

SME growth speed: The relationship with board capital*

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1. Introduction

The productive fabric in many developed economies depends on small and medium-sized enterprises (SMEs), making their evolution and growth an area of interest for researchers, governments and policy makers alike (Parker, 2018; Robson & Bennett, 2000). More specifically, SMEs are the backbone of Europe's economy. They represent 99% of all businesses in the EU. In the past five years, they have created around 85% of new jobs and the European Commission (2019) considers them as key to ensuring economic growth and innovation.

Prior conceptual frameworks have attempted to capture aspects of SME growth (Dobbs & Hamilton, 2007) explaining the relative importance of two alternatives: “industry structure” and “strategic choice” (O’ Gorman, 2001). The first explanation suggests that the principal determinant of growth lies in the structural characteristics of the industry (Eisenhardt & Schoonhoven, 1990). Conversely, the second explanation argues that SME growth is the result of the strategic choice made by managers (Hambrick & Mason, 1984). More recently, other research (Rasmussen et al., 2018) suggests that firm’s growth intentions constitute an essential predictor of its growth, together with market opportunities and access to resources and capabilities (Stenholm, 2011; Stenholm & Toivonen 2009). This line of research argues that a firm’s growth intentions, that is, its goals and plans for growth, are jointly developed by the top management and board of directors of a company (Lynall et al. 2003; Wiklund & Shepherd, 2003; Zahra & Pearce, 1989). In line with this perspective, and with Penrose’s seminal work (1959), we argue that growth of SMEs is the result of the decisions made by the company’s corporate governance, decisions that are highly influenced by the directors' characteristics (Barroso-Castro et al., 2017; Johnson et al., 2013; Pérez-Calero et al., 2016).

In recent years, governance research has extended from large firms to studies of SMEs (Arzubiaga et al., 2018a; De Cleyn & Braet, 2012; Huse, 2000) in which the governing bodies are less efficient. Identifying which characteristics and behaviors determine an efficient board constitutes one of the most outstanding questions in corporate governance (Nicholson & Kiel, 2004; Schmidt & Brauer, 2006); even more so if we focus on growth-oriented SMEs (Rasmussen et al., 2018). However, we have only a limited understanding of the role of the board in SMEs (Salloum et al., 2013) and how the board (Rasmussen et al., 2018) and the directors’ characteristics (Johnson et

al., 2013) may affect their growth. Thus, previous research has been centred on the study of family firms (Basco & Voordeckers, 2015; Cabrera-Suárez & Martin-Santana, 2015; García Ramos & Garcia-Olalla, 2011; Samara & Berbegal-Mirabent, 2018), which in many cases are not SMEs, and on analysing the variables of the structure and composition of the board (De Cleyn & Braet, 2012) such as the presence of external directors or board size (Arosa et al, 2013; Fiegner et al, 2000; Martin-Ugedo & Minguéz Vera, 2014; Rasmussen et al, 2018; Salloum et al, 2013; Samara & Berbegal-Mirabent, 2018; Shehata, Salhin & El-Helaly, 2017). However, it has not analysed how ‘board capital’ can influence the speed of growth of SMEs. This is a question of enormous interest as ‘board capital’ is what facilitates this governing body having enough capacity to effectively develop its functions (Pérez-Calero et al, 2016) and, therefore, to set objectives and make plans to grow (Rasmussen et al, 2018).

The novelty of this study resides in considering that board capital is a valuable and versatile resource (Nason & Wiklund, 2018) and furthermore let to access to other external resources to the firm which are fundamental to achieve growth speed in SME. Second, we analyze this relationship on growth-oriented SME context relatively overlooked by the literature (Rasmussen et al., 2018).

In this study, we adopt the resource-based view (RBV) (Barney, 1991; Eisenhardt & Martin, 2000), the resource dependency perspective (Hillman et al, 2009; Pfeffer & Salancik, 1978) and the penrosean theory (Nason & Wiklund, 2018; Penrose, 1955) to argue that directors’ characteristics, that is, the firm’s board capital, provide the resources required for SMEs (Sciascia et al, 2013) to achieve a higher growth rate (El Shoubaki et al, 2019). Board capital consists of human capital and relational capital (Hillman & Dalziel, 2003), and which we define as the set of knowledge and experience of the directors (Kor & Sundaramurthy, 2009). Board capital has been positively associated with the provision of advice and counsel, ensuring firm legitimacy and reputation, opening up access to channels of communication and the ability to acquire resources from outside the firm (Arzubiaga et al, 2018b). In addition and following the proposal of Nason & Wiklund (2018), we argue that board capital is a versatile resource (Penrose, 1959) that facilitates firm’s growth. A resource is versatile when it offers a wide range of possible use alternatives and has the necessary flexibility to adapt to environmental conditions, which allows taking advantage of new opportunities (Nason & Wiklund, 2018). This type of resources makes it easier for directors to undertake a greater variety of strategic actions (Kim & Bettis, 2014). And the knowledge and experience of the directors are the mechanisms through which the board contributes to making strategic decisions (Barroso-Castro et al, 2017) such as growing (Rasmussen et al, 2018). For SMEs, these characteristics are extremely relevant (Gao & Hafsi, 2015), as a board’s role in an SME is less regulated and more informal than in larger firms (Arzubiaga et al, 2018) and a board

can play an important role in overcoming the resource constraints of SMEs by providing access to skills, expertise, and networks (Omar et al, 2014).

Therefore, there are two key reasons for investigating how ‘board capital’ can influence the speed of SME growth in greater depth. First, the experience and knowledge of the board (Barroso et al, 2011; Hillman & Dalziel, 2003) are important and versatile resource to achieve growth in SMEs (El Shoubaki et al, 2019). This relationship has not been analysed in previous studies despite the differences identified in relation to corporate governance between large and small companies (Dalton et al., 1998; Sciascia et al., 2013). Second, an insight into the relationship between board capital and growth speed will enhance our understanding of the important antecedents to growth, in the rarely studied field of SMEs (Rasmussen et al., 2018). So, although there has undoubtedly been progress in our understanding of firm growth, mixed results cast a shadow of uncertainty (Shepherd & Wiklund, 2009) especially in the case of SMEs (Davidsson et al., 2005). The firm’s different resources have distinct characteristics when it comes to promoting their growth (Nason & Wiklund, 2018). As regards specific growth determinants, it deserves repeating that firm’s growth intentions constitute an essential predictor. Related to this, there is strong indication that human and relational capital factors, such as education and experience, lead to growth intentions (El Shoubaki et al., 2019) and that firms run by teams grow more on average than firms run by solo entrepreneurs (Davidsson et al., 2005). For all, research that increases our understanding of how the characteristics of directors affect the company’s speed of growth is of interest. Our main contribution is to point out board capital influence on the growth of SMEs, because it constitutes a valuable and versatile resource and let to access to other important resources for firm’s growth. Thank to integration of the directors’ characteristics, the firms get to access to new settings (new markets, new products or more complex structures) associated with growth. This is where we make our contribution. Specifically, and unlike other works (Arosa et al, 2013; Fiegner et al, 2000; Martin-Ugedo & Minguez Vera, 2014; Shehata et al., 2017), our study contributes to the corporate governance literature on SMEs by analysing relevant variables of the board (Functional diversity, Academic Level, Experience as CEO and International experience), which go beyond its structure and composition. Along with this, it goes deeply into the influence of this governing body on the speed of SME growth and not, as in the limited previous research, on their results (Basco & Voordeckers, 2015; Cabrera-Suárez & Martin-Santana, 2015; García Ramos & Garcia-Olalla, 2011).

Our research starts by arguing the relevance of the research topic and identifying the proposed objectives. Subsequently, we set out a set of hypotheses after which the analysis and discussion of the results achieved is presented.

2. Theory and hypotheses

Previous studies (Macus, 2008) have identified the board of directors as a resource and have indicated their active role in the results achieved by the company (Pugliese et al., 2009). This is particularly relevant in SMEs (Abor & Adjasi, 2007; Calabrò et al., 2009; Gabrielsson & Huse, 2010; Yar, 2016), because many of these firms are closely knit and governance issues are more interwoven than in large firms, where the separation of ownership and management is more clear-cut (Cowling, 2003; Schulze et al., 2003). Owners of small firms may be more concerned about firm survival and growth than retaining the short-term financial returns that are a core concern of shareholders in large firms. The different focus of interests may therefore affect how boards perform their tasks (Pugliese & Wenstøp, 2007). And in this sense, the SME board's role as a resource and services provider gains importance (Brunninge et al., 2007; Dalton et al., 1998, Sciascia et al., 2013). Accordingly, we argue that effective governance of small firms depends on the firm's capability of tapping into the board's knowledge and experience (Pugliese & Wenstøp, 2007).

As can be seen in the literature review (see Table 1), the studies conducted in this field are extremely scarce. Of the 14 studies analysed, only one of them (Bennet & Robson, 2004) focuses specifically on SMEs. These authors conclude that having members on the board, who have science or engineering degrees, is positively related to a firm's employment growth. But this paper does not analyse other relevant variables of the board's human and relational capital on growth. On the other hand, most of the works reviewed focus only on the figure of the outsiders (Chen et al., 2017; Kor & Sundaramurthy, 2009, Peng 2004; Rasmussen et al., 2018); while only some study international (Bloodgood et al., 1996) or functional experience (Jelic et al., 2019), or the role of interlocks (Florin et al., 2003) but not in SMEs. Finally, the generality of the studies analysed focuses on the theory of resource dependence, agency or stewardship; with almost none that use the arguments of the vision of resources and capabilities (Bloodgood et al., 1996) or the contributions of Penrose's theory to explain the relationship between a board and growth. Therefore, it is necessary to analyse the relationship among a board of directors, growth, and SMEs (Omar et al., 2014).

Insert Table 1 Here

The resource-based view argues that SME growth depends on the managerial resources available over time to plan and manage growth while at the same time developing current activities (Orser et al, 2000). A key aspect for SMEs is to generate the capacity that allows them to recognise the opportunities to grow in the "interstices" (Penrose, 1959, pp. 222-225) that are not exploited by large companies (Edelman et al., 2005).

According to the perspective of resources and capabilities (Barney, 1991; Eisenhardt & Martin, 2000), the company can achieve distinctive results thanks to the integration of directors's human and relational capital. Under their arguments, the directors' knowledge and abilities (Yar, 2016), as well as the combination (Kor & Sundaramurthy, 2009) and assimilation of this knowledge in the firm's processes, determine that the board can adequately develop their roles.

From the point of view of resource dependency perspective, directors provide access to essential resources through linkages to the external environment (Hillman et al., 2009; Pfeffer & Salancik, 1978). This perspective suggests that boards can provide two types of resources: first, board members bring specific knowledge and second, board members span boundaries and link the firm to a broader network. In the provision of resources, the role of the board involves both providing legitimacy to the company and advising and providing links with other institutions in order to facilitate the attainment of financial resources and generate external relations (Barroso et al., 2011)

So, directors increase the firm's ability to raise funds or increase its status and recognition. Furthermore, this perspective points to board diversity as a positive explanatory feature of firm performance (Bennett & Robson, 2004). Previous research, in light of the arguments of the resource dependency and agency theories (Hillman & Dalziel, 2003), point out that the board's capital (that is, human and relational capital), have a positive impact on the roles played by the board. Moreover, Hillman & Dalziel (2003) argues that in order to make the best decisions; directors need motivation and ability in the form of relevant experience, knowledge and skills (Tian et al., 2010).

Finally, according to penrosean theory, human and relational capital must be considered as versatile resources when they can easily be used in alternative settings. Following Nason & Wiklund (2018), education level, experience and diversity in the collective knowledge of the team, are versatile resources and will have a stronger impact on firm's growth.

Our position is that these director characteristics (knowledge and experience), that is, the firm's board capital; provide the resources required for SMEs (Sciascia et al., 2013) to achieve a higher growth rate (El Shoubaki et al., 2019). For this, an adequate mechanism is the integration of the knowledge and experiences accumulated by the directors with the firm's strategies (Barroso et al., 2011). Along with this, we argue that these resources are highly versatile, facilitating growth especially in the context of SMEs (Nason & Wiklund, 2018).

There are several reasons that justify the adequacy of the arguments presented for our study: (i) governance structures in SMEs in growth are less developed (Mallin & Ow-Yong, 1998), have a higher information asymmetry (Palacín-Sánchez & Pérez-López, 2016) and have management teams with more limited knowledge (Hendry, 2005), aspects that give the role of the board a greater import (Calabrò et al., 2009); (ii) for the growth of SMEs, the role of

the board as a provider of financial resources (Abor & Adjasi, 2007; Gabrielsson & Huse, 2010), knowledge and links with the environment, as well as increasing its legitimacy and reputation, is vital (Calabrò et al., 2009).

Functional diversity

Organisations have increasingly relied on cross-functional teams (Lovelace et al., 2001), composed of members with different backgrounds (Jelic et al., 2019; Keller, 2001; Tekleab et al., 2016). In this line, the functional dissimilarity among team members serves as the knowledgebase to generate diverse ideas and perspectives, which allows improving the quality of the team's performance (Roberson et al., 2017). So, with diverse boards, a broader set of alternatives is considered (Hillman, 2015).

According to the resource dependency perspective, one of the principal functions of a board of directors is to enable access to resources that can be deployed for environmental scanning and reacting to environmental uncertainty (Pfeffer & Salancik, 1978). For this, the functional diversity of the board can be particularly influential, since it promotes development of the company's capabilities that facilitate the response to the environment (Roberson et al., 2017). In sum, board functional diversity, that is, a board with directors with different functional backgrounds, suggest no-overlapping knowledge and expertise which makes possible a broader pool of resources from which to draw in making decisions and taking action (Bunderson & Sutcliffe, 2002).

On the other hand, a more diverse functional board will be able to reconcile the identification of new opportunities of the environment (exploration of resources), with the application of the knowledge learned thanks to the past strategies of the company (exploitation of resources) (Boeker, 1997; Virany et al., 1992). For a growth-oriented company, opening new markets or launching novel products (exploration of resources) (March, 1991; Rosenkopf & Nerkar, 2001) is as relevant as being efficient in its operations (exploitation of resources) (Beckman et al., 2004; March, 1991).

Given that the boards meet sporadically, a diverse composition from the functional point of view facilitates overcoming the possible barriers in the functioning of interdependent teams (Forbes & Milliken, 1999). For this reason, previous studies show the relevance of including directors with different areas of specialisation in SME boards. In this way, knowledge in financial areas enables them to better to fulfil their performance control responsibilities (Gabrielsson & Winlund, 2000). Similarly, the board's knowledge and capabilities in the field of production, products, marketing and markets can lead to more dynamic decision-making, which stimulates exports (Calabrò et al., 2009) and firm growth. A diverse board from the functional point of view can be extremely rich in skills and knowledge, thanks to the complementarity of the specific capacities of each director and that these are integrated into this

governing body (Bunderson & Sutcliffe; 2002). In addition, it will facilitate the generation of alternative ideas in the board (Minichilli & Hansen, 2007) and that a greater degree of effectiveness is achieved in their roles (Adobor, 2004). Finally, board functional diversity, as collective knowledge, is a versatile resource of the firm and will have a stronger impact on firm's growth (Nason & Wiklund, 2018). Board functional diversity could also be viewed as a source of division, leading to the formation of subgroups within the board. The development of subgroups can influence on the interaction and performance of the board, negatively affecting the board's decision-making process (Thatcher & Patel, 2012). But the formation of these possible subgroups is closely linked to the size of the board: in board with a small number of directors, it is complex for factions to be formed that negatively affect decision-making. Since SMEs are characterized by having small-sized boards, and taking into account all the previous arguments, we propose:

Hypothesis 1: The board's functional diversity and firm growth speed are positively related

Academic level

Human capital is defined as individuals' knowledge and capabilities that have been acquired through the accumulated experience and its level of education and training (Becker, 1993). At first, it is possible to think that the education of an individual forms his/her demographic characteristic. However, their level of education determines their abilities or capabilities (Johnson et al., 2013). Therefore, the board's academic level affects its ability to play its roles effectively, since it establishes the level of knowledge and skills that this governing body has at its disposal. For these reasons, we consider that it is part of the board's human capital. In this sense, the ability to find alternative solutions that allow for the response of the organisation's problems depends on the board's educational level (Wincent et al., 2009). Likewise, achieving a high level of effectiveness in the board's service function, a fundamental aspect for SMEs (Van den Heuvel et al., 2006), also depends on the level of knowledge and skills attained by its directors (Calabrò et al., 2009). On the contrary, a lack of training can generate problems in the firm's functioning (Bennett & Robson, 2004).

A high level of education provides additional human capital, since higher education facilitates the identification of innovative solutions (Wincent et al., 2009) in light of the firm's difficulties. Therefore, it can be considered as an asset for its operation (Barroso et al., 2011) and growth (Jelic et al., 2019). Directors with high educational levels will probably have a better knowledge to participate and make complex decisions in the company. Similarly, an openness to innovation and the educational level are issues that are related to each other (Wincent et al., 2009), with innovation being an essential aspect for growth-oriented SMEs. In short, to achieve the firm's growth both the capabilities and the skills of its human resources are crucial aspects (Bennet & Robson, 2004).

According to the resource-based view, skill and knowledge are very relevant resources for firm's decisions (Kor & Sundaramurthy, 2009). In addition, in the context of SMEs, the value of the versatility of these resources increases, given the small size of the board (De Cleyn & Braet, 2012) and the complexity and turbulence of their environment. These arguments allow us to propose:

Hypothesis 2: The academic level of the board is positively related to firm growth speed.

Experience as CEO

The CEO has the highest executive responsibility and is therefore used to taking decisions in a complex environment, is aware of the importance of organising the resources of the firm so that the top management works as a team (Sirmon et al., 2011) and has a general vision of the firm. The experience of the directors as general managers or CEOs of other firms is a valuable resource that facilitates their carrying out their strategic advisory role in the board (Barroso et al., 2011). According to the resource-based view, thanks to their experience as CEOs, the directors acquire essential knowledge to solve strategic problems (Barney, 1991). Integrated into the firm's resources experience as a CEO is an intangible resource that generates key competences and encourages the making of innovative decisions, necessary to achieve an orientation of the firms toward growth. From the knowledge perspective (Pugliese & Wenstøp, 2007) and to help solve the strategic problems of the firm, directors use the knowledge they have accumulated in their previous positions (Rindova, 1999; Zahra & Filatotchev, 2004). This is particularly important for growth-oriented firms (Calabrò et al., 2016; Yar, 2016), as their environment becomes increasingly complex.

According to the resource dependency perspective (Pfeffer & Salancik, 1978; Hillman et al., 2009) directors, thanks to their positions as CEOs of other companies, function as an instrument to provide access to information that allows detecting threats and identifying the firm's opportunities. CEOs are usually part of the business elites (Barroso et al., 2011), which facilitates the approach to essential resources (Jaw & Lin, 2009), increasing the possibilities of growth and reducing the bias in relation to the information gathered from the environment. Both issues are tremendously relevant in the case of SMEs (Gabrielsson & Huse, 2010). Cao et al. (2010) demonstrate that the CEO's network of internal and external relations has a positive effect on both the exploitation and exploration of resources, both of which are equally important for increasing SME growth (Beckman et al., 2004; Rosenkopf & Nerkar, 2001). These arguments allow us to propose:

Hypothesis 3: Board members' experience as CEO has a positive effect on firm growth speed.

International experience

Director's international experience includes both their work experience and training abroad (Barroso et al., 2011). Both are relevant resources for making strategic decisions (Kor & Sundaramurthy, 2009) such as growth; with a high degree of versatility that favours growth (Nason & Wiklund, 2018) of SMEs.

According to the resource-based view, directors with international experience have faced challenges to growth that require them to adapt to new cultures and environments acquiring tacit knowledge for the firm and its growth, which is the source of its competitive advantage (Barney, 1991).

According to the resource dependency perspective, directors with international experience, promote links with foreign companies, markets and institutions (Barroso et al., 2011). Through this, they facilitate the firm with both the capture and analysis of the information that they can receive from these external markets, making it easier to identify growth opportunities in new markets. Information therefore decreases uncertainty and slows the resistance to the firm making decisions related to growth in the international arena (Zahra et al., 2007).

In the same way, these directors can use their experience to identify growth opportunities for the firm (Barroso et al., 2011). Directors' education and international experience can therefore both be beneficial for firm growth. We therefore propose:

Hypothesis 4: The board's international experience and the speed of growth of the firm are positively related.

3. Methodology

Sample

The sample includes each and every firm listed on the MAB (the alternative Spanish stock market) in 2015, except one that had its quotation suspended. The final sample contains 235 directors from the 32 companies listed in 2015. Generally, the firms belong to highly innovative sectors. The MAB is mainly oriented to SMEs whose strategic objective is to expand. While Spain has only recently established this market, MAB is modelled on a number of markets that have been in existence for longer. Thus, in 1995 this type of market was born in London (AIM) and in 2005 in Paris (Altermex).

A crucial driving component for competitiveness, innovation and growth is having direct access to financial resources, especially for SMEs (Rostamkalaei & Freel, 2016). The first resource to which most SMEs turn is financial intermediaries. However, this method of financing is not only a very costly way of funding ambitious growth initiatives it also may be insufficient. The regulation, costs and admission processes embodied by the MAB might offer a solid option for SMEs. Simply accessing the MAB is a very new option for SMEs, which have traditionally been resistant to listing on the stock exchange, either for fear of losing shareholder control or because of their inability to meet the requirements for listing on the country's primary exchange.

Spanish boards distinguish themselves in a variety of ways from their European counterparts (Heidrick & Struggles, 2009): (i) have a unitary system of government formed by internal and external directors; (ii) their large level of internal representation (70 percent) deems them less independent; and (iii) ownership is highly concentrated. Furthermore, tenure is usually long (in MAB companies it is an average of four years) and the number of meetings per year is increasing, which points to the overall importance of board involvement. On the other hand, and similarly to the large listed companies, MAB companies seek to adapt to the codes of good governance. In 2015, 74 percent of the directors were external constituting a higher level of board independence for MAB firms as compared with the average for Spanish companies.

Information relating to changes in board membership up to 2015 was obtained from admission documents and relevant facts published on the MAB website. Through additional resources such as LinkedIn, LexisNexis and Bloomberg (economic websites) we gathered information regarding the knowledge and capabilities of each company's board of directors. Information on firm growth during 2015 and 2016 was also obtained from MAB online resources (financial analyses).

Dependent variable

There is no single measurement method to measure the SMEs growth (Delmar et al. 2003). This has led to an important debate around how to measure firm growth: objective versus subjective approaches; single versus multiple indicators; the choice of absolute or relative growth; measuring through sales, assets, employment, and so forth (Delmar, 1997; Weinzimmer 2000). The choice of absolute or relative growth is especially important for the relationship between size and growth. Absolute measures tend to achieve higher growth for larger firms, whereas smaller firms tend to reach impressive growth in relative terms more easily. Given that our study focuses exclusively on SMEs, and that industry will be a controlled variable, we chose to include the measure in absolute terms.

With regard to the debate concerning the number of indicators, there seems to be an emerging consensus that if only one indicator is selected, the preferred measure should be sales (Moreno & Casillas, 2007). Sales variance is an indicator widely used by the literature both to measure success in business (Kor & Sundaramurthy, 2009) and for the performance of the firm (Boeker & Goodstein, 1993). This is due to the fact that this measure allows us to assess the capacity of the firm in dynamic environments for both innovation and sales (Eisenhardt & Martin, 2000), enabling it to continue to progress (Kor & Sundaramurthy, 2009). Sales, however, is not the perfect indicator of growth for all purposes. Sales are not always the key variable in the growth process. High-technology start-ups, for example, might experience growth in assets prior to making any sales. Even more, sources relating to management, economics and government policy measure growth in terms of the rise in SME employment (Storey, 1994). Yet, owners and

managers of SMEs are usually more focused on financial performance. Similarly, government policy has also shown this same trend.

Taking all of these arguments into account, we decided to use multiple indicators to provide a more complete picture (Delmar et al., 2003) to measure the firm growth speed. Therefore, we have identified growth speed by using the composite measure of the sum of the growth in sales, the growth of assets and the growth of employees from 2015 to 2016. As shown in Table 1, this variable takes a minimum value of -1.45 and a maximum value of 5.11, since each of the indicators considered in the sum are growth rates. This rate fluctuates between -0.88 and 3.93 in the case of sales growth; between -0.54 and 3.19 for assets growth; and finally, from -0.81 to 3.64 for employee growth.

Independent variables

According to Tuggle et al. (2010) we calculate the functional diversity of the board taking account the current and previous experience of directors in the fields of finance, production or engineering, human resources, marketing, or other areas. We use the Blau heterogeneity index.

$$Blau\ Index = 1 - \sum_{i=1}^n p_i^2$$

where p is the proportion of directors with functional specialisation i .

With regard to educational level, we have adapted the scale created by Daellenbach & McCarthy (1999): 0 indicates that the director is not educated to postgraduate level and 1 that they have attained a postgraduate degree (Westphal & Zajac, 1995). The proportion of directors with a postgraduate degree was used to measure the academic level of the board (Wincent et al., 2009).

With regard to experience in general management position, a board member who has had or currently has the position of CEO was coded as 1 and 0 otherwise. The board's general management experience was calculated as the proportion of board members who possess this resource (Barroso et al., 2011; Tian et al., 2011).

A director's international experience includes both training or higher education abroad and their work experience abroad. We created a dummy variable where 1 indicates that the director has one or both of these experiences (Rindova, 1999), and 0 otherwise. The international experience of the board was measured as the proportion of directors with international experience (Barroso et al., 2011; Tian et al., 2011).

Control variables

Some control variables were included at the board, firm, and industry levels.

The sector may affect to board effectiveness (Johnson et al., 2013). The companies including in our sample belong to renewable energy; pharmaceutical and biotechnology products; engineering, services, and commerce;

electronics, software and telecommunications industries. We created three dummy variables for sectors 2, 3 and 4, using sector 1 as our reference. The data were obtained from the MAB website.

A firm's age was measured as the number of years since it was founded. Firms that have been in existence the longest gain a better understanding of the market and have greater access to the resources required for growth (Barroso et al., 2011; Zahra et al., 2007). On the other hand, firm age has been linked to the establishment of routines that lead to inertia and a tendency to focus more on the exploitation than on the exploration of resources (Nelson & Winter, 1982), which might impede growth. The data were taken from each company's MAB incorporation report.

The board's size (number of directors) may positively influence company performance (Goodstein et al., 1994; Johnson et al., 1996). However, this positive impact could be diminished by problems of cohesion, which characterise large group dynamics. Some authors have indicated an inverted U-shaped association between board size and firm performance as beyond a certain size the positive effect decreases (Pugliese & Wenstøp, 2007; Zahra et al., 2000).

Director type (e.g., insiders vs. outsiders) has been considered in the previous literature to be a critical attribute, given the board's role as a corporate governance mechanism (Kaczmarek et al., 2012; Kor & Sundaramurthy, 2009). Different types of directors can bring cognitive diversity to the firm and help overcome the problems associated with bounded rationality in complex decision-making (Barroso-Castro et al., 2017). Outside directors have been related with cognitive conflict as they allow access to different forms of skills and occupational capabilities, increasing board diversity (Rindova, 1999; Roberts et al., 2005). Our study therefore includes the percentage of insider directors among the board's members (Datta et al., 2009; Singla et al., 2010).

According with prior studies of boards (Barroso et al., 2011; Kor & Sundaramurthy, 2009) and management teams (Hambrick et al., 1996) to measure board tenure we first calculate the number of years that a director has sat on the board (since his/her appointment until 2016). Later, we calculated the average for all the board's directors.

Model specification

To estimate the relationship between board resources and firm performance, this study uses on the following specifications:

$$\text{Growth Speed}_i = \beta + \alpha_1 \text{Functional Diversity}_i + \alpha_2 \text{Academic Level}_i + \alpha_3 \text{Experience CEO}_i + \alpha_4 \text{International Experience}_i + \alpha_5 \text{Firm Age}_i + \alpha_6 \text{Board Size}_i + \alpha_7 \text{Insider Proportion}_i + \alpha_8 \text{Board Tenure}_i + \text{Control (Sectoral Activity)} + \varepsilon_i$$

Where i represents the firm; the control (sectoral activity) is a set of dummy variables that captures sectoral effects; and ε_i is the error term.

Descriptive statistics and correlation

Table 2 and 3 show descriptive statistics and the correlation matrix. Our data do not presents any outlier as there is no value outside the range $(\mu - 3\sigma, \mu + 3\sigma)$.

The VIF of the independent variables ranged from 1.35 to 2.89 (see Table 3), therefore multicollinearity is not a problem as is beyond of 10 which is the cut-off point in multiple regression models (Hair et al, 1998).

Insert Table 2 and 3 about Here

4. Results

Before analysing the results of the estimation, different tests were carried out to verify the validity of the regression model. First heterocedasticity was detected in the residuals by means of the Breusch-Pagan / Cook-Weisberg test ($\text{Chi}^2 = 11.54, p - \text{value} = 0.0007$), since the null hypothesis establishes constant variance. We then estimated a robust model to correct these heterocedasticity problems using the Huber-White estimator. Second, the Ramsey Reset test was carried out to identify any important variables that had been omitted from our model. The test confirms that no important variables have been omitted, since the null hypothesis states that the model has not omitted variables ($F = 1.37, p - \text{value} = 0.2865$). Finally, the absence of specification errors via the Link Test was also confirmed ($T = 1.88, p - \text{value} = 0.071$).

On the other hand, endogeneity may be present in research settings, which, like ours, examine cause and effect relationships (Jean et al., 2016; Zaefarian et al., 2017). This problem can arise for different reasons, such as measurement errors, omitted variables and reverse causality (Zaefarian et al., 2017). We control the endogeneity to avoid getting biased and inaccurate results, which cause the risk of drawing wrong conclusions (Zaefarian et al., 2017).

Therefore, three procedures have been carried out to analyse the question of the potential endogeneity of the independent variables:

1. Calculate the correlation between the independent variables and the residual estimated from the original regression. As can be seen in Table 4, the correlations are low and statistically insignificant.

Insert Table 4 about Here

2. Following the procedure of Hausman (1978) and Wooldridge (2002), we first estimated all the potentially endogenous independent variables using a set of instrumental variables according to the paper by Kor and Sundaramurthy (2009): Net Income, Return on Assets, Institutional Investor Ownership and Percentage and Managerial Stock Ownership Percentage. We considered that these factors might affect the board of directors. High returns on Net Income and Return on Assets can attract external directors with experience to the board (Zajac &

Westphal, 1994). The institutional investor ownership percentage is a sign of credibility that favors the company's ability to hire a director with strong human and social capital (Certo, 2003). Moreover, managerial stock ownership percentage can have an effect on the director selection process (Westphal & Zajac, 1995)

Next, we save the residuals and enter them into the original regression as a new variable. Finally, we verified that the coefficient of the residual variable in all the regressions and the corresponding F-test for the significance of the residual variable was not statistically significant.

Insert Table 5 about Here

3 And finally, to detect the presence of endogeneity the Durbin-Wu-Hausman (DWH) test was conducted since the null hypothesis establishes the absence of endogeneity. Table 6 shows the statistical and p-value of this test for each of the potentially endogenous independent variables. In all cases the absence of endogeneity is confirmed.

Insert Table 6 about Here

In short, the results of the three procedures have confirmed the absence of endogeneity in our research.

The results of the estimation are shown in the table below (Table 7). The first column reports the results of the base model with the control variables and then each model includes the different hypotheses considered. Hypothesis 1 suggests that the functional diversity of the board has a positive effect on firm growth. The analysis confirms this relation ($\alpha_1 = 5.0814$, p – value = 0.006). In addition, we can observe that the highest increase of the R^2 of the model occurs (30.12 percent) when the functional diversity variable is included, in model 1. However our results do not support hypotheses 2 ($\alpha_2 = 0.2504$, p – value = 0.844), 3 ($\alpha_3 = -0.3115$, p – value = 0.828), or 4 ($\alpha_4 = -2.6707$, p – value = 0.274).

As a complementary measure of the model, the F statistic confirms that models 1, 2, 3 and 4 are globally significant. With respect to the control variable, our findings show that firms belonging to the pharmaceutical and biotechnology product sectors and to the engineering, services and commerce sectors have a slower growth speed than companies in the remaining sectors.

Insert Table 7 about Here

5. Discussion and Conclusions

Despite the recent momentum in the literature (El Shoubaki et al., 2019; Parker, 2018, Rasmussen et al., 2018) there are still important analytical gaps in the field of SME growth. SMEs are increasingly important to the

economic development of many countries (Delmar et al., 2013). Furthermore, SMEs are not only significant engines of employment and income generation but, thanks to their more flexible structure, they are able to use resources that would remain unused in other circumstances (Amini, 2004). The literature therefore often highlights the differences between SMEs and their larger peers in terms of job creation, strategic flexibility, and innovation (Audretsch, 2004). These reasons explain the significant interest in understanding the factors that drive their growth.

There are many factors at the firm, individual, and environmental level, which are involved in a small firm's progress (Davidsson et al., 2005). Among them, we argue that SME's growth is the result of the decisions taken by their corporate governance bodies (Carpenter & Westphal, 2001; Lynall et al., 2003; Rasmussen et al., 2018). Small business managers and owners should be prepared for facilitating successful growth strategies. The challenge, therefore, is first to identify which board members or owner(s) are prepared to make their firms grow (Weber et al., 2015).

This study explores the effects of board capital on SME growth speed. In the case of an SME, board members bring into the firm the necessary expertise and knowledge to solve some of the fundamental problems they face (Sciascia et al., 2013), such as the lack of financing (Abor & Adjasi, 2007). Some authors point out SME have multiple stakeholders with interest in long-term success and firm growth, therefore corporate governance is not important for SMEs (Abor & Adjasi, 2007). A good first step to achieve responsibility accounting may be benchmarking large and listed companies, trying to follow their best practices, and setting the standard for future employees and investors.

This study makes important contributions to the literature. First, it is a more in-depth investigation into the relation between the board's knowledge and skills and firm growth in the rarely studied field of SMEs that list on alternative investment markets. Studies on the relationship between boards of directors, firm growth and SMEs are relatively scarce in the literature (Huse, 2000; Omar et al., 2014), despite the importance of this type of firm and the role of governance mechanisms for their future management. Our research highlights the important gap in this field of study (see Table 1).

Second, throughout this research we have shown that the board actively affects the essential decisions of your firm (Barroso et al., 2009) and the firm's results. In SMEs, good governance mechanisms may result in boards exerting much-needed pressure for improved performance by ensuring that the stakeholders' interests are served (Abor & Adjasi, 2007).

Third, in line with the recommendations of Nason & Wiklund (2018), our study is built by combining the resource-based approach with the contributions made by the Penrosian theory, specifically, the characteristic of

versatility of resources.

Our investigation confirms that the board's functional diversity affects SME growth. This result is consistent with the argument relating to the importance for SMEs of appointing directors with particular areas of specialisation. The board benefits from different kinds of board members' knowledge through their contribution to making decisions for creating value (De Andrés-Alonso et al, 2010). Thus, the board's knowledge and capabilities in the field of finance, production, products, marketing and markets can lead to more dynamic decision-making and firm growth. In this sense, if the directors have a broad functional experience this facilitates them having a broad vision when making innovative decisions that promote the company's growth.

Board functional diversity therefore favours the complementarity between directors, allowing the board's knowledge to be integrated, building on each board member's specific skills and specialisation. Research has highlighted that diversity contributes to high-quality innovative decisions through critical interaction processes in which different members of the team identify, extract, and synthesise their different perspectives (Van der Vegt & Janssen, 2003). Therefore, the exposure to the diverse knowledge that directors bring to the board let the firms discover new ways of solving existing problems (Rosenkopf & Nerkar, 2001), reinforcing the organisations' ability to innovate and refining existing technologies, products and services (Subramaniam & Youndt, 2005). In a similar line, board functional diversity emphasises the collective knowledge of this governing body, which makes it a versatile resource that facilitates the firm's growth (Nason & Wiklund, 2018). In summary, the board's functional diversity fosters the adoption of innovative strategies that help redefine the products or markets in which to compete and that constitute the mechanisms that favour the growth of SMEs.

In contrast, the relation between the board's academic achievement and SME growth are contrary to our expectations. Prior studies (Barroso et al., 2011) show that as the board's level of academic education increases there is a positive effect on performance. The high academic performance of our sample can help explain the results achieved (average of 0.45). Our study shows that the extent of prior training among the directors of quoted SMEs is higher than expected, refuting those arguments that indicate that SME management is inadequately prepared for decision-making and emphasising the complexity of the relationship between education and performance in SMEs (Ribeiro-Soriano & Castrogiovanni, 2012). On the other hand, previous studies (Jo & Lee, 1996) show that education is correlated with profitability, but not with growth. In future investigations, a third explanatory variable should therefore be included to investigate this relationship in greater depth.

Our study also fails to confirm the relation between prior CEO experience and SME growth. According to the literature, directors who have experience in CEO positions are better able to advice and counsel, acting as consultants

in board meetings to make strategic decisions in complex environments. Directors who have enjoyed these positions are therefore likely to want to take an active role on the board (Johnson et al., 2011) and contribute to the firm's growth. Our results coincide with those achieved in the study of the large listed Spanish companies (Barroso et al., 2011), in which there was no relationship between the previous experience of directors in CEO positions and a company's internationalisation decisions. The specific composition of Spanish boards might help to explain, in part, the results attained: 82,3 percent of MAB companies combine both positions (CEO and chairman) and nearly one in 67 percent non-executive chairmen are former CEOs. Furthermore, despite the arguments set out in the literature, , some authors do not find any relationship between the performance of new ventures and the relatedness of industry knowledge gained through the CEO's previous experience (West and Noel, 2009); and Ribeiro-Soriano and Castrogiovanni (2012) find no relationship between profitability and the accumulated experience of having occupied a previous position in a company of the same industry.

It should be noted, however that the sign of the relationship in this case is opposite to the hypothetical one: as previous experience as CEO increases, firm growth decreases. These surprising results, although not significant, are in line with other studies (Hamori & Koyunku, 2015). Jo and Lee (1996) conclude that in most cases managerial experience negatively affects performance. These authors argue that when the entrepreneur has had previous experience, he cannot sustain the flexible and dynamic management patter, which is essential to the success of small technology-intensive firms. Although the context of their research is not the same as ours, their results can be extrapolated. Moreover, job-specific skills are contextually dependent (Hamori & Koyunku, 2015) and not readily transferable. A CEO's human capital may not be a good fit in another firm (Karaevli, 2007) with the effect that experience in the CEO position has a negative impact on performance (Hamori & Koyunku, 2015). Thus, in the particular case of innovative SMEs, a high level of prior experience as CEO among directors can be counterproductive for the growth of the company. In this particular context, we would not be faced with a versatile resource. In conclusion, our results show that previous experience as CEO can be a stumbling block when making innovative decisions. All of this demonstrates that it is necessary to continue deepening our understanding of this relationship, particularly within this type of company.

Our investigation does not confirm that international experience affects SME growth. We consider that the characteristics of the SME boards in our sample in relation to functional diversity and the limited experience of their directors in the international area, are aspects that help us to understand our results). On the other hand, the studies that have investigated the effects of the directors' international experience on their companies are very limited (Barroso et al., 2011), and have been unable to confirm the proposed relationship. These questions will have to be

studied in more depth soon, since their impact on the future of SMEs can be very relevant.

In conclusion, our study highlights the differences between large and small listed companies in terms of variables linked to the human and relational capital of their boards. It can be seen that small and large firms are different in relevant issues. Not only do they have more concentrated ownership structures and CEO duality (Machold et al., 2011), but also there are differences in the set of the knowledge and experience of its directors used to achieve their objectives. According with the view that board tasks, composition, structure and processes are not universal we think these aspects must be aligned with the specific characteristics and needs of SMEs (Ingley and Karoui, 2011; Karoui et al., 2017; Nordqvist et al., 2014). This contingency view of corporate governance and boards of directors claims for a greater input from researchers to better understand what makes boards more effective in different organisational settings (Huse and Gabrielsson, 2004; Nordqvist et al., 2014; Van den Heuvel et al., 2006).

This study has some limitations. Firstly, although we include every MAB-quoted company in 2015, the number of companies (rather than the number of directors) is limited. This choice, which was made because of the need to analyse transparent companies, can lead to 'sample selection bias', which limits the inference process. Second, and although we believe that the results can be extended to other countries in which innovative SMEs are an important part of the country's network of productive companies, the firms in the sample are Spanish. Third, it could be of interest to enrich some of the measures used in the study of our variables, as well as to incorporate a longitudinal analysis. Regarding this last issue, we cannot fail to mention the difficulty in obtaining the data. We believe it is necessary and would be of considerable interest to continue investigations in this field that would include information on firms from other countries. Finally, our results point out the importance of board capital to achieve growth on SME, but it is needed to deep our understanding about which are the mechanisms which contributing to explain this relationship (El Shoubaki et al., 2019). In any case, these limitations serve to establish new future fields of study.

Several implications for management arise from our study. First, with regard to the selection of directors, those with resources must be appointed on the condition that they will be fully used by the board. Second, the resources that the directors can contribute to the board have a different effect in the analysis of large companies and SMEs. It is true that resources (knowledge and even relationships) can be transferred, but their true value is achieved when they interact with the board's other resources and when the company can use them in a versatile way. Therefore, the different structures within the boards of large and small companies (size, duality, composition, etc.) influence the interactions between the directors' resources and their consequences. In short, following the line of research initiated in the field of large companies, this study looks in greater depth at the role of board capital in SMEs, paying particular attention to the precursor variables of the effectiveness of a board.

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Table 1: Overview of Studies

| Author | Theory | Sample | Methodology | Variables | Key findings | Performance measure |
|--------------------------------------|---|---|---|---|--|--|
| Bamford, Dean & Douglas, 2004 | Resources Decision choices | 490 new banks formed in USA (1985-1988) with growth 5 years after founding: 1990-1993). | Structural equation LISREL8 | Product Breath Outsiders TMT size Leverage risk Liquidity risk | Product breath, Outsiders and liquidity risk are positively related to growth | Deposits and loans |
| Bennet & Robson, 2004 | Resource Dependence Stewardship Agency | Survey of 1,445 SMEs in the UK (all manufacturing and business services) | Structural equation Model OLS | Board size Owner concentration (>= 90% shares CEO, 2-4 directors) Directors with science or engineering degree Directors with other degrees | Directors with science or engineering degree is positively related to employment growth External advice, managers skills and board roles act as substitutes for one another | Employment Growth Profit Growth Propensity to innovate |
| Bloodgood, Sapienza, & Almeida, 1996 | RBV | 61 venture capital firms (high potential firm) that had an IPO in 1991 | Regression | Level of internationalization Director with international experience Innovation Firm size | Extent of internationalization is related to international experience of director Product differentiation and firm size is related to Growth | Sales growth Income |
| Chen, Kor Mahoney, & Tan, 2017 | Stewardship and corporate governance (board capital and learning) | 38 firms that entered the U.S. wireless communications service industry | Two-stage least squares (IV 2SLS) regression, | Firm-specific experience of director (FSEOD) pre and post-entry Intra-industry experience of outsiders | FSEOD pre-entry is negative for growth and post-entry has a U-shaped relation with growth Intra-industry experience is negative for growth | Firm's business growth (log of new cell phone service subscribers) |
| Florin, Lubatkin, & Schulze, 2003 | Social Capital theory | 275 USA venturing firms < 800 employees at IPO time (1996) | Regression | Human resources (TMT experiences and venturing directors) Social resources (Business Network, Interlock of Board and TMT, Underwriter) | Human, Social resources and Financial Capital are positive for ROS Financial*social resources are positive for growth | Sales Growth ROS |
| Jelic, Zhou & Wright, 2019 | Agency and Strategy Entrepreneurship | 200 Uk secondary Management Buyout (2000-2015) | Probit and GLS stimations Robust checks | Private Equity directors (PED) Prior performance SMBO Functional experience (selling, finance, operations) | Higher % PED is positive to growth PE director education is positive to growth | Employment Growth Sales Growth |

Table 1 (continued)

| | | | | | | |
|--|--|---|---|---|--|---|
| Kor & Sundaramurthy, 2009 | Human and Social capital | 72 technology-based entrepreneurial firms in USA 1990-1995 | Panel data Fixed effects regression | Outsiders Interlock Outsiders Industry positions Outsiders average tenure Outsiders founders | Outsiders interlock, past industry positions and founder are positive for growth Board tenure is negative for growth | Sales growth |
| McGuire, 2000 | | 323 firms in 36 manufacturing and service industries 1992 | ANOVA | Incentives (short and long-term) Managerial stock ownership Board independence Board equity ownership | High growth firms show higher equity ownership High growth firms show higher insider directors | Tobin's Q |
| Omar, Lim & Basidruddin, 2014 | Agency Stewardship | Malaysa context | Conceptual | Board independency CEO duality Interlock Board entrepreneurial orientation | Conceptual article | Sales Employment New product/service New market |
| Peng 2004 | Agency, RD and Institutional | 406 large listed firms in China (1992-1996) | Regression | Institutional Outsiders Other outsiders Poor prior performance Firm size | Institutional outsider is positively related to growth Not institutional directors have not effects on growth | Sales growth/ ROE |
| Rasmussen Ladegård, & Korhonen-Sande, 2018 | Resource dependence | 1,000 CEO survey gazelles firm or 1010 norwegian business newspaper | Ordinary least squares (OLS) regression | Independent board Founder's role (TMT and Board) Gender diversity on board | Founder-TMT-Board is positive for growth Gender diversity is negative for growth | Firm growth intention (revenue and employees) |
| Rutherford, Kuratko, Holt, 2008 | Methodological, alternative measures of family firms | 1059 questionnaires from 2002 American Family Business Survey | Multiple regression and Supplemental analysis | Power (family ownership, family directors) Experience (Family generation in owning, in TMT and in Board) Culture (commitment, loyalty...) | Power is negatively related to Growth Experience is positively related to revenue | Sales Growth, Assets Growth Other performance items |
| Whitler, Krause & Lehmann, 2018 | Behavioral model | 1,091 firm listed in the S&P 1500 (2007-2012) | Two-stage Heckman model with firm-fixed effects | Marketing experience of director (MEOD) Industry and market share growth Marketing interlocks | MEOD is positive to growth All interactions MEOD with Industry growth, market growth and CFO director are negative for growth | Revenues growth |
| Yermack 1996 | | 452 of the 500 largest public firms in USA (1984-1991) | OLS regression | Board size | Board size is inversely related to performance | Tobin's Q |

Table 2: Descriptive statistics

| | Obs | Mean | SD | Min | Max | VIF |
|--------------------------|-----|---------|--------|---------|--------|------|
| Growth Speed | 31 | 0.5395 | 1.4667 | -1.4546 | 5.1185 | |
| International Experience | 32 | 0.3031 | 0.1724 | 0 | 0.7100 | 1.47 |
| CEO Experience | 32 | 0.4366 | 0.2190 | 0.1100 | 0.8900 | 1.46 |
| Academic Level | 32 | 0.4525 | 0.2446 | 0 | 1 | 1.35 |
| Functional Diversity | 32 | 0.7172 | 0.1002 | 0.4400 | 0.8800 | 1.99 |
| Firm Age | 32 | 12.7188 | 7.7594 | 2 | 31 | 1.71 |
| Board Size | 32 | 6.4375 | 2.3683 | 3 | 11 | 2.89 |
| Insider Proportion | 32 | 0.2747 | 0.1603 | 0 | 0.7500 | 2.38 |
| Board Tenure | 32 | 4.2244 | 3.1373 | 1 | 18 | 1.71 |

Table 3: Correlation matrix

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|----------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---|
| 1 Growth Speed | 1 | | | | | | | | |
| 2 International Experience | 0.0610 | 1 | | | | | | | |
| 3 CEO Experience | -0.1260 | 0.0310 | 1 | | | | | | |
| 4 Academic Level | 0.0155 | 0.3131 | 0.2097 | 1 | | | | | |
| 5 Functional Diversity | 0.2391 | 0.3664* | -0.1305 | -0.0117 | 1 | | | | |
| 6 Firm Age | -0.1539 | 0.1955 | 0.1268 | 0.0648 | -0.0218 | 1 | | | |
| 7 Board Size | 0.0024 | 0.2414 | 0.2567 | 0.0159 | 0.3710* | 0.3264 | 1 | | |
| 8 Insider Proportion | -0.0413 | 0.0555 | 0.0799 | -0.0705 | 0.1800 | 0.1549 | -0.404* | 1 | |
| 9 Board Tenure | -0.2094 | 0.2168 | -0.0466 | -0.2038 | 0.0960 | 0.4249* | -0.0418 | 0.4421* | 1 |

*p<0.05; **p<0.01, ***p<0.001.

Table 4: Correlation between independent variables and residual

| | Residual |
|--------------------------|----------|
| International Experience | -0.0046 |
| CEO Experience | -0.0053 |
| Academic Level | -0.0047 |
| Functional Diversity | -0.0184 |

*p<0.05

Table 5: Procedure of Hausman (1978) and Wooldridge (2002)

| | Coefficient | F-test |
|--------------------------|-------------|--------|
| International Experience | 2.9024 | 0.18 |
| CEO Experience | -2.2900 | 0.19 |
| Academic Level | -1.9757 | 0.21 |
| Functional Diversity | 0.5089 | 0.01 |

*p<0.05; **p<0.01, ***p<0.001.

Table 6: Durbin-Wu- Hausman (DWH) test

| | <i>Chi</i> ² |
|--------------------------|-------------------------|
| International Experience | 0.575 |
| CEO Experience | 0.777 |
| Academic Level | 0.786 |
| Functional Diversity | 0.233 |

*p<0.05; **p<0.01, ***p<0.001.

Table 7: Results of OLS regression analysis

| | Base Model | Model 1 | Model 2 | Model 3 | Model 4 |
|--------------------------|---------------------|----------------------|----------------------|----------------------|----------------------|
| International Experience | | | | | -2.6707 (2.3744) |
| CEO Experience | | | | -0.2425 (1.4410) | -0.3115 (1.4152) |
| Academic Level | | | -0.3628 (1.1521) | -0.3016 (1.1157) | 0.2504 (1.2545) |
| Functional Diversity | | 3.9743** (1.2252) | 4.2706* (1.6882) | 4.1381* (1.5671) | 5.0814** (1.6718) |
| Sector 2 | -0.4845 (0.9613) | -1.6071 (0.7256*) | -1.5751 (0.7671) | -1.5109 (0.8047) | -1.8233* (0.8290) |
| Sector 3 | -0.3450 (0.9706) | -1.7789* (0.7628) | -1.7897* (0.7766) | -1.7250* (0.7786) | -2.3542* (0.8629) |
| Sector 4 | 0.6921 (1.4088) | -0.7299 (1.1683) | -0.7264 (1.1930) | -0.6695 (1.2451) | -0.6332 (1.1650) |
| Firm Age | -0.184 (0.0385) | 0.0046 (0.0376) | 0.0091 (0.0327) | 0.0080 (0.0330) | 0.0190 (0.0359) |
| Board Size | 0.0753 (0.0980) | -0.1044 (0.1011) | -0.1135 (0.1057) | -0.0998 (0.1130) | -0.1121 (0.1200) |
| Insider Proportion | 2.0362 (2.0544) | -0.4044 (2.1348) | -0.4638 (2.1837) | -0.2789 (2.6928) | -0.5506 (2.6850) |
| Board Tenure | -0.0636 (0.0784) | -0.0568 (0.0754) | -0.0659 (0.0785) | -0.0688 (0.0867) | -0.0124 (0.1005) |
| R ² | 25.99% | 33.82% | 34.14% | 34.22% | 37.85% |
| ΔR ² | | 30.12% | 0.94% | 0.23% | 10.60% |
| F | 0.74 | 2.87* | 2.52* | 4.27** | 4.40** |

Huber-White estimator has been used to correct heteroscedasticity. Standard errors in parentheses. *p<0.05; **p<0.01, ***p<0.001.