
Venture capitalists and the internationalisation of new ventures – a Portuguese case study

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Abstract: Internationalisation is widely believed to be a very relevant dimension in companies across countries. Nevertheless, operating abroad might not be easy for new ventures. This study approached venture capitalist (VC) intervention in these firms. It comprises two main points of view: the VC's perspective and that of the INV. According to the VCs, industry knowledge, prior international experience or syndicated investments are some of the VC's most important characteristics operating abroad. However, for INVs, the VC's support is not considered important overcoming the international constraints, since there are no significant differences between backed and non-backed firms. There are a dissonance between what VCs believe are offering and what backed-firms are getting from this support. Nevertheless, this work includes a contribution of the changes in the backed firm's management team and the industry experts' role on the board. These changes are associated to the degree to which internationalisation occurs in companies.

Keywords: venture capital; internationalisation; international constraints; VC intervention; venture capitalists; new international ventures; backed firms; non-backed firms; financial support; strategic support; industry experts.

Reference to this paper should be made as follows: Ribeiro, P. and Meneses, R. (2020) 'Venture capitalists and the internationalisation of new ventures – a Portuguese case study', *Global Business and Economics Review*, Vol. 22, Nos. 1/2, pp.135–160.

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This paper is a revised and expanded version of a paper entitled 'Venture capitalist's intervention and the internationalization of international new ventures (INVs) – Portuguese case study' presented at 10th EuroMed Conference, Rome, 13–15 September 2017.

1 Introduction

Financing takes an important role in economic growth. In fact, in order to be more efficient, economies need a solid financing system. This study intends to present a different approach about one type of financial support: venture capital. The venture capital market is important all over the world. For example, a number of companies in the USA, such as Intel, Oracle, Sun Microsystems, were founded through venture capital. And on the opposite side of the globe, the same is true. China and Taiwan are very clear examples. Quanta, the well-known notebook producer and Asustek, the motherboard maker, were supported by venture capital funds (Kenney et al., 2004). However, this support is not solely about financial support and this study focuses on the interesting relationship between venture capitalists (VCs) and international new ventures (INVs), in the internationalisation process. It seeks to analyse and reach pertinent conclusions about the influence of VC's support in the internationalisation of these types of ventures. In other words, it is important to clarify whether such support is effectively relevant and find out which are its main dimensions.

INVs, which are companies developing international activities since their inception (Oviatt and McDougall, 1994), are well known as 'born global' firms because, for them, internationalisation is a short-term plan and is viewed as a priority (Rennie, 1993). Cooper and Daily (1996) stated that "entrepreneurial teams are at the heart of any new venture". According to this evidence, VCs might take a relevant strategic role in the INV's management, for example, in terms of their professionalisation (Hellmann and Puri, 2002), improving their international competitiveness. However, this study focuses on the 'early stage', with an existing product which is ready to be commercialised. Within this first-stage of financing, the INV sees initial growth and expenses begin to appear (Bachher and Guild, 1996). However, in their first stage, managers of small companies worry about the domestic investment and only afterwards to they begin focus on work abroad. This stepwise growth may cause loss of opportunities and, consequently, in developing international activities (Rogers, 2004). The success of operating abroad is strongly associated with the managerial expertise and company networks (Chandler and Hanks, 1994). Actually, VC's networks and connections are likely to increase over time (Sorenson and Stuart, 2001) and INVs might reap very important benefits from the venture capital investment. This work provides some theoretical contributions, mainly in terms of the relationship between two important variables, which are the industry experts and the degree of the firm's internationalisation. In fact, this research brings some evidence supporting the positive relationship between the backed firms' industry experts and their international dimension. At the same time, we find that VCs believe they are helping backed-firms much more than they are in reality.

The approach of this study will focus on the venture capital investments including INVs and VCs from Portugal. Usually, in Portugal, this process is divided into two types of support: financial and strategic. In fact, VCs may provide both, since they might be aware of the INV's conditions. Further, if the INVs are aware of the performance from prior venture capital investments (and their influence within foreign markets), it may be important for the development of more significant partnerships. An awareness of this type of knowledge might be an important step for this type of new venture, in the path towards internationalisation.

2 Literature review

2.1 Internationalisation

INVs have been facing some constraints and might not have the necessary conditions to operate abroad, at the time of their creation, in terms of knowledge of foreign markets. According to Ferraris et al. (2016), the liabilities of foreignness are likely to significantly reduce a firm's performance (up to 50%). On the other hand, the international diversification may be related to the company's performance. Taking this evidence into account, the international dimension can benefit companies, but there are also some barriers in the process. Actually, multinational enterprises (MNEs) are able to choose to what extent they can be involved within the country's political, cultural or institutional organisation and some barriers might come from this behaviour (Ferraris, 2014). Generally, these barriers can be overcome by investors, the VCs. For example, managerial expertise within international projects can be a barrier. Financial and human resources constraints have a significant impact on small companies aiming to develop their activity in another country (Leonidou, 2004). There are other types of barriers making processes more difficult for INVs – such as internal barriers (related to the organisational resources or capabilities and export policies) and external barriers (procedural, governmental, environmental and task constraints). For example, informational, functional or marketing barriers are some examples of internal constraints.

Informational barriers aim to identify the main challenges in foreign markets. According to Mudambi and Zahra (2018), INVs may face relevant disadvantages, comparing to domestic competitors. There are some market-related conditions that are unknown for them. Specifically, INVs may face 'liabilities of foreignness' and 'liabilities of newness'. These challenges may be related to the difficulties gathering information about the factors that are likely to influence the activity. Insufficient information to be able to analyse the markets (in terms of the international databases) can hinder the anticipation of the work conditions in the new market. Even when databases are available, they might be incompatible with the home country's way of working (e.g., different base years, different measurement units or different data collection methods) (Czinkota and Ronkainen, 2001). Difficulties in finding business opportunities and contact overseas customers are informational constraints as well (Leonidou, 2004).

Functional barriers are related to some specific company characteristics (key functional factors), such as those which may influence the internal dynamic. According to Lu et al. (2010), international success may depend on senior management's behaviour in promoting a learning environment towards the new market. Within the growth stage, the INVs often do not have the sufficient capacity to deal with export situations, in terms of specialised export personnel. Financing may also be a functional barrier for INVs and sometimes they do not have financial possibilities to sustain these kind of projects from the beginning (shortage of working capital to invest). In the early stage, investment is a crucial necessity (Howell, 2015).

Marketing is an important subject within an internationalisation process. In reference to this dimension, the most relevant constraints are the product, pricing, distribution, logistics and promotional activities in foreign markets. The main challenge is to adapt the marketing strategy to the new markets circumstances. However, locating new markets is

essential and specialised human resources are crucial. The firm's management team may be able to develop new products and seek innovative solutions, in order to fit the foreign market's requirements (Lu et al., 2010). Actually, firms with greater knowledge management capabilities are likely to gather some important external innovative knowledge, which may conduct to the improvement of the innovative performance. This type of firms may be better able to integrate the external sources of knowledge with the internal ones (Ferraris et al., 2017). Thus, the inexistence of these capabilities can be an important constraint and small firms can be even more affected. Usually, they do not have specific research departments, in order to gather information about foreign markets or promote the company's products abroad.

2.2 *VC intervention*

According to Lutz and George (2012), VCs can have a positive effect on the INVs' internationalisation, through the entrepreneurial experience, industry knowledge and easy access to the VC's networks. Thus, VCs may influence these companies both through financial and non-financial resources (Abrahamsson and Isaksson, 2018). However, it is important to notice there are several barriers between small and medium enterprises (SMEs) and external investors (Graves and Seet, 2017).

Bronzini et al. (2017) notes that backed-firms "show a larger increase in size (total assets, labour costs, number of employees) and they innovate more (in terms of the probability and number of patents)" (p.22) and "this is not just a mechanical effect of the injection of equity capital" (p.23).

VCs might be able to analyse foreign markets in order to minimise the INV's informational problems. According Guler and Guillén (2010), VCs may be able to anticipate changes in the legal systems within foreign markets (such as the property right's protection) and analyse the foreign market's political/regulatory stability (Guler and Guillén, 2010). VCs may also be an important partner from another point of view: their experience. Sorenson and Stuart (2001) highlight the VC's prior international investment experience as an important factor in reaching new markets and in overcoming local obstacles. Additionally, syndicated investments abroad can contribute to a rise in international knowledge, which is relevant to identify new business opportunities (LiPuma, 2014).

Sorenson and Stuart (2001) also approached VC networks coming from venture capital environments (from participants in this process). These networks have the capacity to be decisive in accessing the international information, which might be essential in order to reach new markets and to uncover new opportunities (Prange et al., 2015). Connections can be established with other VCs, experts or new entrepreneurs. Connections are commonly established within the same industry. Actually, the VC may have been investing in the same industry for a long period, which can mean access to other significant connections, from different parts of the globe (Sorenson and Stuart, 2001). Concerning the network effects, the type of VC might also be a relevant point, within the internationalisation path. According to Schildt et al. (2005), corporate venture capital (CVC) is likely to possess more international networks, for example, in terms of potential foreign customers. In addition, syndicate investments may be another activity, which can bring some important connections between VCs. This type of venture capital

investment might also have other advantages, such as risk diversification or for second opinions in the decision making process (Gompers and Lerner, 2001). Furthermore, VCs with many syndicated investments are likely to possess important networks and have access to a greater amount and quality of information, both in terms of industries and in geographic regions (Sorenson and Stuart, 2001). Nevertheless, the existence of a local syndicate partner can also increase the likelihood of a successful exit (LiPuma, 2014). This knowledge can be useful to decrease internationalisation uncertainty (Prange et al., 2015).

The functional dimension might also be an essential one, either in terms of management or product (Arthurs and Busenitz, 2006). Additionally, Fried et al. (1998) showed that backed ventures might have an important advantage, since their boards show greater involvement in the strategy's development and monitoring, than non-backed ones. In fact, it may have a significant positive influence on the backed-firm's performance (Fried et al., 1998).

According to Arthurs and Busenitz (2006), there is valuable support provided by VCs in the early stage and a capable management team is a crucial necessity. Hellmann and Puri (2002) analysed this theme and found that VCs develop their activities, in order to 'professionalise' the firm, which is likely to be a faster process in venture-backed firms (Hellmann and Puri, 2002). This professionalisation might consist in hiring new management teams and some positions may be switched, including the replacement of the CEO (Hellmann and Puri, 2002). However, these changes within the management teams are likely to appear within four main dimensions: the recruitment practices, the human resources policies, the stock options planning and the recruitment of vice president of marketing and sales (Hellmann and Puri, 2002). Stock options, "which give the recipient the right to buy a share of stock at a pre-specified exercise price for a pre-specified term" [Hall and Murphy, (2002), p.1], is an option to manage/retain human resources and compensate managers. In terms of these stock options, Hellmann and Puri (2002) found a strong relationship between obtaining venture capital and adopting a stock options plan. Backed-firms possess more than twice the likelihood of having such plan, comparing with non-backed firms. In terms of the vice president of marketing and sales, the same can be true: a vice president of marketing and sales is more likely to be appointed with the intervention of VCs. Hellmann and Puri (2002) also found that VCs have a significant role in the human resources planning, defining policies according to their knowledge. Actually, one dimension was more deeply analysed, which is the recruitment process. Backed-firms are more likely to use (professional) networks, in order to hire some type of human resources, such as the sales, marketing, administrative and managerial personnel. The use of networks within the recruitment process is one indicator about the firm's level of professionalisation, in terms of the relationship with their business environment (Hellmann and Puri, 2002).

Some financial aspects were included with the functional ones, in terms of the VC's intervention, such as the working capital availability to invest. According to Hellmann and Puri (2000), VCs possess business knowledge and they are aware of the industry's conditions, which is why they may be able to choose right firms to invest in, those with strong future potential.

The new venture's marketing needs tend to be related to factors such as their product or price. In terms of the product, VCs possess assets that are likely to reduce the time to market, which is considered the "time from the birth of the company to the date of first product sale" [Hellmann and Puri, (2000), p.15]. Additionally, adapting the venture's product in order to reach new markets and meet their specific requirements may prove difficult. In fact, this task might bring a high level of uncertainty. This product constraint may be minimised through the right choice about management. In actual fact, VCs are likely to have close connections with important managerial expertise. For example, VCs may convince senior managers with high industry experience to integrate into the venture's project (Arthurs and Busenitz, 2006). This type of 'dynamic capability' might contribute to explain the reason why markets tend to value VC-backed ventures, comparing with non-backed ones, when there are high product-related risks (Arthurs and Busenitz, 2006).

The inexistence of economies of scale may be an important constraint within foreign markets. According to Fischer and Varga (2002), inter-firm cooperation/networks might have an important role in achieving economies of scale, reaching new markets, or accessing new technologies. Those economies of scale may come through an alliance with R&D and/or producing institutions. Zeng et al. (2010) approached the relationship between different types of networks and innovation, which requires scale, of SMEs in China. Their findings point out a high importance of different types of cooperation: inter-firm cooperation, cooperation with intermediary institutions and cooperation with research institutions. Moreover, according to Bresciani and Ferraris (2014), the R&D institutions are likely to establish themselves close to research centres of excellence. Thus, small firms might make efforts to be located close to these centres. These types of organisations are crucial to the small firm's innovative performance. Furthermore, Zeng et al. (2010) found a higher importance of vertical connections with customers, suppliers or other firms, comparing with the horizontal connections with research institutions. Additionally, the literature's review also shows the VC's importance, reaching potential foreign customers and suppliers (Gorman and Sahlman, 1989; Schildt et al., 2005).

3 Methodology

This study uses a mixed method methodology in order to get deeper knowledge about the phenomenon. With this approach we can answer different questions and cover two different perspectives: the VC perspective and the backed-firms perspective. So, we use a qualitative exploratory methodology to uncover what VC do help backed firms, and the quantitative methodology to understand if backed firms confirm this help.

3.1 Qualitative methodology

Firstly, in order to obtain broader knowledge about the VC's intervention in backed firms, a qualitative methodology was chosen. This is an approach, which is likely to explore a single or multiple case, through an in-depth data analysis, based on some specific provenience of information which it is likely to achieve case-based themes (Creswell et al., 2007).

In line with Yin (2015), institutional responses may be studied through this type of qualitative data. Actually, the collected data was provided by a group (8) of Portuguese VCs. Twenty-four VCs were contacted but only eight of them were available for meetings and all of these were interviewed. In these meetings, VC's members (mainly managing partners and business analysts) were interviewed. Regarding this methodology, there were two main purposes:

- 1 to provide a comparison between the Portuguese VC's intervention and the evidence in the literature
- 2 to enlarge the theoretical ideas, with new findings, regarding VC interventions.

3.2 Interview's structure

Each interview was supported by a script, in order to approach the most important aspects in the literature review. Similarly to the literature, the approached aspects, throughout the interviews, were related to the three main dimensions of the venture capital investment: informational, functional and marketing intervention. The interview questions were divided into four main parts:

- 1 study presentation
- 2 VC's presentation
- 3 VC's standard intervention in their INVs
- 4 VC's international intervention in their INVs.

However, these were exploratory interviews and the interviewee had the complete freedom of add some relevant aspects, in order to illustrate the reality supporting their backed firms, operating abroad.

3.3 Analysis method

Seven of the interviews were recorded and transcribed. Then, all of them were organised, through the software NVIVO. Similarly to Creswell et al. (2007), the transcripts from the seven interviews were examined and the most significant statements, sentences or quotes were highlighted. One of the interviews was analysed through a note-taking method, but it was also included in the software NVIVO.

With the chosen methodology, the researcher is likely to collect data from a variety of proveniences and aggregate them to illuminate the case (Baxter and Jack, 2008). Thus, it was possible to identify how many VCs ('sources') mentioned each item and the content of the emerging information about each one of those items ('references'). In fact, through this analysis, it was possible to develop an overview about the most relevant aspects and the existence or inexistence of any relationship with aspects from the literature.

Table 1 VC's presentation

<i>Interview's number</i>	<i>VC's name</i>	<i>Interviewed</i>	<i>Date</i>	<i>City</i>
1	Vallis Capital Partners, SGPS, S.A.	Francisco Seixas (analyst)	16/03/2017	Porto
2	Inter-Risco - Sociedade De Capital De Risco, S.A.	João Amaro (managing partner)	03/03/2017	Porto
3	x)*	x)*	17/03/2017	Porto
4	2Bpartner - Sociedade de Capital de Risco S.A	Ana Rangel (business manager)	23/03/2017	Braga
5	BCP Capital - Sociedade de Capital de Risco S.A	Pedro Pintassilgo (director)	01/03/2017	Lisbon
6	Change Partners Capital - Sociedade de Capital de Risco S.A	Mário Pinto (chairman)	27/02/2017	Porto
7	Explorer Investments, Sociedade de Capital de Risco, S.A.	Pedro Valente (analyst)	07/03/2017	Lisbon
8	Novabase Capital - Sociedade de Capital de Risco, S.A.	Henrique Gomes (investment analyst)	01/03/2017	Lisbon

3.4 *Quantitative methodology*

In order to apply the evidence from the qualitative data, a quantitative methodology was included to study the VCs' international support of their backed firms.

3.5 *Research methodology and hypothesis*

In this analysis, the sample comprised the other side of the partnership: the INVs. With the objective of testing the hypothesis, one-tailed t-tests (comparing means) were executed. It aimed to provide a comparison between backed firms and non-backed firms, not only with the analysis of the internationalisation constraints but also approaching their degree of internationalisation. Some INVs' constraints were used as variables in these tests, such as:

- 1 foreign market analysis
- 2 managerial expertise
- 3 exports-related managerial expertise
- 4 the INVs' cash conversion cycle
- 5 the return on assets (ROA)
- 6 the international product development
- 7 the degree of internationalisation (measured by exports profits, exports sales and marketing policies).

Hence, all of the INVs' constraints were tested through hypotheses tests (Table 2).

Table 2 Hypothesis tests

<i>Hypothesis</i>	
H1.0	Difficulties analysing foreign markets and contacting stakeholders overseas (intelligence generation) are the same for backed firms and non-backed firms.
H2.0	Lacks of managerial expertise are the same for backed firms and non-backed firms.
H3.0	Lacks of exports-related managerial expertise are the same for backed firms and non-backed firms.
H4.0	The cash conversion cycle (CCC) is the same for backed firms and non-backed firms
H5.0	The return on assets (ROA) is similar between backed firms and non-backed firms.
H6.0	The return on assets (ROA) is similar between backed firms and non-backed firms.
H7.0	International product constraints are the same for backed firms and non-backed firms.
H8.0	Degree of internationalization (under the perspective of the marketing policies) is the same for backed firms and non-backed firms.
H9.0	Degree of internationalization (under the perspective of the marketing policies) is the same for backed firms and non-backed firms.
H10.0	Degree of internationalization (under the perspective of the exports sales) is the same for backed firms and non-backed firms.

3.6 Data collection

The data was collected from a survey. There were three main criteria to be part of the sample, which were their *age* (seven or less years of existence), their *scope* (international activity) and their *relationship with VCs*. However, the last one was not a mandatory requirement, since the sample aimed to present either backed or non-backed firms.

Table 3 Variables (resume)

<i>Latent variables (LVs)</i>	<i>Author (scale)</i>	<i>Manifest variables (MVs) – questions of the survey (numbers)</i>
Inclusion of some members (generally, 1 or 2 members) in the venture’s board as NEDs	-	9.a)
Inclusion of industry experts in the venture’s board as NEDs	-	9.b)
Recruitment based on the VC’s connections	-	9.c)
Personal connections of VC’s members	-	9.d)
Establishment of a partnership with local partner	-	9.e)
Search for new capital investors – intros	-	9.f)
Syndicated investments with another VC	-	9.g)
Syndicate investments with local VCs	-	9.h)
Other backed firms in the same markets	-	9.i)
Acquire firms within countries of destination	-	9.j)

Table 3 Variables (resume) (continued)

<i>Latent variables (LVs)</i>	<i>Author (scale)</i>	<i>Manifest variables (MVs) – questions of the survey (numbers)</i>
Analyse foreign markets and contact stakeholders overseas (intelligence generation) – ‘AMIntGen’	Jaworski and Kohli (1993)	Market orientation (intelligence generation): 10.a)
Analyse foreign markets and contact stakeholders overseas (intelligence dissemination) – ‘AMIntDiss’		Market orientation (intelligence dissemination): 10.b)
Lacks of managerial expertise (‘ManExp’)	Sadler-Smith et al. (2003)	Managing Process (‘MEManProc’): 10.c) Managing Vision (‘MEManVis’): 10.d) Managing Stakeholders and Environments (‘MEStaandEnv’): 10.e)
Lacks of exports-related managerial expertise (‘EE’)	Filatotchev et al. (2009)	International knowledge transfer (‘EETransf’): 10.f) R&D intensity (‘EERandD’): 10.g) Global networks (‘EEGloNet’): 10.h)
Shortage of working capital to invest in the exports process (‘WC’)	Padachi (2006) Padachi (2006)	Cash Conversion Cycle (‘WCCCC’): 10.i.1) Return on assets (‘WCROA’): 10.i.2)
International product development (‘IPM’)	Moini (1997)	Adapting products for foreign markets (‘IPMAdapt’): 10.j.1) Providing repair service overseas (‘IPMrep’): 10.j.2) Providing technical advice overseas (‘IPMTecAdv’): 10.j.3)
Degree of internationalization (measured by the exports sales) – ‘DoI(ExpSal)’	Cavusgil (1984)	Export sales’ weight in the total sales: 11)
Degree of internationalization (measured by the marketing policy) – ‘DoI(MarkPol)’	Cavusgil (1984)	Marketing policy aspects of international involvement: 12), 13), 14), 15), 16).
Degree of internationalization (measured by the export profits) – ‘DoI(ExpProf)’	Cavusgil (1984)	Profits derived from exporting as a percentage of total company profits: 17)

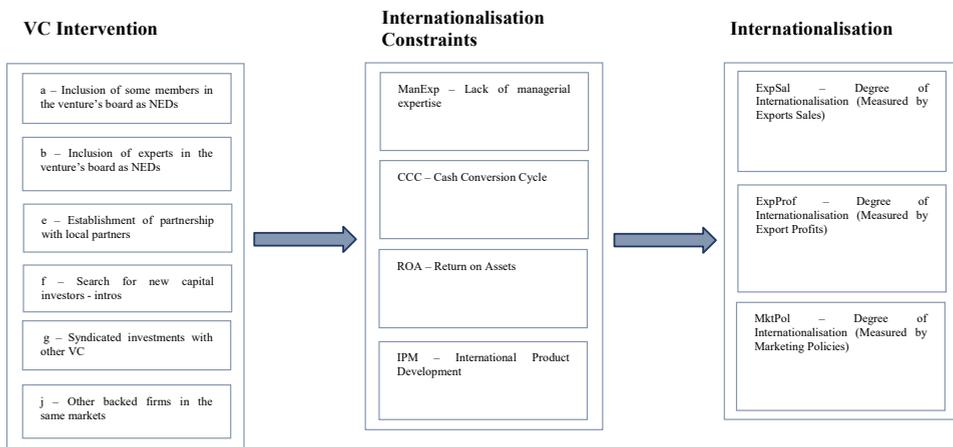
In terms of the survey, which is available in the Appendix, each question was intended to represent a variable, all of which were sourced from other studies relating to the same subject (Table 3). Thus, there were two main groups of variables – exogenous and endogenous. The first group was comprised of the information collected from the qualitative data. In other words, these variables were the VCs’ interventions sourced from

the interviews (e.g., inclusion of industry experts in the venture’s board, syndicate investments with local VCs, VCs’ personal connections, etc.). On the other hand, the endogenous variables were related to the ventures’ constraints, which were analysed within the review of the literature. These constraints were grouped into five main dimensions: foreign markets’ analysis, managerial expertise, exports-related expertise, financial constraints and product development. However, there is one more endogenous variable, which intends to measure the degree of internationalisation of each one of the inquired companies. In fact, this quantitative analysis was aimed at studying two main steps or relations: the connection between the VCs’ interventions and the new ventures’ constraints; and the relation between these constraints and the degree of internationalisation.

4 Analysis method

Two different methods were used to study the connections between endogenous and exogenous variables. Those were the hypothesis testing and the structural equation model (SEM). Regarding the hypothesis testing, their objective was to provide a comparison between backed and non-backed firms, concerning the internationalisation constraints of both types of firms. Taking these tests into account, the null hypothesis is always the same, for each one of the variables. It considers that VC-backed and non-backed firms present no differences facing the internationalisation constraints. Posteriorly, if H_0 is rejected, a new test would be executed and, in that case, the alternative hypothesis would compare both types of firms (backed and non-backed) to identify the one that could have more problems facing a specific international constraint.

Figure 1 Model (see online version for colours)



In terms of the SEM, the main objective was to establish a relationship between each type of variable (endogenous and exogenous). On the other hand, the SEM method allows the researcher to analyse or estimate causal effects simultaneously. For example, it is possible to estimate the effect of x-y and y-z. This way, the indirect effect of x on z is clearly approached (Lowry and Gaskin, 2014). The estimation model of SEM’s

parameters is also a concern and the one used in this study is the partial least square (PLS). The PLS algorithm analyses one variable at a time, through the minimisation of the residual variance of dependent variables in multiple linear regressions (Marôco, 2010). The regression of the SEM was conducted via bootstrapping, through the software SmartPLS 3[®].

5 Results

5.1 *Qualitative analysis*

The interviews provided some additional information, comparing with the approached aspects in the literature review. The number of each interview is available in the Table 1.

The VC's involvement in the backed firm's board is one of the possible interventions. Generally, VCs are likely to appoint one or two members to the backed firm's board, developing activities as non-executive directors (NEDs) (fourth, fifth, sixth and eighth interview). This aspect was referred in four interviews. However, one of the interviews revealed a different approach about control of the backed firm, which was that the CEO be appointed for a period of just one year (sixth interview). In addition, most of the VCs usually take minor positions, in terms of the share capital (pointed out in four interviews – third, fourth, fifth and sixth interview).

Another emerging aspect was the services provided by VCs. For example, VCs are likely to improve the internal information/reporting systems, in order to make the backed firm's communication easier and more efficient between members (first and fifth interview).

VC's networks are also an important aspect in terms of the venture capital investment. According to the interviews, some VCs are likely to connect the venture's members, based on their networks. One of the referred activities was the inclusion of industry experts to the backed firms and these members may take a position in the board (eighth interview).

According with interviews' information, VCs are likely to invest in industries related to the academic background or professional experience of their members (third interview).

VCs might also have an important role searching for investors to support the backed firm's project (fourth and eighth interview). New investors can improve the foreign markets approach. National VCs may syndicate investments with foreign VCs from foreign markets, which can bring some advantages abroad. With these kinds of activities, VCs are able to bring in not only international funds, but also international knowledge and important local networks (e.g., connections with customers, suppliers, distributors, ...) (fourth interview).

Additionally, VCs might find other institutions to syndicate investments, such as banks or private investors (fifth and sixth interview), which might bring several advantages such as the board's heterogeneity or the compliance mechanisms.

Foreign markets analysis is another activity, in which VCs can be very important. For example, VCs are likely to develop some international activities, such as international visits (second interview). However, the international path is likely to be easier with prior experience. Actually, prior investments within foreign markets might benefit future investments in the same countries (second, third, seventh and eighth interview).

Some aspects assumed a higher importance, since they were mentioned more times than others. The backed firm's control and involvement on boards are some examples of that and it was possible to conclude that most of the VCs are likely to take a minor position in the share capital (third, fourth, fifth and sixth interview) and appoint one or two members to the backed firm's board, as NEDs (fourth, fifth, sixth and eighth interview).

Prior international investments were considered an important characteristic in the literature. However, the interviews deepen that issue – they considered that prior investments within foreign markets are likely to benefit future investments in the same markets (second, third, seventh and eighth interview).

VC's networks (personal and professional) were deeply analysed in the interviews, through a variety of perspectives. Mainly, these connections were approached within three main dimensions, which are their usefulness:

- 1 to appoint some industry experts to the backed firm's board, as NEDs (first interview)
- 2 to support other firms in the same industry (seventh interview)
- 3 to reach foreign VCs, in order to syndicate investments with them (fourth interview).

However, VC's personal connections were also one of the most commonly referred points and they might be useful to reach foreign stakeholders (first, fourth and seventh interview).

VCs might be likely to develop activities within foreign countries and they can assume a high importance, with a number of purposes. For example, VCs may visit foreign markets, in order to explore opportunities (second interview). Additionally, VCs can accompany the backed firms' management, and support them in international meetings (third and seventh interview).

6 Quantitative analysis

This study includes 35 backed firms and 95 non-backed firms. Regarding the characteristics of the sample, it was noticeable that almost 60% of the inquired companies were service-providers (e.g., health, education, banking, tourism, etc.). However, there are more types of firms in the sample, such as those belonging to the industrial activities or agriculture, and these ones were product-providers.

6.1 Hypothesis testing

Regarding this method, two-tailed t-tests (comparing means) were executed. It aimed at providing a comparison between backed firms and non-backed firms, not only with the analysis of the internationalisation constraints but also approaching their degree of internationalisation (under the different perspectives).

The aforementioned perspectives were the export profits and the export sales. Although many internationalisation constraints were analysed through the hypothesis testing, just one of these tests rejected H_0 . For this test, the null hypothesis considered

similar ‘return on assets’ (ROA) for both types of firms and the alternative hypothesis considered different ROA for each.

Table 4 Hypothesis testing (resume)

<i>Variables</i>	<i>Hypothesis</i>	<i>Results</i>	Significance level = 5%
Analyse foreign markets and contact stakeholders overseas – intelligence generation (backed vs. non-backed)	H1.0: Difficulties analysing foreign markets and contacting stakeholders overseas (intelligence generation) are the same for backed firms and non-backed firms.	H0 is not rejected.	
Managerial expertise (backed vs. non-backed)	H2.0: Lacks of managerial expertise are the same for backed firms and non-backed firms.	H0 is not rejected.	
Exports-related managerial expertise (backed vs. non-backed)	H3.0: Lacks of exports-related managerial expertise are the same for backed firms and non-backed firms.	H0 is not rejected.	
Cash conversion cycle	H4.0: The cash conversion cycle (CCC) is the same for backed firms and non-backed firms	H0 is not rejected.	
Return on assets (ROA)	H5.0: The return on assets (ROA) is similar between backed firms and non-backed firms.	H0 is rejected.	
	H6.0: The return on assets (ROA) is similar between backed firms and non-backed firms.	H0 is rejected.	
International product development	H7.0: International product constraints are the same for backed firms and non-backed firms.	H0 is not rejected.	
Degree of internationalization (measured by the marketing policies)	H8.0: Degree of internationalization (under the perspective of the marketing policies) is the same for backed firms and non-backed firms.	H0 is not rejected.	
Degree of internationalization (measured by exports profits)	H9.0: Degree of internationalization (under the perspective of the marketing policies) is the same for backed firms and non-backed firms.	H0 is not rejected.	
		H0 is not rejected.	
Degree of internationalization (under the perspective of the exports sales)	H10.0: Degree of internationalization (under the perspective of the exports sales) is the same for backed firms and non-backed firms.	H0 is not rejected.	

Table 5 Independent samples test

		<i>Levene test</i>		<i>T test</i>			
		<i>F</i>	<i>Sig.</i>	<i>t</i>	<i>df</i>	<i>Sig. (2-tailed)</i>	<i>Mean difference</i>
ROA	Equal variances assumed	0.500	0.481	-3.347	128	0.001	-0.516
	Equal variances not assumed			-3.469	65.144	0.001	-0.516

Note: Significance level = 5%

From the examination of the Table 5, this variable is likely to be different for backed firms and non-backed firms and H₀ is rejected [p-value (0.001) < 0.05]. Consequently, considering that the H₀ is rejected, the differences between backed firms and non-backed firms must be considered and the difference of means (between both populations) is one of the directions to follow (Jones and Tukey, 2000). Concerning this additional test (one-tailed or differences of means), the H₀ is the same and the alternative hypothesis considers that ROA is higher for non-backed firms than is the case for backed-firms.

However, in case of a one-tailed test, the p -value_(two-tailed) must be divided in two equal parts to obtain the suitable one for this kind of tests:

$$p\text{-value}_{(\text{one-tailed})} = p\text{-value}_{(\text{two-tailed})} / 2 = (0.001) / 2 = 0.0005 < 0.05.$$

According to these results, the H_0 is rejected, which means that the return on assets (ROA) is likely to be higher for non-backed firms than it is for backed firms. Thus, through this comparison between both types of firms, it seems that the VCs' financial intervention may not have as relevant a role, at least, considering their return on assets. This result can be considered unexpected. However, it is not completely surprising, since Fredriksen et al. (1997) had already found a negative relation between the VCs' intervention and the companies' performance, maybe because the main intervention is executed when the companies need the most.

7 Structural model regression

7.1 Construct reliability and validity

The first step in the empirical analysis was the evaluation of the criteria for the convergent validity and internal consistency of the model. In this study, it was possible to evaluate those criteria and the ones approached are the Cronbach's alpha, the composite reliability (CR) and the average variance extracted (AVE).

CR should be greater than AVE, and the AVE should be greater than 0.5. In terms of the Cronbach's alpha, the coefficient should be higher than 0.7 (Kline, 2015). Thus, through the analysis of the Table 6, it is easily understandable that both variables fit these ranges of values. However, in the Table 6, just two variables were considered, since these are the ones measured by reflective indicators, which can examine the same underlying phenomenon (Chin, 1998). Additionally, those indicators are likely to reflect the effect of the variable they are measuring, which are the 'IPM' and 'ManExp', above indicated.

Table 6 Construct reliability and validity

	<i>Cronbach's alpha</i>	<i>Composite reliability</i>	<i>Average variance extracted (AVE)</i>
IPM	0.852	0.906	0.764
ManExp	0.928	0.937	0.516

7.2 Model regression

Regarding the model regression, the relations between exogenous and endogenous variables were analysed via *bootstrapping*. In fact, it aimed to approach the relevance of the VCs' intervention (exogenous) in the internationalisation constraints (endogenous). Additionally, the degree of internationalisation was also considered, in order to reach a better understanding on how these VCs' interventions would affect the firm's international dimension. However, for this regression, only backed firms were included in the sample.

Table 7 Model regression (via bootstrapping)

<i>Number</i>	<i>Relations</i>	<i>Original sample</i>	<i>Sample mean</i>	<i>Standard deviation</i>	<i>T statistics</i>	<i>P values</i>
1	IPM → MktPol	0.329	0.170	0.325	1.014	0.311
2	ManExp → ExpProf	-0.277	-0.279	0.087	3.175	0.002
3	ManExp → ExpSal	-0.195	-0.195	0.101	1.937	0.053
4	ManExp → MktPol	-0.304	-0.280	0.254	1.193	0.234
5	a → CCC	0.167	0.166	0.096	1.743	0.082
6	a → ROA	-0.209	-0.205	0.108	1.942	0.053
7	b → ManExp	-0.285	-0.281	0.100	2.852	0.005
8	b → CCC	-0.202	-0.196	0.120	1.678	0.094
9	b → ROA	-0.132	-0.131	0.072	1.826	0.068
10	CCC → ExpProf	0.189	0.181	0.088	2.149	0.032
11	CCC → ExpSal	0.132	0.122	0.095	1.384	0.167
12	e → IPM	-0.102	-0.111	0.118	0.859	0.391
13	f → IPM	0.344	0.375	0.157	2.193	0.029
14	g → ManExp	0.149	0.137	0.104	1.435	0.152
15	i → IPM	-0.238	-0.259	0.154	1.550	0.122
16	ROA → ExpProf	0.250	0.251	0.076	3.283	0.001
17	ROA → ExpSal	0.155	0.156	0.081	1.923	0.055

In this analysis (Table 7), the p-value was the criteria to assure the significance of each relation. Considering a significance level of 5%, each relation is significant if its p-value is lower than 0.05. There are some significant relations, which may deserve some attention. Thus, from the examination of the Table 7, the most relevant variables are the following: 'b' (inclusion of industry experts in the venture's board as non-executive directors – NEDs); 'f' (search for new capital investors); 'CCC' ('cash conversion cycle' – time lag between expenditure for the purchases of raw materials and the collection of sales of finished goods); 'DoI(ExpProf)' (degree of internationalisation, measured through the exports profits); 'ManExp' (general managerial capabilities – managerial expertise); 'ROA' (return on assets) and 'IPM' (international product development). There are two main relations considering VC intervention: search for new capital investors has a positive impact on international product development; and the inclusion of industry experts has a negative impact on the lack of managerial expertise, which has a negative impact on export profits. Hence, the inclusion of industry experts has an indirect positive impact on the degree of internationalisation.

Concerning this relation, the degree of internationalisation includes both dimensions, which are the export profits and the export sales. The first part of this connection is between the inclusion of industry experts and the lack of managerial expertise. According to the results, the first one is likely to have a positive effect on the backed firms' lack of managerial expertise and those results are supporting the expectable ones. With these results, a new connection may be established between the inclusion of this kind of human resource and the decrease in the backed firm's managerial lacks. On the other hand, the second part of this relation is between the lack of managerial expertise and the degree of internationalisation. From the examination of the Table 7, it is understandable that there

is an effect of the lacks in the managerial expertise on the degree of internationalisation, either measured by the export profits or export sales. Actually, these results point out in the direction of the expected ones, since a decrease in the lack of managerial expertise is likely to increase the degree of internationalisation. In short, considering this second relation (inclusion of industry experts as NEDs → lack of managerial expertise → degree of internationalisation), it is noticeable an indirect effect of the industry experts (in the backed firm's board) on the internationalisation and it is mediated through the firm's managerial expertise. In other words, an increase in the industry experts can create a decrease in the managerial insufficiencies, which may be associated with a higher degree of internationalisation.

8 Discussion and conclusions

Concerning the interview outcomes (qualitative data), VCs are likely to develop a number of important activities, supporting their backed firms within foreign markets, through a range of transversal dimensions, such as the VC's connections, their international activities or their involvement on the venture's board. In fact, board involvement was considered a significant point in this study. Fried et al. (1998) highlight this subject and this investigation's outcomes point in same direction. According to Fried et al. (1998), backed firm's boards are likely to present a greater involvement in strategical development than non-backed firms. Although most of the VCs take a minor position in the share capital, they are likely to appoint one or two members to the backed firm's board, as NEDs. Additionally, the venture's management teams may be switched. This idea was presented, not only through the appointment of NEDs, but also through the VC's influence (in some cases), appointing some of the 'C-level positions' to the backed firm's board (typically CEO or CFO).

Prior international investments and regulation were some other relevant aspects in this study's results. Actually, some negotiation obstacles may be easier to overcome in foreign markets (Sorenson and Stuart, 2001). Although the qualitative data agreed with this evidence, it went further. Prior investments within foreign markets are likely to benefit future projects in the same countries. Regarding the regulatory conditions, VC's may be able to anticipate regulatory changes within foreign markets (Guler and Guillén, 2010). In the qualitative data, the same trend was supported. According to this part of the study, some industries and markets have tougher regulatory conditions and VCs might be able to analyse them, for example, through a comparison with other backed firms operating within the same markets.

Regarding the VC's professional and personal networks, these might be useful, for a number of reasons:

- 1 supporting firms in the same industry
- 2 appointing some industry experts for the backed firm's board, as NEDs
- 3 reaching foreign VCs, in order to syndicate investments with them.

Arthurs and Busenitz (2006) considered that VCs might be able to bring in experienced senior managers and they may be recruited, through the VC's partner networks (personal connections). In fact, according to the first interview, the VC's connections have the

potential to bring increased value to the venture's board, in terms of the industry knowledge. Additionally, human resources policies were also referred previously in the literature (Hellmann and Puri, 2002) through two main examples: the adoption of a stock options plan or the recruitment process, based on VC's networks. In the qualitative data, this evidence was corroborated, since VCs might be important either in the recruitment process or in the implementation of some human resource policies, illustrated with an adoption of a stock options plan. The interaction with other backed firms in the same industry might also be important, in order to share experiences or avoid obstacles and the international path may be easier to navigate for new ventures. Industry knowledge from ongoing investments in the same industry was also pointed out by the literature review (Sorenson and Stuart, 2001) and supported by VCs. In reality, both proveniences considered these kinds of investments as an important mean to establish valuable ties within the industry (e.g., suppliers or customers). Syndicated investments were also considered in this study. Actually, the international syndicated investments were highlighted as another example in which VC's networks may be essential, either in terms of industry knowledge or market knowledge. Further, syndicate investments with local VCs may be a useful method, in order to be aware of the specificities of foreign markets (Czinkota and Ronkainen, 2001). In terms of these local syndicate partners, their advantages were recognised by VCs (LiPuma, 2014). However, the qualitative data deepened this aspect, exploring the usefulness of these local partners.

With the purpose of reaching a better understanding of the foreign market's characteristics, VCs can develop activities, within these markets where their backed firms will operate. In the literature, VCs present a high importance for reaching foreign potential customers and suppliers (Gorman and Sahlman, 1989; Schildt et al., 2005). In reality, the qualitative data revealed some relevant information concerning the internationalisation process of new ventures. VCs are likely to visit foreign markets, with the purpose of exploring their business opportunities and knowing the principal local stakeholders.

In short, according to the qualitative data, VCs are likely to have an important role in the international path of their backed firms, mainly, in terms of the involvement in the new venture's board, networks and international activities. In reality, new ventures might have some important advantages operating internationally with VC-backing.

On the other hand, the quantitative data aimed to provide an approach about the INVs' perspective, regarding the international path. In other words, this perspective intended to compare backed and non-backed firms to understand the real importance of the venture capital backing. While the VC's perspective gives some relevance to their intervention for new ventures, the INV's perspective does not point in the same direction, regarding the comparison between non-backed and backed firms, overcoming the international constraints. In other words, the venture capital is not considered important to overcome barriers overseas, either financially or strategically. Contrarily to the outcomes from the interviews with VCs, the quantitative results suggest that the VC's support may not be so important to overcome the international constraints. Taking these different perspectives into account, it is extremely important to establish a clear analysis as to the real effects of the VCs' interventions in their backed firms operations abroad.

Comparing backed and non-backed firms, they present on average different returns on assets, surprisingly backed firms have the smaller ROA. Nevertheless, concerning the

structural model regression from the quantitative analysis, which evaluates the impact of the intervention level on internationalisation, we see that the inclusion of some industry experts in the new venture's board is a particularly significant point. In reality, it can be extremely important (strategically and financially) and VCs may try to establish some connections with these kinds of experts, in order to bring them onto the venture's board. According to the results, the industry experts are related to the decrease in the backed firms' deficiencies in managerial expertise. This VC intervention may also be important in shortening the time lag between purchases and sales, which is the cash conversion cycle (CCC). Hence, taking these results into account, it is easily understandable that product-sellers may take more benefits from the venture capital backing, comparing with service-sellers, for example. Furthermore, this finding can be even more significant for INVs with long production cycles. In short, the regression has shown a relationship between the VCs' intervention and internationalisation. VCs may bring valuable benefits from the connections with industry experts. Thus, some efforts should be made to establishing connections with this type of industry-related expertise, since they will be extremely important for backed firms.

However, venture capital intervention is not considered so important to overcome internationalisation barriers, either financially or strategically, as the venture capitalists may claim.

This dissonance is very significant because it presents a gap in this market, VCs offer some support to INV, however this SME are either unaware of this possibility or choose not to take advantage of what is available. This presents serious implications, and urges us to explore more deeply, to discover what may be failing: maybe the VCs' support is not well adapted to backed-firms, maybe VCs do not know the real needs of the backed firms or they do not communicate clearly enough what they have to offer.

This study is the first one comparing the VC's perspective with the backed firm's perspective and the recognition of this dissonance is our main contribution.

This study presents several limitations, which will be looked at, in order to obtain a better understanding of the venture capital market, analysed throughout the study. The sample (VCs) was not perfectly homogeneous. Some of these Portuguese VCs have a different scope, in terms of their backed firm's profile. Some of the firms were not within their first stage of development. However, all of the VC's information might be considered valuable, since the VC's intervention may be useful in different occasions with alternative backed firms. Another limitation is the origin of the VC's funds. Some of them might come from different proveniences and the VC can be 'obliged' to develop specific types of activities, according to the stipulations of the resource providers. In these situations, the VC's intervention (for example, in terms of the international activities) and their decisions may be shared with different players or investors. In regards to the future line of research, the relationship between internationalisation and the managerial expertise (industry experts) should be analysed. This work provides some information about the connection between these two variables. However, the reason behind this concept is not completely clear in this study. Hence, it is pertinent to uncover further explanations for these results. It is equally urgent to understand why VCs believe they are helping backed-firms to internationalise and why backed-firms do not have the same vision – how can we come to terms or overcome this apparent dissonance?

References

- Abrahamsson, J. and Isaksson, I. (2018) 'The knowledge-based resources of venture capital firms' and born global firms' internationalization', *ASEAN Journal of Management & Innovation*, Vol. 5, No. 1, pp.30–46.
- Arthurs, J.D. and Busenitz, L.W. (2006) 'Dynamic capabilities and venture performance: the effects of venture capitalists', *Journal of Business Venturing*, Vol. 21, No. 2, pp.195–215.
- Bachher, J.S. and Guild, P.D. (1996) 'Financing early stage technology based companies: investment criteria used by investors', *Frontiers of Entrepreneurship Research*, pp.363–376, Babson College, Wellesley, MA, USA.
- Baxter, P. and Jack, S. (2008) 'Qualitative case study methodology: study design and implementation for novice researchers', *The Qualitative Report*, Vol. 3, No. 4, pp.544–559.
- Bresciani, S. and Ferraris, A. (2014) 'The localization choice of multinational firms' R&D centers: a survey in the Piedmont area', *Journal of Promotion Management*, Vol. 20, No. 4, pp.481–499.
- Bronzini, R., Caramellino, G. and Magri, S. (2017) *Venture Capitalists at Work: What are the Effects on the Firms They Finance?*, Bank of Italy Temi di Discussione (Working Paper), No. 113 [online] <https://ssrn.com/abstract=3048277> (accessed 20 August 2018).
- Cavusgil, S.T. (1984) 'Differences among exporting firms based on their degree of internationalization', *Journal of business research*, Vol. 12, No. 2, pp.195–208.
- Chandler, G.N. and Hanks, S.H. (1994) 'Founder competence, the environment, and venture performance', *Entrepreneurship: Theory and Practice*, Vol. 8, No. 3, pp.77–90.
- Chin, W.W. (1998) 'Commentary: issues and opinion on structural equation modeling: JSTOR', *Management Information Systems Quarterly*, Vol. 22, No. 1, pp.7–16.
- Cooper, A.C. and Daily, C.M. (1996) *Entrepreneurial Teams*, Krannert Graduate School of Management, Institute for Research in the Behavioral, Economic, and Management Sciences, Purdue University, West Lafayette, IN.
- Creswell, J.W., Hanson, W.E., Plano, V.L.C. and Morales, A. (2007) 'Qualitative research designs: Selection and implementation', *The Counseling Psychologist*, Vol. 35, No. 2, pp.236–264.
- Czinkota, M.R. and Ronkainen, I.A. (2001) *Best Practices in International Business*, Harcourt College Publishers, Fort Worth, TX.
- Eisenhardt, K.M. (1989) 'Building theories from case study research', *Academy of Management Review*, Vol. 4, No. 4, pp.532–550.
- Ferraris, A. (2014) 'Rethinking the literature on 'multiple embeddedness' and subsidiary-specific advantages', *Multinational Business Review*, Vol. 22, No. 1, pp.15–33.
- Ferraris, A., Bresciani, S. and Giudice, M. (2016) 'International diversification and firm performance: a four-stage model', *EuroMed Journal of Business*, Vol. 11, No. 3, pp.362–375.
- Ferraris, A., Santoro, G. and Dezi, L. (2017) 'How MNC's subsidiaries may improve their innovative performance? The role of external sources and knowledge management capabilities', *Journal of Knowledge Management*, Vol. 21, No. 3, pp.540–552.
- Filatotchev, I., Liu, X., Buck, T. and Wright, M. (2009) 'The export orientation and export performance of high-technology SMEs in emerging markets: the effects of knowledge transfer by returnee entrepreneurs', *Journal of international business studies*, Vol. 40, No.6, pp.1005–1021.
- Fischer, M.M. and Varga, A. (2002) 'Technological innovation and interfirm cooperation: an exploratory analysis using survey data from manufacturing firms in the metropolitan region of Vienna', *International Journal of Technology Management*, Vol. 24, Nos. 7–8, pp.724–742.

- Fredriksen, Ö., Olofsson, C. and Wahlbin, C. (1997) 'Are venture capitalists firefighters? A study of the influence and impact of venture capital firms', *Technovation*, Vol. 17, No. 9, pp.503–511, pp.531–532.
- Fried, V.H., Bruton, G.D. and Hisrich, R.D. (1998) 'Strategy and the board of directors in venture capital-backed firms', *Journal of Business Venturing*, Vol. 13, No. 6, pp.493–503.
- Gompers, P. and Lerner, J. (2001) 'The venture capital revolution', *The Journal of Economic Perspectives*, Vol. 15, No. 2, pp.145–168.
- Gorman, M. and Sahlman, W.A. (1989) 'What do venture capitalists do?', *Journal of Business Venturing*, Vol. 4, No. 4, pp.231–248.
- Graves, C.R. and Seet, P.S. (2017) 'Internationalization through investor, advisory board, and accountant networks: an exploratory study of Australian SMEs', in Thirawat, N. (Ed.): *Internationalization and Managing Networks in the Asia Pacific*, pp.143–168, Chandos Publishing, Adelaide, SA, Australia
- Guler, I. and Guillén, M.F. (2010) 'Institutions and the internationalization of US venture capital firms', *Journal of International Business Studies*, Vol. 41, No. 2, pp.185–205.
- Hall, B.J. and Murphy, K.J. (2002) 'Stock options for undiversified executives', *Journal of Accounting and Economics*, Vol. 33, No. 1, pp.3–42.
- Hellmann, T. and Puri, M. (2000) 'The interaction between product market and financing strategy: the role of venture capital', *Review of Financial Studies*, Vol. 13, No. 4, pp.959–984.
- Hellmann, T. and Puri, M. (2002) 'Venture capital and the professionalization of start-up firms: empirical evidence', *The Journal of Finance*, Vol. 57, No. 1, pp.169–197.
- Howell, S.T. (2015) *Financing Constraints as Barriers to Innovation: Evidence from R&D Grants to Energy Startups* [online] https://economics.yale.edu/sites/default/files/howell_innovation_finance_jmp_jan7.pdf.
- Jaworski, B. and Kohli, A. (1993) 'Market orientation: antecedents and consequences', *The Journal of Marketing*, Vol. 57, No. 3, pp.53–70.
- Jones, L.V. and Tukey, J.W. (2000) 'A sensible formulation of the significance test', *Psychological Methods*, Vol. 5, No. 4, p.411.
- Kenney, M., Han, K. and Tanaka, S. (2004) 'Venture capital industries', in Yusuf, S. (Ed.): *Global Change and East Asian Policy Initiatives*, pp.391–427, World Bank, Washington, DC.
- Kline, R.B. (2015) *Principles and Practice of Structural Equation Modeling*, Guilford Publications, New York.
- Leonidou, L.C. (2004) 'An analysis of the barriers hindering small business export development', *Journal of Small Business Management*, Vol. 42, pp.279–302.
- LiPuma, J.A. (2014) 'Venture capital and international entrepreneurship', in Fernhaber, S.A. and Prashantham, S. (Eds.): *The Routledge Companion to International Entrepreneurship*, pp.186–202, Routledge, New York, NY.
- Lowry, P.B. and Gaskin, J. (2014) 'Partial least squares (PLS) structural equation modeling (SEM) for building and testing behavioral causal theory: When to choose it and how to use it'. *IEEE Transactions on Professional Communication*, Vol. 57, No. 2, pp.123–146.
- Lu, Y., Zhou, L., Bruton, G. and Li, W. (2010) 'Capabilities as a mediator linking resources and the international performance of entrepreneurial firms in an emerging economy', *Journal of International Business Studies*, Vol. 41, No. 3, pp.419–436.
- Lutz, E. and George, G. (2012) 'Venture capitalists' role in new venture internationalization', *The Journal of Private Equity*, Winter, pp.1–16.
- Marôco, J. (2010) *Análise de equações estruturais: Fundamentos teóricos, software & aplicações*, ReportNumber, Pero Pinheiro.

- Moini, A.H. (1997) 'Barriers inhibiting export performance of small and medium-sized manufacturing firms', *Journal of Global Marketing*, Vol. 10, No.4, pp.67–93.
- Mudambi, R. and Zahra, S.A. (2018) 'The survival of international new ventures', in Reuber, A.R. et al. (Eds.): *International Entrepreneurship: The Pursuit of Opportunities across National Borders*, pp.85–130, Springer, Toronto, ON, Canada.
- Oviatt, B.M. and McDougall, P.P. (1994) 'Toward a theory of international new ventures', *Journal of International Business Studies*, Vol. 25, No. 1, pp.45–64.
- Padachi, K. (2006) 'Trends in working capital management and its impact on firms' performance: an analysis of Mauritian small manufacturing firms', *International Review of Business Research Papers*, Vol. 2, No. 2, pp.45–58.
- Prange, C., LiPuma, J.A. and Park, S. (2015) 'Venture capitalist and entrepreneur knowledge of new venture internationalization: a review of knowledge components', *International Small Business Journal*, Vol. 33, No. 8, pp.901–928.
- Rennie, M.W. (1993) 'Born global', *The McKinsey Quarterly*, Vol. 29, No. 4, pp.45–53.
- Rogers, M. (2004) 'Networks, firm size and innovation', *Small Business Economics*, Vol. 22, No. 2, pp.141–153.
- Sadler-Smith, E., Hampson, Y., Chaston, I. and Badger, B. (2003) 'Managerial behavior, entrepreneurial style, and small firm performance', *Journal of Small Business Management*, Vol. 41, No. 1, pp.47–67.
- Schildt, H.A., Maula, M.V. and Keil, T. (2005) 'Explorative and exploitative learning from external corporate ventures', *Entrepreneurship Theory and Practice*, Vol. 29, No. 4, pp.493–515.
- Sorenson, O. and Stuart, T.E. (2001) 'Syndication networks and the spatial distribution of venture capital investments 1', *American Journal of Sociology*, Vol. 106, No. 6, pp.1546–1588.
- Yin, R.K. (2015) *Qualitative Research from Start to Finish*, Guilford Publications, New York, NY.
- Zeng, S.X., Xie, X.M. and Tam, C.M. (2010) 'Relationship between cooperation networks and innovation performance of SMEs', *Technovation*, Vol. 30, No. 3, pp.181–194.

Appendix

Table 8 Survey (part 1)

<i>Part 1: Identification questions</i>			
<i>Number</i>	<i>Question</i>	<i>Type</i>	<i>Source</i>
1	Sector	Multiple choice (3 items)	-
2	Dimension (number of employees)	Multiple choice (4 items)	-
3	CAE (classification of the economic activities)	Free numerical entry	-
4	Region	Free text entry	-
5	Years of existence	Multiple choice (3 items)	-
6	Does the company develop any kind of international activities (e.g., sales, services or subsidiaries)?	Yes/No	-
7	When was the first international activity?	Multiple choice (3 items)	-
8	Is the company supported by venture capital funds?	Yes/No	-

Table 9 Survey (part 2)

<i>Part 2: VC's intervention</i>			
<i>Number</i>	<i>Question</i>	<i>Type</i>	<i>Source</i>
9.a	Inclusion of some members (generally, 1 or 2 members) in the venture's board as NEDs.	Yes/No	Qualitative data
9.b	Inclusion of industry experts in the venture's board as NEDs	Yes/No	Qualitative data
9.c	Recruitment based on the VC's connections.	Likert scale (7 items)	Qualitative data
9.d	Personal connections of VC's members.	Likert scale (7 items)	Qualitative data
9.e	Establishment of a partnership with local partner.	Yes/No	Qualitative data
9.f	Search for new capital investors – intros.	Likert scale (7 items)	Qualitative data
9.g	Syndicated investments with another VC.	Yes/No	Qualitative data
9.h	Syndicate investments with local VCs.	Yes/No	Qualitative data
9.i	Other backed firms in the same markets.	Likert scale (7 items)	Qualitative data
9.j	Acquire firms within countries of destination.	Yes/No	Qualitative data
9.l	Others:	Free text entry	-

Table 10 Survey (part 3)

<i>Part 3: Internationalisation constraints</i>			
<i>Number</i>	<i>Question</i>	<i>Type</i>	<i>Source</i>
10.a.1	Difficulties to meet with customers, at least once a year, to understand which are the products/services that they might need in the future.	Likert scale (7 items)	Jaworski and Kohli (1993)
10.a.2	Development of 'in-house' market research.	Likert scale (7 items)	
10.a.3	Period of time to detect changes in the preferences of our customers, in terms of the product/service.	Likert scale (7 items)	
10.a.4	Difficulties inquiring end users at least once a year to assess the quality of our products and services.	Likert scale (7 items)	
10.a.5	Difficulties in survey those who can influence our end users' purchases (e.g., retailers, distributors).	Likert scale (7 items)	
10.a.6	Difficulties collecting industry information through informal means (e.g., lunch with industry friends, talks with trade partners).	Likert scale (7 items)	
10.a.7	Time period to detect fundamental shifts in our industry (e.g., competition, technology, regulation).	Likert scale (7 items)	
10.a.8	Difficulties in reviewing (periodically) the likely effect of changes in the business environment (e.g., regulation) on customers.	Likert scale (7 items)	
10.b.1	When something important happens to a major customer or market, the whole business unit knows about it in a short period.	Likert scale (7 items)	
10.b.2	Data on customer satisfaction are disseminated at all levels in this business unit on a regular basis.	Likert scale (7 items)	

Table 10 Survey (part 3) (continued)

<i>Part 3: Internationalisation constraints</i>			
<i>Number</i>	<i>Question</i>	<i>Type</i>	<i>Source</i>
10.c.1	Negotiate contracts and agreements with internal and external providers of goods and services.	Likert scale (7 items)	Sadler-Smith et al. (2003)
10.c.2	Generate support and obtain resources for programs, projects and plans.	Likert scale (7 items)	
10.c.3	Negotiate and obtain agreement for programs, projects and plans.	Likert scale (7 items)	
10.c.4	Delegate responsibility and authority for areas of action within the organisation.	Likert scale (7 items)	
10.c.5	Provide professional and technical advice on preparing and implementing programs, projects and plans.	Likert scale (7 items)	
10.d.1	Identify problems and opportunities in products and services.	Likert scale (7 items)	Filatotchev et al. (2009)
10.d.2	Develop systems to review the organisation's external operating environment, identify customer needs and spot opportunities for product and service development.	Likert scale (7 items)	
10.d.3	Identify and evaluate existing and potential competitors and collaborators.	Likert scale (7 items)	
10.d.4	Create shared vision and develop a mission to give purpose to organisation.	Likert scale (7 items)	
10.d.5	Formulate appropriate objectives and strategies to guide organisation.	Likert scale (7 items)	
10.e.1	Identify current and likely future interests of stakeholders.	Likert scale (7 items)	
10.e.2	Evaluate and influence stakeholder's capabilities to help or hinder achievement of organisation's objectives.	Likert scale (7 items)	
10.e.3	Evaluate and respond appropriately to changes in political, legal, regulatory and trading environments.	Likert scale (7 items)	
10.e.4	Develop systems to review the generation and allocation of financial resources.	Likert scale (7 items)	
10.f.1	To what extent the difficulties obtaining knowledge abroad is a constraint, in terms of new technological ideas?	Likert scale (7 items)	
10.f.2	To what extent the difficulties obtaining knowledge abroad is a constraint, in terms of new business ideas and opportunities?	Likert scale (7 items)	
10.f.3	To what extent the difficulties obtaining knowledge abroad is a constraint, in terms of new marketing knowledge?	Likert scale (7 items)	
10.f.4	To what extent the difficulties obtaining knowledge abroad is a constraint, in terms of new financial knowledge?	Likert scale (7 items)	
10.g	Did the entrepreneur work for a multinational corporation (MNC)?	Yes/No	
10.h.1	To what extent the difficulties establishing networks abroad were considered a constraint?	Likert scale (7 items)	
10.h.2	To what extent the difficulties maintaining contacts with local people were considered a constraint?	Likert scale (7 items)	
10.h.3	To what extent the difficulties participating in business associations abroad were considered a constraint?	Likert scale (7 items)	

Table 10 Survey (part 3) (continued)

<i>Part 3: Internationalisation constraints</i>			
<i>Number</i>	<i>Question</i>	<i>Type</i>	<i>Source</i>
10.i.1	To what extent the time lag between expenditure for the purchases of raw materials and the collection of sales of finished goods was a constraint?	Likert scale (7 items)	Padachi (2006)
10.i.2	In the first stage of investment, how was the profit's weight in the assets?	Multiple choice (3 items)	
10.j.1	To what extent adapting products for foreign markets was a constraint?	Likert scale (7 items)	Moini (1997)
10.j.2	To what extent the provision of repair services overseas was a constraint?	Likert scale (7 items)	
10.j.3	To what extent the provision of technical advice overseas was a constraint?	Likert scale (7 items)	

Table 11 Survey (part 4)

<i>Part 4: Degree of internationalisation</i>			
<i>Number</i>	<i>Question</i>	<i>Type</i>	<i>Source</i>
11	Export sales as a percentage number of the total company sales.	Multiple choice (3 items)	Cavusgil (1984)
12	Principal export product is the same product sold domestically?	Yes/No	
13	Organisational arrangement used for exports is a special export division?	Yes/No	
14	Major export channel includes a foreign distributor?	Yes/No	
15	Face-to-face contacts with foreign distributors take place:	Multiple choice (4 items)	
16	Support provided for distributors includes:	Multiple choice (3 items)	
17	Profits derived from exporting as a percentage of total company profits.	Multiple choice (4 items)	
18	Foreign market research is perceived to be equally as important as domestic market research.	Multiple choice (3 items)	
19	Analysing foreign market opportunities is a frequent task (conducted several times a year).	Yes/No	
20	Foreign market opportunity analysis is a fairly formalised process with written reports.	Yes/No	
21	Computerised data bases are regularly used in foreign market opportunity analysis.	Yes/No	
22	The task is perceived to be complex and requires a high level of data analysis.	Yes/No	

Table 11 Survey (part 4) (continued)

<i>Part 4: Degree of internationalisation</i>			
<i>Number</i>	<i>Question</i>	<i>Type</i>	<i>Source</i>
23	The most important source of data used in foreign market research is:		
23.a	Government	Likert scale (7 items)	
23.b	Industry/business	Likert scale (7 items)	
23.c	Publications and reports	Likert scale (7 items)	
23.d	Other firms	Likert scale (7 items)	
23.e	Internal company	Likert scale (7 items)	
23.f	VCs (if applicable)	Likert scale (7 items)	
23.g	Other	Free text entry	
24	The most important problem associated to the foreign market data is:		
24.a	Too broad to be useful	Likert scale (7 items)	
24.b	Not reliable	Likert scale (7 items)	
24.c	Biased	Likert scale (7 items)	
24.d	Out of date	Likert Scale (7 items)	