Entrepreneurial orientation and firm performance in family SMEs: the moderating effects of family, women, and strategic involvement in the board of directors

Unai Arzubiaga
University of the Basque Country (UPV/EHU)
unai.arzubiaga@ehu.eus

Txomin Iturralde
University of the Basque Country (UPV/EHU)
txomin.iturralde@ehu.eus

Amaia Maseda
University of the Basque Country (UPV/EHU)
amaia.maseda@ehu.eus

Josip Kotlar
Lancaster University Management School (UPV/EHU)
j.kotlar@lancaster.ac.uk

Paper accepted for publication in *International Entrepreneurship and Management Journal*
August 2017

Entrepreneurial orientation and firm performance in family SMEs: the moderating effects of family, women, and strategic involvement in the board of directors

Abstract

Entrepreneurial success in family SMEs is largely determined by the knowledge, skills, and new ideas contributed by board directors, the most important actors in the formulation of corporate strategy and decision making. The composition of family SME boards has traditionally been homogeneous, as such boards usually comprise male family members. Boards' contributions, however, depend on their level of diversity and strategic involvement. This study analyzes the moderating effects of two main sources of board diversity in family firms, family involvement level and gender diversity, as potential means of enhancing family firms' success when exploiting entrepreneurial initiatives. This study also explores whether these two potential moderators depend on the strategic involvement of the board directors. Based on a sample of 230 Spanish family firms, we found that the link between entrepreneurial orientation and performance is stronger in firms with lower levels of family involvement and higher levels of gender diversity in the board. Moreover, the board's high strategic involvement may strengthen the positive impact of gender diversity and change the moderating influence of family involvement from negative to positive.

Introduction

Researchers generally accept entrepreneurial orientation (EO) as an instrument for measuring a firm's proclivity toward entrepreneurship (Lages et al. 2016; Rauch et al. 2009) and an important driver of firm performance (e.g., Anderson and Eshima 2013). Research on the EO–firm performance relationship in the family business context has increased significantly because many researchers see family firms as a unique opportunity to analyze entrepreneurship (Garcés-Galdeano et al. 2016; Schepers et al. 2014). Their unique characteristics, based on the interaction between family and business goals in decision making, affect how family firms are governed (e.g., in

relation to risk behavior and strategic orientation) and have implications for their entrepreneurial attitudes and, ultimately, firm outcomes (Randerson et al. 2015).

Scholars generally acknowledge that boards of directors play an essential role in firms' strategy decision making (Corbetta and Salvato 2004) and can contribute to a firm's entrepreneurship (Miller and Le Breton-Miller 2006). However, little is known about how board characteristics explain entrepreneurial attitudes and their outcomes (for some contributions, see Bammens et al. 2011). According to Hambrick (2007), directors' experiences, knowledge, and values shape information-seeking and information-evaluation processes, thus shaping board behaviors and decision making. However, directors' cognitive frames are difficult to capture, so researchers use directors' observable characteristics as proxies for cognitive frames (Post and Byron 2015). Diversity among directors' observable characteristics may help in the design of new entrepreneurial initiatives and in converting them into superior performance (Fuentes-Fuentes et al. 2015; Samara and Berbegal-Mirabent 2017). For the boards of family SMEs, gender diversity and differences among family involvement levels seem to play a prominent role in diversity (Carter et al. 2010; Bammens et al. 2011). On the one hand, family firms usually have more female directors than their non-family counterparts, being on the "gender-diverse" end of the spectrum of private firms (Wilson et al. 2013). However, the literature reports inconclusive findings on the impact of board gender diversity (Ali et al. 2014). On the other hand, diversity in family business boards may also be closely related to the level of family involvement since the family provides an additional source of diversity not found in non-family firms (Anderson and Reeb 2004; Arosa et al. 2010). However, the extent to which family representation can affect a board's activities has received less attention, and studies of family SMEs are even more limited (Maseda et al. 2015).

Drawing from the idea that the boards of directors of family SMEs mostly comprise family members and that their entrepreneurial attitudes influence firms' strategic decisions, our study sheds new light on the current debate about the effect of board diversity on entrepreneurship in family firms and consequently on their performance. We consider diversity in terms of both family and gender representation on boards of directors as moderators in the EO–firm performance relationship, which could help explain the inconclusive results in the literature. We also attempt to capture the effect of gender diversity and family involvement in boards at different levels of the Strategic Involvement of the Board of Directors (SIBD). To develop our hypotheses, we

adopt the Socioemotional Wealth (SEW) perspective, an overarching theoretical framework used to research family businesses (e.g., Berrone et al. 2012; Gómez-Mejía et al. 2007), and the Resource Based View (RBV) perspective, an appropriate means of analyzing organizations that are unusually complex and rich in intangible resources such as family firms (Habbershon and Williams 1999). Regarding the SEW, we consider family involvement on a board as a reflection of the family's ability to impact firm behavior and performance (De Massis et al. 2016). Additionally, given that family directors' goals may vary across family firms (Kotlar and De Massis, 2013), we also assume that different emphases on financial goals vs. socio-emotional goals may be placed (Sciascia et al. 2014). Regarding the RBV, this theoretical perspective permits us to examine the relationships among firm-level processes, strategy, performance, and sustainable competitive advantage for the family firm (Yeniaras et al. 2017). This approach allows us to discuss the role of both family and female involvement in decision-making processes and in the relationship between EO and firm performance.

By testing our model on a sample of 230 Spanish family SMEs, we extend the knowledge on firm-level entrepreneurial attitudes in family SMEs, making several important contributions to the field of family business research. First, we shed light on the inconclusive results concerning the EO–firm performance relationship in family SMEs by considering the characteristics of the decision makers at the corporate governance level. We offer a more exhaustive look at the effect of the board in the EO–firm performance connection by combining board demographic variables (female director ratio and family director ratio) with board behavioral variables (SIBD; the extent to which boards perform their strategic advisory role and engage in strategic decision making). Second, we contribute to the literature on gender and corporate governance by helping to clarify the inconclusive findings on the effect of female board representation on strategic decision making (Terjesen et al. 2009). Furthermore, by analyzing whether gender diversity may partially moderate the relationship between EO and firm performance, this study shows that Spanish SMEs, which operate in a country where most firms are family-owned and traditionally feature minimal female participation in high business positions (Campbell and Minguez-Vera 2008), may benefit from a higher female representation on boards when attempting to transform an entrepreneurial attitude into tangible firm performance. Finally, we contribute to the family business literature by examining family involvement at the board level. The existing literature does not offer conclusive results about how family involvement may

affect the board's various tasks and processes (Zattoni et al. 2015), or entrepreneurship in particular. We help fill this gap by examining the effect of family involvement in the board on the EO–firm performance relationship in family SMEs.

The remainder of this article is structured as follows. We first discuss the theoretical background of the study and develop the research hypotheses. The next section explains the data collection method and measures used in the study. We then present the results. Finally, we discuss our findings, acknowledge the study's limitations, explain its implications, and suggest directions for future research.

Theoretical background and hypothesis development

EO-firm performance relationship

The disposition toward entrepreneurship is crucial for firm survival and success (Gunawan et al. 2016) and is an antecedent of entrepreneurial behavior (Liñán and Fayolle 2016). To capture this firm-level entrepreneurial attitude, Miller (1983) and Covin and Slevin (1991) developed the entrepreneurial orientation (EO) construct, whereby firms with a high degree of EO are regarded as having a set of distinct but related attitudes that have the qualities of innovativeness, proactiveness, and risk taking (Covin and Wales 2012).

One of the most widely studied issues in EO is its correlation with firm performance in both the conceptual (e.g., Covin and Wales 2012) and empirical aspects (e.g. Anderson and Eshima 2013; Moreno and Casillas 2008; Van Doorn et al. 2013). Schepers et al. (2014, p. 39) affirm that the logic behind this relationship is that "entrepreneurial firms will identify and pursue lucrative product/market opportunities which in turn will improve their company financial performance (Zahra and Covin 1995)". In their meta-analysis of EO–business performance, Rauch et al. (2009) found a moderate positive correlation between these two variables, although they highlighted that the EO–performance relationship is contextual in nature. Put differently, the nature and degree of the EO–performance linkage varies depending on the endogenous and exogenous phenomena influencing a given firm (Anderson and Eshima 2013).

In the context of family firms, some studies have identified both external and internal factors that explain variations in EO among family businesses. Regarding the former,

how the competitive environment (Lumpkin and Dess, 2001) and firm networks (Stam and Elfring 2008) influence EO have been studied. Regarding internal factors, authors have focused on how EO is affected by the effects of CEO characteristics (Boling et al. 2016; Cruz and Nordqvist 2012), the impact of generational involvement in management (Casillas et al. 2011; Sciascia et al. 2013), the differences between long and short orientations (Lumpkin et al. 2010), and organizational culture (Zahra et al. 2004).

From an RBV perspective, the interaction between the family and the business has been regarded as a source of complex and difficult-to-imitate resources (Habbershon and Williams, 1999; Habbershon et al. 2003; Sirmon and Hitt 2003) which foster orientations and attitudes that may impact entrepreneurship (Casillas et al., 2011). Several studies reveal that family influence has a significant role in boosting entrepreneurial initiatives in order to assure long-term survival (Miller and Le-Breton Miller 2011). However, other authors claim that family influence can lead to free-riding behavior, perquisites, and privileges that can generate an inefficient use of resources and additional costs (Schepers et al. 2014), in line with what the "dark side" of SEW reveals (Kellermanns et al. 2012). This proclivity toward SEW preservation may hamper the transformation of the effects of entrepreneurial initiatives into higher profits (Schepers et al. 2014). However, we propose that higher EO facilitates sales growth and better firm performance in family SMEs (though not as fully as for their nonfamily counterparts). We thus hypothesize as follows:

Hypothesis 1. Family SMEs feature a positive relationship between EO and firm performance.

The fact that the EO–firm performance relationship is contextual (Rauch et al. 2009) suggests that it may have more than a simple direct link (Kollman and Stockmann 2014). Thus, it is important to consider it within a contingency framework (Anderson and Eshima 2013). We focus on the importance of boards in this relationship, given that entrepreneurial success in family businesses is largely determined by the ideas contributed by board directors (Miller and Le Breton-Miller 2006). Boards' contributions depend, however, on their level of diversity (Hillman and Dalziel, 2003; Maseda et al. 2015) and strategic involvement (Machold et al. 2011) because they give advice on various strategy issues, from formulation to outcomes (Zahra et al. 2009), that

may compensate for the managerial shortcomings from which many family SMEs suffer (Zattoni et al. 2015). Hence, we focus on the potential moderating impact on this relationship of two main diversity factors, family involvement and female involvement, in boards with different strategic involvement levels.

Boards of directors in family SMEs

Boards of directors represent the highest decision making level and play various roles related to strategic processes (Zattoni et al. 2015). The literature on the role of boards of directors depicts boards as a source of competitiveness and an essential contributor to firm value creation (Pugliese et al 2009). Following the RBV approach, many studies acknowledge that boards can improve a firm's performance through the capabilities and resources directors offer, with the potential to provide competitive advantages for family firms (Bammens et al. 2011; Sirmon and Hitt 2003). On the one hand, directors are generally regarded as having a high level of expertise, given their general business knowledge and professional experience in strategic problem solving based on university training and outside work experience (Kim et al. 2009). In addition, their specific knowledge about a firm's internal processes creates the perception that board directors are experts (Pugliese and Wenstop 2007; Zattoni et al. 2015) and can influence the speed and breadth of the top management team's (TMT) strategic action capabilities (Kim et al. 2009). On the other hand, board members usually have more access to valuable external resources through their networks, which may help the firm implement existing strategies (Wincent et al. 2014). Overall, research shows that the board of directors can significantly influence entrepreneurship (Zattoni and Pugliese 2012) and firm performance (Pugliese and Wenstop 2007).

The current understanding of the influence of the board on entrepreneurship is based on large listed companies run by professional managers (Machold et al. 2011), especially large Anglo-American companies (Machold et al. 2011). However, family businesses are the dominant form of management and governance in Europe (Corbetta and Salvato 2012) and the US (Astrachan and Shanker 2003). Most of these family firms are SMEs, which differ from large firms in several ways, including their more concentrated ownership structures, a greater degree of overlap between ownership and management, and less complex decision-making and control structures (Maseda et al. 2015). As pointed out by Uhlaner and colleagues (2007), firms owned by a single

entrepreneur or by a dominant family owner coalition often rely on informal social controls based on mutual trust, a shared vision, and commitment to the firm rather than on contractual governance. Pugliese and Wenstop (2007) suggest that the main concerns of owners in family SMEs may include firm survival, growth rate, family welfare, succession plans, and personal status, instead of the short-term financial returns that are a core concern of shareholders in public companies. These different focuses may affect how boards perform their strategic tasks. Small firms have a stronger need than large firms for the board's strategic contributions to firm survival and growth (Huse 2000). This may impact the strategic role of boards in family SMEs, making them less regulated, more informal and more heterogeneous (Uhlaner et al. 2007). Therefore, we focus on how two main sources of board heterogeneity in family SMEs—family involvement in the board (family director ratio) and female involvement in the board (female director ratio)—affect the EO–firm performance relationship (see Figure 1).

Family involvement in the board in the EO–firm performance relationship

Family businesses have unique governance characteristics (Basco 2013; De Massis et al. 2016) that may influence their decision-making process and entrepreneurship (Nordqvist et al. 2008). These specific governance features stem from the continuous interaction between the family and the business (Lumpkin et al. 2008), which may require decisions that balance family with business logics to achieve family- and business-oriented goals (Schepers et al. 2014). From a SEW perspective, family-oriented goals may address non-economic issues that could help achieve the family's affective needs, such as identity, status, ability to influence, and the perpetuation of the family dynasty (Gomez-Mejia et al. 2007). As such, preserving the family's SEW, the stock of affect-related value family owners have invested in the firm, becomes a goal in itself (Berrone et al. 2010; Gómez-Mejía et al. 2007) and may lead family businesses to develop different behaviors (Schepers et al. 2014). The SEW approach suggests that, when making strategic decisions, family owners tend to have distinctive family-related priorities and risk preferences that may influence the firm's strategic decisions. These distinctive decisions and behaviors have special relevance in the main governance device, the board of directors (Michiels et al. 2015), where family involvement plays an important role (Calabro et al. 2013; Zattoni et al. 2015).

These arguments suggest that when looking at the contingent role of the board in the EO–firm performance relationship, the level of family involvement in the board is highly relevant. A high degree of family involvement may enhance the firm's tendency to prioritize family control and survival as a family firm (Berrone et al. 2012; Kotlar and De Massis 2013) over pure profit or growth maximization goals (De Massis et al. 2016). A high family involvement may thus provide an incentive for parsimony (Carney 2005), which may reinforce the proclivity to avoid designing and implementing risky strategic initiatives to preserve the family wealth invested in the business (Berrone et al. 2012; Gomez-Mejía et al. 2007). This risk-averse disposition in boards with high family involvement may be detrimental to the EO–firm performance relationship, given that risk taking is required for developing entrepreneurial initiatives and for transforming them into tangible results (Covin and Wales 2012; Kollman and Stockman 2014).

Several other factors are also crucial for transforming EO into firm performance. According to RBV, diversity in knowledge and expertise are valuable resources in the design of new entrepreneurial initiatives and for converting these into superior performance (Pugliese and Wenstop 2007; Zattoni et al. 2015). Though boards composed mostly of family directors have a wide firm-specific knowledge due to their internalization of firm-specific processes (Bammens et al. 2011), they usually lack variety in their knowledge, perspectives, and expertise due to their common educational and functional backgrounds (Lai and Chen 2014). Thus, diversity in educational and work expertise may facilitate the debate about entrepreneurial initiatives, generate more creativity in designing and implementing entrepreneurial activities (Pugliese and Wenstop 2007), and consequently lead to better firm performance, ultimately reinforcing the EO–firm performance relationship.

Furthermore, high family involvement in the board may suggest nepotism, given that this is frequently how family directors are selected (Le-Breton-Miller and Miller 2009). This problem may indicate a lack of managerial talent, one of the main effects of the dark side of SEW (Kellermanns et al. 2012). Hence, boards with low family involvement may have more of the knowledge and expertise needed to transform EO into firm performance. Furthermore, non-family directors may add to the business connections with external stakeholders that may provide access to information, knowledge, and even financial resources (Voordeckers et al. 2007) that may help transform an entrepreneurial attitude into tangible results. We thus propose that a higher

family involvement in the board may decrease the positive relationship between EO and firm performance:

> **Hypothesis 2.** Family involvement in the board of directors moderates the positive relationship between EO and performance such that lower levels of family involvement in the board strengthen this positive relationship

Gender diversity in the board in the EO–firm performance relationship

Following the RBV perspective, the pooled personal resources of an individual can be considered an important source of knowledge, skills, experience, and strategic perspectives for firms (Sirmon and Hitt 2003). The literature suggests that diversity tends to generate creativity, innovation, and quality decision making at individual and group levels (for an overview, see Martínez-Jiménez 2009; Terjesen et al. 2009). At the firm level, a board with diverse members improves the main corporate governance mechanism responsible for corporate strategy design, monitoring and evaluation by introducing broader knowledge bases, experience, and values (Post and Byron 2015). Gender diversity is regarded as a significant factor that enriches and improves the effectiveness of decision making on family SMEs' boards (Lim and Envick 2013). Studies have highlighted female involvement as a main source of board heterogeneity (Simpson et al. 2010), especially in family firms, as these are considered among the few organizations that offer women real opportunities to reach the highest positions in business (Martínez-Jiménez 2009). Indeed, family businesses are unique settings in which to study women's incorporation into boards, as they offer specific advantages as well as drawbacks. Regarding the advantages, Martínez Jiménez (2009) highlights the importance of the following:

> [F]lexible schedules, which help women combine their professional responsibilities with child care; access to sectors traditionally regarded as "masculine" (e.g., construction); job security; the satisfaction of working for themselves or for their families; a supportive environment; and more chance of accessing positions of responsibility, professional challenges, and opportunities for personal growth. (p. 58)

Cole (1997) found that women in family firms achieved high positions and did not suffer from the feared "glass ceiling". Moreover, Dumas (1992) showed that women had greater career opportunities and felt highly satisfied working in these organizations as a consequence of being encouraged to participate actively in the firm since childhood.

Nevertheless, women also face challenges, aside from the same issues faced in nonfamily businesses (Star and Yudkin 1996), that are unique to family businesses, such as struggles for power and authority, relationships with other family and non-family members, and conflicts over roles and loyalties (Dumas, 1992). Iannarelli (1992) concluded that women were less encouraged to join the firm, thus spending less time in the family firm, and developing fewer skills than their brothers had. Vera and Dean (2005) suggested that an important factor in avoiding this problem is related to work experience acquired outside the firm, as this may give women professionals both self-confidence and credibility.

The research reveals that the evidence on gender diversity is scant and conflicting with studies finding positive, negative, and no relationships between gender and firm value (Bohren and Strom 2010). The empirical results on the effects of female involvement in boards in terms of firm performance are also inconclusive (Ali et al. 2014). For example, in a review of women board directors, Terjesen et al. (2009) suggested that gender diversity affected board dynamic but not the firm's bottom line. There is an ongoing debate about whether female representation on boards adds value by improving firm outcomes (Campbell and Minguez-Vera 2008), has a detrimental effect on firm value (Adams and Ferreira 2009), or has no impact on firm performance (Carter et al. 2010; Rose 2007). These inconsistent results, in addition to the fact that relatively little research links gender diversity and board process tasks, makes more research necessary (Wilson et al. 2013). This is why research has begun to include more "nuanced variables and more proximal outcomes than firm performance" in studies on the effects of gender diversity on boards (Johnson et al. 2013, p. 239).

Male and female directors behave differently due to the differences between women and men (Adams and Ferreira 2009). Women base their leadership on a higher sensitivity to the human needs of all firm members and a greater flexibility with respect to roles and judgments (Salganicoff 1990). These differences can produce more opinions, higher discrepancies, and critical questions inside boardrooms, which may be time-consuming and may slow the decision-making process (Campbell and Minguez-

Vera 2008). In some cases, these discrepancies could lead to increased conflicts among board members and destructive behaviors (Ali et al., 2014), which may generate less fluid communication and less cooperative attitudes (Campbell and Minguez-Vera 2008). All of these factors could ultimately create unproductive interactions (Adams and Ferreira 2009) and decrease strategic consensus, thus hindering the board's contribution to the EO–firm performance relationship.

Despite these potentially negative effects in extreme cases, gender diversity in the boardroom usually allows family SMEs to make more creative, innovative, and effective decisions (Wilson et al. 2013). Women directors have a greater ability to multitask as well as to overcome contradictions in decision making (Francis 1999). Gender diversity may thus enable access to a wider pool of human capital (Runyan et al. 2006). Furthermore, female directors are usually better prepared than are male directors (Post and Byron 2015) because they usually have higher university education and hold advanced degrees (Carter et al. 2010).Women directors usually outperform in terms of marketing and sales competence (Groysberg and Bell 2013), so heterogeneous boards may have a better understanding of the market and a better capacity to design successful responses to market opportunities (Carter et al. 2010). This is in line with the stronger ability of women directors to trust their instincts and intuition rather than make decisions based solely on analysis and rationality (Martinez Jimenez 2009). In addition, male and female directors have different networks, which may provide complementary information about suppliers and consumers in different market segments (Ali et al. 2014), thus facilitating successful product development (Campbell and Minguez-Vera 2008).

Women directors also contribute useful female leadership qualities (Post and Byron 2015). In this sense, their colleagues and subordinates usually regard female directors as more supportive than their male counterparts, which may encourage the design and implementation of entrepreneurial initiatives (Ali et al. 2014). In addition, women directors are usually less risk-averse and have a lower tendency toward radical decision making (Croson and Gneezy 2009); this favors sustainable investments (Charness and Gneezy 2012), which may decrease the failure rate of entrepreneurial initiatives.

Finally, more diverse boards may have better qualified directors if firms recruit them from both genders without prejudice (Campbell and Minguez Vera 2008). Broadening the selection pool of directors to include both genders without sex

discrimination helps firms hire better talent (Ali et al. 2014). Thus, both public and private institution reports recommend gender diversity on boards to enhance board effectiveness and add value (e.g., Credit Suisse 2012). For these reasons, we propose that a higher female involvement on boards may reinforce the positive relationship between EO and firm performance.

> **Hypothesis 3.** Female involvement in the board of directors moderates the positive relationship between EO and performance such that higher levels of female involvement in the board strengthen this positive relationship

Influence of the strategic involvement level of the board in gender diversity and family involvement effects

The effects of the knowledge and expertise of highly competent, prestigious, and diverse board members may be somewhat subject to their strategic involvement (Zattoni et al. 2015). Scholars consider SIBD as the key differentiator in the increasing debate on the differences between active and passive boards (Machold et al. 2011). Board members' real contributions to a firm's strategic process depends on the degree of their real involvement in actively introducing strategy proposals, determining the long-term objectives of the business, implementing strategic decisions, and checking and measuring their impact (Minichilli et al. 2009). This active role may be particularly relevant in corporate entrepreneurship, given that it is the result of active collaboration between directors and senior managers (Zahra et al. 2009). This interaction aims to develop the business (Minichilli et al. 2009), so the board focuses on not only controlling the strategy (Kim et al. 2009) but also on cooperating with the TMT in strategy formulation and implementation (Machold et al. 2011).

Boards with higher strategic involvement may make the most of their characteristics while making strategic decisions (Calabro et al. 2013; Machold et al. 2011). Thus, as we propose in hypothesis 2, boards with a high SIBD and high family involvement may reinforce the bias of the family businesses toward family control, to the detriment of economic goals such as profitability and growth. Furthermore, this high SIBD in boards with a high proportion of family directors may strengthen the tendency toward parsimony (Carney 2005) and risk aversion (Voordeckers et al. 2007).

Accordingly, a high SIBD may reinforce the use of family directors' firm-specific knowledge instead of the adoption of diverse knowledge and perspectives that are more common among boards with less family involvement (Zattoni et al. 2015). Similarly, when directors are less involved in strategic decision making, their characteristics have less impact on the strategic process (Kim et al. 2009). Boards with high family involvement and low SIBD may not prioritize family control over short-term firm performance and may weaken the inclination toward parsimony (Zattoni et al. 2015) and risk aversion (Minichilli et al. 2009; Voordeckers et al. 2007), thus decreasing the negative impact of family involvement on the board in the EO–firm performance relationship (see Figure 1).

In each scenario, the SIBD may influence the moderating effect of family involvement on the board in the EO–firm performance relationship such that a high SIBD strengthens the negative moderating effect of family involvement in the EO–firm performance relationship while a low SIBD may decrease this negative moderating effect. We thus propose the following:

> **Hypothesis 4.** The SIBD affects the moderating effect of family involvement in the board in the EO–firm performance relationship such that a high SIBD strengthens this negative moderating effect while a low SIBD weakens it

In line with hypothesis 4, the degree to which board members engage in strategic decision making may influence the effect of female involvement in the board in the EO–firm performance relationship (see Figure 1). Boards with high strategic involvement may have more alternatives to evaluate during the problem-solving process (Rose 2007) due to the active involvement of diverse board members (Machold et al. 2011) during which female directors may contribute their unique knowledge, perspectives, and skills (Chapple and Humphrey, 2014). Further, a high SIBD may help firms design successful responses to current and new customer needs (Groysberg and Bell 2013) due to women directors' stronger marketing and sales abilities (Ali et al. 2014). A higher SIBD may help board members exchange information collected through the various networks (e.g., suppliers, consumers) that male and female directors have (Wilson et al. 2013). Additionally, SIBD may contribute significant and perceptible support of the kind usually provided by female directors to colleagues and subordinates due to their

leadership style (Post and Byron 2015). This support and confidence may be key for designing entrepreneurial initiatives and successfully implementing them.

Female directors make contributions based on their unique knowledge, capabilities (Ferreira and Adams 2009), marketing abilities, and networks (Ali et al. 2014), and encourage entrepreneurial initiatives (Post and Byron 2015), which may be diminished in firms with low SIBD. We thus propose the following:

> **Hypothesis 5.** SIBD affects the moderating effect of female board involvement in the EO–firm performance relationship such that a high SIBD strengthens this positive moderating effect while a low SIBD weakens it

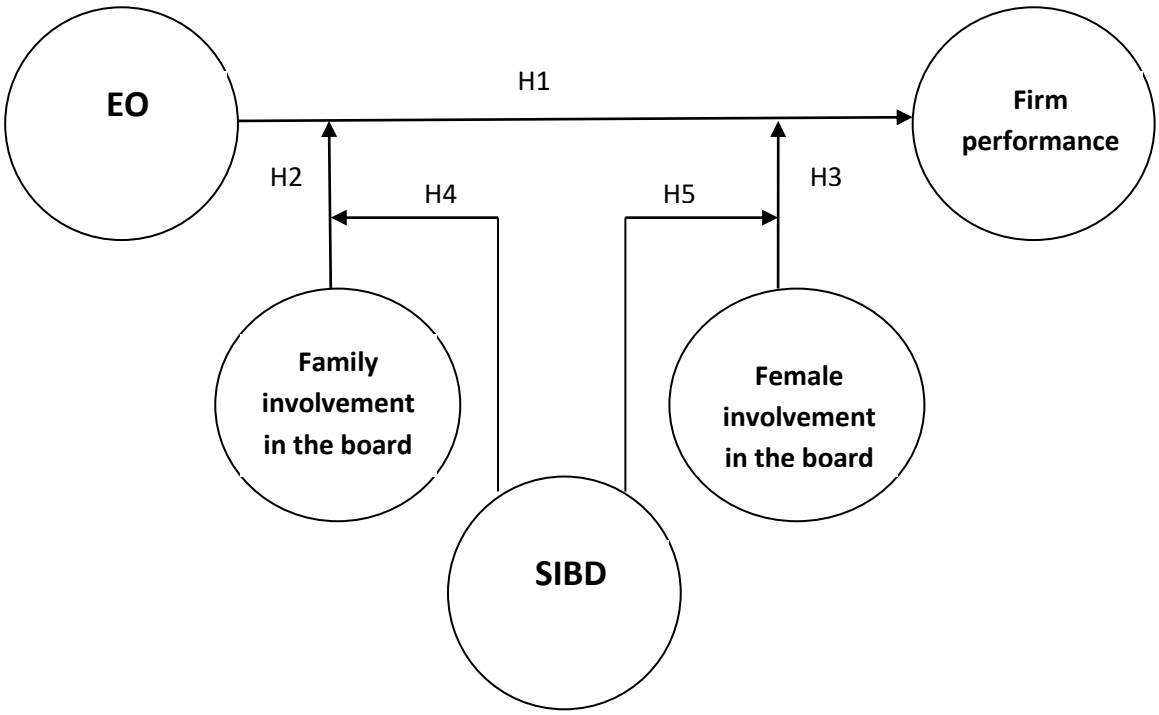

Figure 1. Research model and hypotheses

Method

Sample and data collection

We test our hypotheses using quantitative methods based on survey data collected in Spain. We based the survey on measures established in the literature and collected data in June 2013 through telephone interviews conducted by a professional survey research firm to ensure quality and a high response rate. Before the survey began, we sent a letter to the CEPs of these businesses describing our research and asking for their cooperation. We selected CEOs as respondents because they are the best key informants given their qualifications in organization-wide issues and are better placed than are other board members to report on these issues (Calabro et al. 2013).

We selected Spanish family SMEs from the SABI database (Iberian Balance Sheet Analysis System). Among the criteria used to define "family firm," we selected two (Dyer 2003): (1) whether one or more families controlled business ownership and (2) active family participation in its management. We considered 50% as the minimum equity indicating that a family has control (Voordeckers et al. 2007). According to these criteria, we examined the shareholding structure (percentage of common stock) and the identity of ownership in detail (Arosa et al. 2010). We then refined the sample by removing entries without mailing addresses or those with incongruent data, obtaining a final sample of 1,710 family SMEs. We then pretested the questionnaires to ensure that the questions were clear and understandable by conducting informal interviews with nine randomly chosen CEOs of family firms not included in the initial sample to discuss the survey instrument and modify the wording where necessary.

Starting from the sample of 1,710 non-listed Spanish SMEs, we obtained 230 responses (13.45%), a typical response rate for this type of research (e.g., Brettel and Rottenberger 2013; Uhlaner et al. 2007). We tested for any non-response bias by comparing the answers of early and late respondents. Based on the order in which we received responses, we divided the total pool into two response waves. These had no statistically significant differences, suggesting that non-response bias was not a problem in our study (Armstrong and Overton 1977).

Common method bias

Given that this study relies on CEOs as key respondents and on information provided by one person in a single timeframe (Campbell and Fiske 1959), the results may have common method bias. We addressed common method variance by performing ex-ante adjustments in the survey design. First, to avoid having participants respond in a purely socially desirable way, we ensured respondent anonymity and absolute confidentiality (Podsakoff et al. 2003). Second, we segmented the independent and dependent variables into different sections of the survey so that it would be difficult to link the various concepts (Kortmann 2015). This design and the extensiveness of the survey encourage respondents to think carefully about each answer; respondents also had the opportunity to ask the interviewer to read the instructions and definitions for each question (Podsakoff et al. 2003). Third, we considered different response formats within and across the sections of the survey (Grewal et al 2010). Most of the questions used 10-point Likert scales, though we used different indices, such as "completely agree"/"completely disagree," "completely wrong"/"completely right," and "very seldom"/"very frequently" (Kortmann 2015).

Furthermore, we tested for common method variance using two post hoc tests of the data: Harman's single-factor test (Harman 1967; Podsakoff and Organ 1986) and a procedure in Podsakoff et al. (2003) and Liang et al. (2007) used to address common method bias. The first test presumes that, if common method bias exists, either a single factor will emerge from the factor analysis of all measurement items, or one general factor that accounts for most of the variance will emerge (Kortmann 2015). In this case, Harman's single-factor test revealed that the first factor accounted for 24.1% of the total variance in the sample, while four factors with eigenvalues greater than 1.0 accounted for 54.2% of the variance. In the second method, we included a common method factor and linked it to all single-indicator constructs converted from the observed indicators. We then compared the indicator variances explained by the method factor to the variance explained by the substantive constructs. On average, the constructs explained 71.01% of the variance in the sample, whereas the method factor explained 0.67% of the variance on average, resulting in a substantive-to-method variance ratio of about 105.99 (see Appendix 5.1). Moreover, most method factor loadings were insignificant. Given that both tests indicated a lack of common method bias, we concluded that common method bias was either absent or negligibly low (Kortmann 2015).

Measures

We used variables in our analysis drawn from previously validated instruments. We based the dependent variable (firm performance) and the main independent variable (EO) on multiple-item constructs, with all items measured through Likert-type scales. Table 1 summarizes the main descriptive statistics of the firms in the sample.

Table 1. Sample description

Firm characteristic	Mean	SD
Number of observations	230	
Firm size (employees)	97.72	113.51
Firm age (years)	28.46	14.81
Generation in control (CEO)	2.03	0.75
Generations involved	1.48	0.58
Board size (directors)	4.21	1.85
Family involvement (family director ratio)	0.84	0.23
Female involvement (female director ratio)	0.26	0.23

Family firm performance. We followed previous research indicating that subjective measures of performance can actually reflect objective measures and enhance validity and reliability (Lumpkin and Dess 2001). We asked respondents to evaluate two items on an 11-point scale (0 = "Completely wrong" to 10 = "Completely right"): the increase in their firm's sales compared to their major competitors during the last five years (Sorenson et al. 2009) and their firms' financial results compared to that of their major competitors in the last five years (Vallejo-Martos 2011).

However, given that objective performance measures are less prone to common method bias (Stam and Elfring 2008), we tested the robustness of our family firm performance measure by calculating the correlation between this construct and two other objective measures (Wiklund and Shepherd 2005), ROA and ROE, with ROA defined as EBITDA (Earnings Before Interest, Taxes, Depreciation, and Amortization) divided by total assets (Anderson and Reeb 2004; Villalonga and Amit 2006) and ROE

defined as net income divided by the book value of equity (Maseda et al. 2015). Significant correlations between the firm performance construct and ROA (r= 0.39, *p<0.001)* as well as the firm performance construct and ROE (r= 0.44, *p<0.001)* supported the validity of the subjective measure.

Entrepreneurial orientation. We measured the EO of family firms using Covin and Slevin's (1989) proposed second-order construct, based on the works of Miller and Friesen (1982) and Miller (1983) and refined into its current definition (e.g., Cruz and Nordqvist 2012; Nordqvist et al. 2008; Moreno and Casillas 2008; Sciascia et al. 2013). This construct has three dimensions—innovativeness, proactiveness, and risk taking—as first-order constructs, each with three items. EO is a second-order reflective construct expressing changes in the underlying latent construct as reflected in changes to the indicators (Jarvis et al. 2003). We measure EO using a "Type I" second-order factor specification (i.e., reflective first-order, reflective second-order), since both the first-order dimensions and the second-order construct are reflective variables (Covin and Wales 2012). Higher overall scores on the 9-item EO scale indicate a high EO, while lower scores indicate a more conservative orientation.

Family involvement in the board. We measured family involvement in the board as the proportion of family members on the board (family director ratio). For this purpose, respondents indicated the number of actively involved family members on the board and the total number of board members. We then divided the number of family board members by the total number of board members to calculate the family director ratio (Bammens et al. 2008).

Female involvement in the board. We measured female involvement in the board as the proportion of women on the board (female director ratio). Respondents indicated the number of women actively involved in the board and the total number of board members. We then divided the number of women board members by the total number of board members to calculate the female director ratio (Adams and Ferreira 2009; Campbell and Minguez-Vera 2008).

Strategic involvement of the board of directors. We measured SIBD on a scale validated by Machold et al. (2011) and Minichilli et al. (2009) that measures the various strategy processes to which boards of directors should contribute (Machold et al. 2011). Respondents evaluated four items on an 11-point scale (0 = "very low" to 10 = "very

high") in terms of the degree of the board's involvement in (1) actively initiating strategic proposals; (2) making decisions on long-term strategies and main goals; (3) implementing strategic decisions, and (4) controlling strategic decisions. We computed the variable *strategy involvement* as an index using the mean value of these items (Machold et al. 2011).

Control variables. We included additional variables to ensure a proper model specification and to consider possible alternative explanations for the results. First, we controlled for *firm size*, measured by the actual number of full-time employees. Larger firms usually have more slack resources, which encourage entrepreneurial initiatives (Samiee and Walters 1990) and tend to reflect higher-quality management, technological intensity, and investment in research and development (Calabro et al. 2013). Second, we included *firm age*, measured as the number of years since the firm's founding because younger firms usually have more trouble launching entrepreneurial initiatives given their limited experience in the market. On the other hand, younger firms are typically better positioned to capitalize on the benefits of diversity, such as creativity and innovation (Ali et al. 2014). We use the log of both variables as a control to adjust for skewness. Third, we controlled for *board size*, measured as the number of board directors with voting rights, since the corporate governance literature suggests that board size impacts board task performance (Calabro et al. 2013), given that larger boards represent more perspectives and a wider set of skills, though this can also create coordination conflicts (Wilson et al. 2013). Additionally, some research finds that larger boards have more female directors (Terjesen et al. 2009). Fourth, for the *generation in control*, we used a dummy variable (first, second, or third and subsequent as a suppressed category) to reflect which generation has management control (Sciascia et al. 2013). We included this variable based on prior research indicating that family firm generation has a significant effect on EO (Cruz and Nordqvist 2012). Fifth, we controlled for *generational involvement*, measured as a dummy variable using a direct single item in which CEOs indicated the number of generations (one, two, three, or more) currently involved in the firm's management (Kellermanns and Eddleston 2006). Previous studies show that the number of generations involved in the top management team influences the level of family firm EO (Sciascia et al. 2013).

Statistical methods

We conducted the analysis using structural equation modeling because our model included latent constructs (Hair et al. 2012). We used the partial least squares (PLS) approach since some of its main characteristics make it especially suitable for this research. First, PLS can capture the normative implications of the total system of variables and holistically clarify the entire model (Schuster and Holtbrügge 2014), which is relevant in our study because we estimated a model of simultaneous relationships between two different board composition diversity factors (family involvement and female involvement) and SIBD level. Hence, PLS can provide a complete overview of the model. Second, the PLS technique allows researchers to optimally weigh and combine items for constructs along different dimensions to ensure a reliable assessment of the second-order latent variable (Real et al. 2014). Finally, previous studies show that the PLS-SEM algorithm transforms non-normal data in line with the central limit theorem (Hair et al. 2012), making the PLS-SEM results robust when skewed data are used (Cassel et al. 1999).

We use the bootstrapping technique to estimate the significance of the relationships in our model (Hair et al. 2012) with the SmartPLS 2.0 software package (Ringle et al. 2005). We constructed the same number of observations as in the original sample in each of 5,000 bootstrap samples (Hair et al. 2012) and allowed for individual sign changes in each procedure (Henseler et al. 2009). To test the hypotheses, we assessed the sign and magnitude of the path coefficients and their t-values, obtained by applying nonparametric bootstrapping, and calculated effect sizes and total effects (Chin, 1998). The following section reports the PLS path coefficients and t-values, along with the R^2 value for the endogenous construct.

Results

Measurement model

We analyzed the psychometric properties of the measurement scales through (1) individual item reliabilities, (2) the convergent validity of measures associated with individual constructs, and (3) discriminant validity (Hulland 1999). Item reliability

measures the degree to which an item loads on its intended construct. Given that the shared variance between an item and a construct should be higher than that between the construct and error variance, the items should have loadings higher than .7 (Carmines and Zeller 1979; Hulland 1999). All items in the measurement model satisfy this condition (see Table 2). Second, we examined convergent validity via composite reliability (CR) and Cronbach's alpha, applying the suggested .7 benchmark for reliability (Hulland 1999). All measures exceed this benchmark, indicating internal consistency (see Table 2). Third, we analyzed the discriminant validity of the measures according to whether the average variance extracted (AVE) of a measure was greater than .5 and its square root was greater than its coefficients of correlation with the other measures (Chin 1998; see Table 4). Table 3 shows that each scale meets these criteria. Given that all of Hulland's (1999) proposed requirements are fulfilled, the psychometric properties show adequate reliability and validity.

Table 2. Reliability and convergent validity of the measurement model

Factor	**Item**	**Loading**	**t-value**	**CA**	**CR**	**AVE**
F1. Entrepreneurial orientation	2nd order			0.84	0.88	0.66
	Inn1	0.791 ***	95.104	0.77	0.87	0.68
	Inn2	0.852 ***	174.621			
	Inn3	0.838 ***	146.424			
	Pro1	0.851 ***	112.746	0.69	0.83	0.62
	Pro2	0.863 ***	126.839			
	Pro3	0.634 ***	41.018			
	Rtk1	0.832 ***	140.614	0.80	0.88	0.71
	Rtk2	0.865 ***	163.635			
	Rtk3	0.835 ***	127.769			
F2. Firm performance	Per1	0.931***	151.034	0.86	0.93	0.88
	Per2	0.941***	314.115			

Note: Total sample measurement model: individual reliability, composite reliability, and AVE for the first-order factors and second-order factors

Table 3. Averages, typical deviations, and discriminant validity coefficients for the full sample

	Construct	Mean	SD	Minimum	Maximum	1	2
1.	Entrepreneurial orientation	6.28	2.66	0	10	0.66	
2.	Firm performance	6.47	1.86	0	10	0.09	0.88

Note: Values on the diagonal are the AVE. Below the diagonal: squared correlations between factors.

Table 4. Descriptive statistics and correlations

	Variable	Mean	S.D.	Max	Min	1	2	3	4	5	6	7	8	9	10	11	12
1	Board size	4.21	1.85	16	3	1.00											
2	EO	6.28	2.66	10	0	0.00	1.00										
3	Family involvement in the board	0.84	0.23	1	0	-0.23	0.12	1.00									
4	Female involvement in the board	0.26	0.23	1	0	0.10	0.04	0.02	1.00								
5	Firm size (log)	1.99	0.24	3.07	1.65	0.07	0.09	-0.10	0.17	1.00							
6	Firm age (log)	1.46	0.19	2.17	0.85	0.24	0.05	-0.02	0.05	0.05	1.00						
7	Firm performance	6.47	1.86	10	0	0.00	0.30	0.03	-0.03	0.15	-0.09	1.00					
8	Generation in control	2.03	0.75	4	1	0.10	0.04	0.05	0.07	-0.09	0.48	-0.04	1.00				
9	Generation involvement	1.48	0.58	4	1	0.05	0.10	0.04	0.05	0.04	0.06	0.12	-0.21	1.00			
10	Innovativeness	6.58	2.73	10	0	-0.04	0.81	0.13	0.00	0.06	0.01	0.21	0.04	0.03	1.00		
11	Proactiveness	6.54	2.28	10	0	0.07	0.83	0.08	0.06	0.12	0.12	0.27	0.08	0.07	0.54	1.00	
12	Risk taking	5.77	2.63	10	0	-0.04	0.80	0.08	0.06	0.04	-0.02	0.26	-0.02	0.14	0.43	0.51	1.00

Structural model

We tested the quality of the structural model assessment by estimating the path coefficients, their significance via bootstrap tests, their R^2 values, and the Stone Geisser Criterion (Q^2) derived using the blindfolding procedure with an omission distance of 7 for predictive relevance (Geisser 1975; Stone 1974; Tenenhaus et al. 2005). We conducted this analysis for both the total sample and the two subsamples (Real et al. 2014). The three main paths are significant. Furthermore, our dependent variable reached R^2 values above 0.1 (Falk and Miller 1992). The cross-validated redundancy indices (Q^2) (Geisser 1975; Stone 1974) confirm that the three structural models have satisfactory predictive relevance for the endogenous variable (firm performance).

The direct effect of EO on firm performance and the moderating effect of family and female involvement in the board

To test for the direct effect of EO on firm performance (H1) and the moderation hypotheses of family (H2) and female (H3) involvement in the board, we estimated the significance of these relationships in our model using the bootstrapping technique (Hair et al. 2012). We assessed the sign and magnitude of the path coefficients and their t-values, which we obtained by applying nonparametric bootstrapping, and calculated effect sizes and total effects (Chin 1998).

The direct effect of EO on firm performance was positive and significant (β= 0.283; t=17.57 $p < .01$; R^2= 0.130), supporting Hypothesis 1. We next examined the path coefficients related to the hypotheses in more detail. For Hypotheses 2 and 3, we considered the contingency effects of the family director ratio and female involvement in the board on EO-firm performance, respectively. The results indicate that the impact of EO on firm performance varies with the family and female involvement in the board. On one hand, in line with our expectation, our results indicate that the positive effect of EO on firm performance decreases as family involvement in the board increases (β = -0.208, t=7.067 $p < 0.01$; R^2= 0.169). These results support Hypothesis 2. On the other hand, our results related to Hypothesis 3 show that the positive effect of EO on firm performance increases as female involvement in the board increases (β= 0.159;

t=13.879 $p < .01$; $R^2 = 0.155$). Specifically, our results indicate that the more women the board has, the more intense is the positive effect of EO on firm performance, supporting Hypothesis 3.

Multi-group analysis: The moderating effects of SIBD

Hypotheses 4 and 5 posit the moderating effects of SIBD on the relationships between family and female involvement in the board in the EO–firm performance relationship, respectively. Following Machold et al. (2011) and Minichilli et al.'s (2009) scales, respondents evaluated four items on an 11-point scale (0 = "very low" to 10 = "very high"). We then formed an index to calculate the average of these four items and dichotomized the data by grouping the SIBD scores (ranging from 0 to10) into three equal categories (low, medium, and high levels of SIBD), from lower to higher scores. Following Henseler and Fassot (2010), we adopted a multi-group or multi-sample analysis.

A multi-group comparison involves dividing the sample into groups according to the moderator variable. Afterwards, we estimated each group of observations in the model separately (Real et al. 2014). We considered the statistically significant differences in path coefficients between subsamples as moderating effects (Qureshi and Compeau 2009). We followed the polar extreme approach developed by Hair et al. (2016) and used the two categories in the extreme positions (low and high SIBD) to determine whether there was a moderating effect. This technique clearly shows the differences among two different groups by avoiding the medium values of the scale that can distort the comparison (Picón-Berjoyo et al. 2016). Thus, we divided the sample into the following two groups: family SMEs with high SIBD and those with low SIBD. We confirmed the significance of the differences between the two categories using Chin's (2000) proposed multi-group analysis (Qureshi and Compeau 2009). We examined the moderating effect using a *t*-test with pooled standard errors (see Table 5). This is a parametric approach (Henseler 2007; see Appendix 5.2).

Table 5. Multi-group analysis

	Moderator variable	High SIBD	Low SIBD	$Path_{HighSIBD}$ - $Path_{LowSIBD}$	t-value	Supported
H4	Family involvement in the board	0.295	-0.212	0.497***	15.44	Yes (partially)
H5	Female involvement in the board	0.237	-0.244	0.481***	31.89	Yes

*$p < 0.05$, $t_{(0.05, 230)} = 1.97$; **$p < 0.01$, $t_{(0.01, 230)} = 2.60$; ***$p < 0.001$, $t_{(0.001, 230)} = 3.33$.

The findings partially support Hypothesis 4, which proposed that SIBD has a significant effect on the negative impact of family involvement on the EO–firm performance relationship such that a high SIBD strengthens this effect while a low SIBD weakens it. Our results indicate that, as hypothesized, the effect differs significantly between the group of family SMEs with high SIBD and the group with low SIBD ($Path_{HighSIBD} > Path_{LowSIBD}$, $p < 0.001$; see Table 5). While family involvement in the board maintains a negative moderating impact in the EO–firm performance link among family SMEs with low SIBD, this moderating effect becomes positive for family SMEs with high SIBD.

In line with Hypothesis 5, the results confirm that the influence of female involvement in the board on the EO–firm performance link also differs significantly between the high-SIBD group of family SMEs and the low-SIBD group ($Path_{HighSIBD} > Path_{LowSIBD}$, $p < 0.001$; see Table 5). While female involvement in the board maintains a positive moderating impact in the EO–firm performance link among family SMEs with high SIBD, this moderating effect becomes negative for firms with low SIBD, thus supporting Hypothesis 5.

Discussion

This study addresses the recent calls to help provide conclusive results to describe the EO–firm performance link (Rauch et al. 2009) and incorporate moderating variables that clarify this relationship within family businesses (Schepers et al. 2014). Given these calls and given that boards are a critical strategic asset that contributes strategic perspectives in strategic decision making (Kim et al. 2009), this study posited that family and female involvement in boards meaningfully affects the EO–firm

performance relationship in family SMEs. Boards in these organizations make decisions differently from non-family public companies, as they are more concerned about firm survival, family welfare, and succession plans than about obtaining short-term financial returns (Pugliese and Wenstop 2007). This study also focuses on the role of behavioral variables and distinguishes between the two board composition effects among firms with high SIBD and low SIBD. The empirical investigation, based on a sample of 230 family SMEs in Spain, produced some interesting results that have important implications for both research and practice.

Concerning family/non-family director diversity measured using the family director ratio, lower levels of family involvement in the board enhanced the positive impact of EO on firm performance in family SMEs. This supports our argument that boards with high family involvement have more risk aversion toward entrepreneurial initiatives (Gomez-Mejía et al. 2007) and are less prepared to design successful entrepreneurial initiatives due to their limited knowledge, perspectives, expertise, and network diversity (Lai and Chen 2014). This finding is important because, although previous studies have examined TMT heterogeneity in the EO–firm performance relationship, there is a lack of research on the effect that board diversity may have on EO–firm performance. Furthermore, considering that EO results from the collaboration between the TMT and board members (Eddleston et al. 2008), our research findings complement those of Van Doorn et al. (2013) related to the impact of TMT heterogeneity on the EO–firm performance relationship. Future research should build on these findings and investigate the effect of different levels of family involvement in the TMT and board when collaborating to turn EO into successful firm performance. We also found that the board's strategic involvement level affects the moderating effect of the family involvement level in the EO–firm performance relationship. Contrary to our expectations, a high SIBD changes the indirect effect of high family involvement in the board from negative to positive, while low SIBD maintains its negative effect. This result may have occurred because boards with a high family director ratio can counteract the negative effects of their lack of diverse knowledge, expertise, and perspectives by developing an active strategic attitude, which may motivate family directors to establish professional connections with professional consultancy firms that can add their knowledge of how to succeed in entrepreneurial initiatives.

Regarding the influence of female involvement in the board on the EO–firm performance relationship, higher levels of female involvement strengthen the positive impact of EO on firm performance in family SMEs. This supports our arguments that higher levels of female involvement in the board better position firms to adopt higher-quality decisions (Ali et al. 2014) given that women contribute different knowledge, expertise, and skills, which add a wider variety of perspectives (Terjesen et al. 2009) and may complement male directors' characteristics (Adams and Ferreira 2009). In addition, apart from women's outstanding marketing and sales competencies, their lower tendency toward risk aversion (Croson and Gneezy 2009), and their tendency toward more supportive leadership styles for entrepreneurial initiatives (Post and Byron 2015), firms can recruit directors without discriminating based on sex (Credit Suisse 2012) to obtain better talent (Ali et al. 2014). This finding is important given the inconclusive results about the effects of female involvement in the board on various tasks (Post and Byron 2015). We also showed that SIBD impacts the moderating effect of female involvement in the board in the EO–firm performance relationship. In line with our expectations, we found that, while a high SIBD enhances the positive moderating effect of female involvement in the board in the in EO-firm performance relationship, a low SIBD weakens it. As hypothesized, male and female directors behave differently, which may initially result in mistrust between these two types of directors and create conflict (Adams and Ferreira 2009). These conflicts may result in less fluid communication and cooperation, especially when directors are not highly involved in strategy (Campbell and Minguez-Vera 2008). However, when board members become highly involved in strategic tasks, communication and cooperation between directors improves, and the initial mistrust between female and male directors disappears. Furthermore, a higher SIBD appears to help firms take advantage of the complementary perspectives that female and male directors have, creating active debate about entrepreneurial initiatives and boosting creativity, which may turn into successful entrepreneurial outcomes.

Implications, limitations, and future research

In terms of theoretical implications, our study underscores the importance of board diversity in family firms by demonstrating that both female and family

involvement in the board enhances the EO's positive effects on firm performance. This is important considering the need to examine different moderating variables to clarify the inconclusive results for EO–firm performance within family businesses (Schepers et al. 2014) and to help researchers better understand the effects of board composition because boards are considered major strategic assets (Kim et al. 2009). This study also suggests that the effects of board composition depend on its SIBD, shedding light on this little-known behavior variable.

Furthermore, the implications of board diversity and board behavior reach beyond academia. From a managerial perspective, this study has two important implications for practitioners. The first relates to the fact that most boards in family businesses have historically comprised male (Wilson et al. 2013) family members (Voordeckers et al. 2007). However, this study reveals that introducing more non-family members and female directors may provide diverse perspectives on strategic issues that may help the firm succeed in its entrepreneurial initiatives. The second implication relates to the board's strategic involvement. SIBD may be very important for family business owners: a high SIBD may enhance the positive effect of high female involvement in the board, while low strategic involvement may turn this positive effect negative. On the other hand, boards with high family involvement should engage more actively to take advantage of family directors' knowledge about the firm's internal processes, which may contribute to the success of entrepreneurial initiatives.

Like any study, this one is subject to a number of limitations, which open avenues for future research. First, our study is cross-sectional. Further evidence is needed on the causal relationships between the dependent and independent variables through longitudinal research. However, we based our hypotheses on existing theory (e.g., Rauch et al. 2009) and tested for common method bias (Podsakoff and Organ 1986), and did not find any concerns that may have affected our results (Kellermanns and Eddleston 2006). However, future research could help explain the potential changes in firm performance over time by collecting longitudinal data on CEOs' views of EO, SIBD, and board composition in their firms. Second, drawing a sample of SMEs from a single national context, Spain, has its limitations. EO is closely linked to cultural contingencies as well as family firms' characteristics, which vary across countries (Cruz and Nordqvist 2012). Thus, future studies should replicate this research in other cultural settings. Third, apart from the behavioral variable SIBD, we included only female involvement and family member involvement as characteristics of board diversity to

examine the potential moderating effect of board diversity in the conceptual model and empirical analyses. In this regard, a serious limitation of this study is that it did not differentiate between independent directors and affiliates, whose contributions to strategy decision making can differ significantly (Samara and Berbegal-Mirabent 2017). Thus, it would be interesting to measure the moderating effect of board diversity in the EO–firm performance relationship by dividing directors into affiliates and independent ones, given that, while the formers usually have strong social ties with senior managers and know the internal business dynamics (Anderson and Reeb, 2004), the latter may add industry- and market-specific knowledge (Chen et al. 2016) and can be perceived as a threat to family decision making (Jones et al. 2008). It would also be useful to examine the moderating effect on the EO–firm performance link in family firms that board composition may have in terms of directors' tenure and/or the number of boards the directors are serving on simultaneously (Nekhili and Gatfaoui 2013). Both factors may have an important impact because board characteristics generally contribute to the strategy process (Machold et al. 2011).

References

Adams, R. B., & Ferreira, D. (2009). Women in the boardroom and their impact on governance and performance. *Journal of Financial Economics*, 94(2), 291-309.

Ali, M., Ng, Y. L., & Kulik, C. T. (2014). Board age and gender diversity: A test of competing linear and curvilinear predictions. *Journal of Business Ethics, 125(3),* 497-512.

Anderson, B. S., & Eshima, Y. (2013). The influence of firm age and intangible resources on the relationship between entrepreneurial orientation and firm growth among Japanese SMEs. *Journal of Business Venturing*, *28*(3), 413-429.

Anderson, R. C., & Reeb, D. M. (2004). Board composition: Balancing family influence in S&P 500 firms. *Administrative Science Quarterly*, *49*(2), 209-237.

Armstrong, J. S., and Overton, T. S. (1977). Estimating nonresponse bias in mail surveys. *Journal of Marketing Research,* 396-402.

Arosa, B., Iturralde, T., & Maseda, A. (2010). Outsiders on the board of directors and firm performance: Evidence from Spanish non-listed family firms. *Journal of Family Business Strategy*, *1*(4), 236-245.

Astrachan, J. H., & Shanker, M. C. (2003). Family businesses' contribution to the US economy: A closer look. *Family Business Review*, *16*(3), 211-219.

Bammens, Y., Voordeckers, W., & Van Gils, A. (2008). Boards of directors in family firms: A generational perspective. *Small Business Economics*, *31*(2), 163-180.

Bammens, Y., Voordeckers, W., & Van Gils, A. (2011). Boards of directors in family businesses: A literature review and research agenda. *International Journal of Management Reviews*, *13*(2), 134-152.

Basco, R. (2013). Exploring the influence of the family upon firm performance: Does strategic behaviour matter?. *International Small Business Journal*, 0266242613484946.

Berrone, P., Cruz, C., & Gomez-Mejia, L. R. (2012). Socioemotional wealth in family firms theoretical dimensions, assessment approaches, and agenda for future research. *Family Business Review*, *25*(3), 258-279.

Berrone, P., Cruz, C., Gomez-Mejia, L. R., & Larraza-Kintana, M. (2010). Socioemotional wealth and corporate responses to institutional pressures: Do family-controlled firms pollute less?. *Administrative Science Quarterly*, *55*(1), 82-113.

Bøhren, Ø., & Strøm, R. Ø. (2010). Governance and politics: Regulating independence and diversity in the board room. *Journal of Business Finance & Accounting*, 37(9-10), 1281-1308.

Boling, J. R., Pieper, T. M., & Covin, J. G. (2016). CEO tenure and entrepreneurial orientation within family and nonfamily firms. *Entrepreneurship Theory and Practice*, 40(4), 891-913.

Brettel, M., & Rottenberger, J. D. (2013). Examining the Link between Entrepreneurial Orientation and Learning Processes in Small and Medium-Sized Enterprises. *Journal of Small Business Management*, *51(4)*, 471-490..

Calabrò, A., Torchia, M., Pukall, T., & Mussolino, D. (2013). The influence of ownership structure and board strategic involvement on international sales: The moderating effect of family involvement. *International Business Review*, *22*(3), 509-523.

Campbell, D. T., & Fiske, D. W. (1959). Convergent and discriminant validation by the multitrait-multimethod matrix. *Psychological Bulletin*, *56*(2), 81-89.

Campbell, K., & Mínguez-Vera, A. (2008). Gender diversity in the boardroom and firm financial performance. *Journal of Business Ethics*, 83(3), 435-451.

Carmines, E. G., & Zeller, R. A. (1979). *Reliability and Validity Assessment* (Vol. 17). Sage publications.

Carney, M. (2005). Corporate governance and competitive advantage in family-controlled firms. *Entrepreneurship Theory and Practice*, *29*(3), 249-265.

Carter, D. A., D'Souza, F., Simkins, B. J., & Simpson, W. G. (2010). The gender and ethnic diversity of US boards and board committees and firm financial performance. *Corporate Governance: An International Review*, 18(5), 396-414.

Casillas, J. C., Moreno, A. M., & Barbero, J. L. (2011). Entrepreneurial orientation of family firms: Family and environmental dimensions. *Journal of Family Business Strategy*, 2(2), 90-100.

Cassel, C., Hackl, P., & Westlund, A. H. (1999). Robustness of partial least-squares method for estimating latent variable quality structures. *Journal of Applied Statistics*, *26(4)*, 435-446.

Chapple, L., & Humphrey, J. E. (2014). Does board gender diversity have a financial impact? Evidence using stock portfolio performance. *Journal of Business Ethics*, 122(4), 709-723.

Charness, G., & Gneezy, U. (2012). Strong evidence for gender differences in risk taking. *Journal of Economic Behavior & Organization*, 83(1), 50-58.

Chen, H. L., Hsu, W. T., & Chang, C. Y. (2016). Independent directors' human and social capital, firm internationalization and performance implications: An integrated agency-resource dependence view. *International Business Review*, *25*(4), 859-871.

Chin, W.W., (1998). "The partial least squares approach to structural equation modeling," In: Marcoulides, G. (Ed.), *Modern Methods for Business Research*. Lawrence Erlbaum, Hillsdale, NJ.

Chin, W. W. (2000). Frequently asked questions – partial least squares and PLSGraph. <http://disc-nt.cba.uh.edu/chin/ plsfaq/plsfaq.htm> (accessed on 21 December 2016).

Corbetta, G., & Salvato, C. (2004). Self-serving or self-actualizing? Models of man and agency costs in different types of family firms: A commentary on "comparing the agency costs of family and non-family firms: Conceptual issues and exploratory evidence". *Entrepreneurship Theory and Practice*, 28(4), 355-362.

Cole, P. M. (1997). Women in family business. Family Business Review, 10(4), 353-371.

Corbetta, G., & Salvato, C. (2012). Strategies for longevity in family firms: A European perspective. Palgrave Macmillan.

Covin, J. G., & Slevin, D. P. (1989). Strategic management of small firms in hostile and benign environments. *Strategic Management Journal*, *10*(1), 75-87.

Covin, J. G., & Slevin, D. P. (1991). A conceptual model of entrepreneurship as firm behavior. *Entrepreneurship: Critical Perspectives on Business and Management*, *3*.

Covin, J. G., & Wales, W. J. (2012). The measurement of entrepreneurial orientation. *Entrepreneurship Theory and Practice*, *36*(4), 677-702.

Credit Suisse, (2012). Gender diversity and corporate performance. *Credit Suisse Research Institute.*

Croson, R., & Gneezy, U. (2009). Gender differences in preferences. *Journal of Economic Literature*, 47(2), 448-474.

Cruz, C., & Nordqvist, M. (2012). Entrepreneurial orientation in family firms: A generational perspective. *Small Business Economics*, *38*(1), 33-49.

De Massis, A., Kotlar, J., Frattini, F., Chrisman, J. J., & Nordqvist, M. (2016). Family Governance at Work Organizing for New Product Development in Family SMEs. *Family Business Review*, 0894486515622722.

Dumas, C. (1992). Integrating the daughter into family business management. *Entrepreneurship: Theory & Practice*, 16(4), 41-56.

Dyer, W. G. (2003). The Family: The Missing Variable in Organizational Research$. *Entrepreneurship Theory and Practice*, *27*(4), 401-416.

Eddleston, K. A., Kellermanns, F. W., & Zellweger, T. M. (2008). Exploring the entrepreneurial behavior of family firms: does the stewardship perspective explain differences?. *Entrepreneurship Theory and Practice*, *36*(2), 347-367.

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

Francis, A. E. (1999). The daughter also rises. *Rudi, San Francisco, CA.*

Fuentes-Fuentes, M. M, Bojica, A. M., & Ruiz-Arroyo, M. (2015). Entrepreneurial orientation and knowledge acquisition: effects on performance in the specific context of women-owned firms. *International Entrepreneurship and Management Journal*, 11(3), 695-717.

Garcés-Galdeano, L., Larraza-Kintana, M., García-Olaverri, C., & Makri, M. (2016). Entrepreneurial orientation in family firms: the moderating role of technological intensity and performance. *International Entrepreneurship and Management Journal*, 12(1), 27-45.

Geisser, S., (1975). "A predictive approach to the random effect model," *Biometrika* 61, 101-107

Gómez-Mejía, L. R., Haynes, K. T., Núñez-Nickel, M., Jacobson, K. J., & Moyano-Fuentes, J. (2007). Socioemotional wealth and business risks in family-controlled firms: Evidence from Spanish olive oil mills. *Administrative Science Quarterly*, *52*(1), 106-137.

Grewal, R., Chakravarty, A., & Saini, A. (2010). Governance mechanisms in business-to-business electronic markets. *Journal of Marketing*, *74*(4), 45-62.

Groysberg, B., & Bell, D. (2013). Dysfunction in the boardroom. *Harvard Business Review,* 91(6), 89-97.

Gunawan, T., Jacob, J., & Duysters, G. (2016). Network ties and entrepreneurial orientation: Innovative performance of SMEs in a developing country. *International Entrepreneurship and Management Journal,* 12(2), 575-599.

Habbershon, T. G., & Williams, M. L. (1999). A resource-based framework for assessing the strategic advantages of family firms. *Family Business Review,* 12(1), 1-25.

Habbershon, T. G., Williams, M., & MacMillan, I. C. (2003). A unified systems perspective of family firm performance. *Journal of Business Venturing,* 18(4), 451-465.

Hair Jr, J. F., Hult, G. T. M., Ringle, C., & Sarstedt, M. (2016). *A primer on partial least squares structural equation modeling (PLS-SEM).* Sage Publications.

Hair, J.F., Sarstedt, M., Ringle, C.M., and Mena, J.A., (2012). "An assessment of the use of partial least squares structural equation modeling in marketing research," *Journal of the Academy of Marketing Science,* 40,414-433.

Hambrick, D. C. (2007). Upper echelons theory: An update. *Academy of Management Review, 32(2),* 334-343.

Harman, H. H. (1967). Modem factor analysis. Chicago: University of Chicago.

Henseler, J. (2007). 'A new and simple approach to multi-group analysis in partial least squares path modeling'. In H. Martens, T. Næs and M. Martens (eds), PLS'07: The 5th International Symposium on PLS and Related Methods, pp.104–107. Ås, Norway, 5–7 September.

Henseler, J., & Fassott, G. (2010). Testing moderating effects in PLS path models: An illustration of available procedures. In Handbook of partial least squares (pp. 713-735). Springer Berlin Heidelberg.

Henseler, J., Ringle, C. M., & Sinkovics, R. R. (2009). The use of partial least squares path modeling in international marketing. *Advances in International Marketing*, *20*(1), 277-319.

Hillman, A. J., & Dalziel, T. (2003). Boards of directors and firm performance: Integrating agency and resource dependence perspectives. *Academy of Management Review,* 28(3), 383-396.

Hulland, J., & Richard Ivey School of Business. (1999). Use of partial least squares (PLS) in strategic management research: A review of four recent studies. *Strategic Management Journal*, *20*(2), 195-204.

Huse, M. (2000). Boards of directors in SMEs: A review and research agenda. *Entrepreneurship & Regional Development,* 12(4), 271-290.

Iannarelli, C. L. (1992). The socialization of leaders: A study of gender in family business. *Unpublished doctoral dissertation, University of Pittsburgh.*

Jarvis, C. B., MacKenzie, S. B., & Podsakoff, P. M. (2003). A critical review of construct indicators and measurement model misspecification in marketing and consumer research. *Journal of Consumer Research, 30*(2), 199-218.

Johnson, S. G., Schnatterly, K., & Hill, A. D. (2013). Board composition beyond independence: Social capital, human capital, and demographics. *Journal of Management,* 39(1), 232-262.

Jones, C. D., Makri, M., & Gomez-Mejia, L. R. (2008). Affiliate directors and perceived risk bearing in publicly traded, family-controlled firms: The case of diversification. *Entrepreneurship Theory and Practice*, *32*(6), 1007-1026.

Kellermanns, F. W., & Eddleston, K. A. (2006). Corporate entrepreneurship in family firms: A family perspective. *Entrepreneurship Theory and Practice, 30(6),* 809-830.

Kellermanns, F. W., Eddleston, K. A., & Zellweger, T. M. (2012). Extending the socioemotional wealth perspective: A look at the dark side. *Entrepreneurship Theory and Practice,* 36(6), 1175-1182.

Kim, B., Burns, M. L., & Prescott, J. E. (2009). The strategic role of the board: The impact of board structure on top management team strategic action capability. *Corporate Governance: An International Review*, *17*(6), 728-743.

Kollmann, T., & Stöckmann, C. (2014). Filling the entrepreneurial orientation–performance gap: The mediating effects of exploratory and exploitative innovations. *Entrepreneurship Theory and Practice*, *38*(5), 1001-1026.

Kortmann, S. (2015). The Mediating Role of Strategic Orientations on the Relationship between Ambidexterity-Oriented Decisions and Innovative Ambidexterity. *Journal of Product Innovation Management*, *32*(5), 666-684.

Kotlar, J., & De Massis, A. (2013). Goal setting in family firms: Goal diversity, social interactions, and collective commitment to family-centered goals. *Entrepreneurship Theory and Practice, 37*(6), 1263-1288.

Lai, J. H., & Chen, L. Y. (2014). The valuation effect of corporate governance on stakeholder wealth: Evidence from strategic alliances. *International Review of Economics & Finance, 32,* 117-131.

Lages, M., Marques, C. S., Ferreira, J. J., & Ferreira, F. A. (2016). Intrapreneurship and firm entrepreneurial orientation: insights from the health care service industry. *International Entrepreneurship and Management Journal,* doi:10.1007/s11365-016-0428-1

Le Breton-Miller, I., & Miller, D. (2009). Agency vs. stewardship in public family firms: A social embeddedness reconciliation. *Entrepreneurship Theory and Practice,* 33(6), 1169-1191.

Liang, H., Saraf, N., Hu, Q., & Xue, Y. (2007). Assimilation of enterprise systems: the effect of institutional pressures and the mediating role of top management. *MIS Quarterly, 31(1)* 59-87.

Lim, S., & Envick, B. R. (2013). Gender and entrepreneurial orientation: a multi-country study. *International Entrepreneurship and Management Journal,* 9(3), 465-482.

Liñán, F., & Fayolle, A. (2015). A systematic literature review on entrepreneurial intentions: citation, thematic analyses, and research agenda. *International Entrepreneurship and Management Journal*, 11(4), 907-933.

Lumpkin, G. T., Brigham, K. H., & Moss, T. W. (2010). Long-term orientation: Implications for the entrepreneurial orientation and performance of family businesses. *Entrepreneurship and Regional Development,* 22(3-4), 241-264.

Lumpkin, G. T., & Dess, G. G. (2001). Linking two dimensions of entrepreneurial orientation to firm performance: The moderating role of environment and industry life cycle. *Journal of Business Venturing*, *16*(5), 429-451.

Lumpkin, G. T., Martin, W., & Vaughn, M. (2008). Family Orientation: Individual-Level Influences on Family Firm Outcomes. *Family Business Review*, *21*(2), 127-138.

Machold, S., Huse, M., Minichilli, A., & Nordqvist, M. (2011). Board leadership and strategy involvement in small firms: A team production approach. *Corporate Governance: An International Review*, *19*(4), 368-383.

Martinez Jimenez, R. (2009). Research on women in family firms: Current status and future directions. *Family Business Review,* 22(1), 53-64.

Maseda, A., Iturralde, T., & Arosa, B. (2015). Impact of Outsiders on Firm Performance over Different Generations of Family-Owned SMEs. *Journal of Small Business Management, 53(4),* 1203-1218.

Michiels, A., Voordeckers, W., Lybaert, N., & Steijvers, T. (2015). Dividends and family governance practices in private family firms. *Small Business Economics*, *44*(2), 299-314.

Miller, D. (1983). The correlates of entrepreneurship in three types of firms. *Management science*, *29*(7), 770-791.

Miller, D., & Breton-Miller, L. (2006). Family governance and firm performance: Agency, stewardship, and capabilities. *Family Business Review*, *19*(1), 73-87.

Miller, D., & Breton-Miller, L. (2011). Governance, social identity, and entrepreneurial orientation in closely held public companies. *Entrepreneurship Theory and Practice,* 35(5), 1051-1076.

Miller, D., & Friesen, P. H. (1982). Innovation in conservative and entrepreneurial firms: Two models of strategic momentum. *Strategic Management Journal*, *3*(1), 1-25.

Minichilli, A., Zattoni, A., & Zona, F. (2009). Making boards effective: An empirical examination of board task performance. *British Journal of Management*, *20*(1), 55-74.

Moreno, A. M., & Casillas, J. C. (2008). Entrepreneurial orientation and growth of SMEs: A causal model. *Entrepreneurship Theory and Practice*, *32*(3), 507-528.

Nekhili, M., & Gatfaoui, H. (2013). Are demographic attributes and firm characteristics drivers of gender diversity? Investigating women's positions on French boards of directors. *Journal of Business Ethics*, 118(2), 227-249.

Nordqvist, M., Habbershon, T. G., and Melin, L. (2008). "Transgenerational entrepreneurship: Exploring entrepreneurial orientation in family firms," In H. Landstro¨m, D. Smallbone, H. Crijns, and E. Laveren (Eds.), *Entrepreneurship, Sustainable Growth and Performance: Frontiers in European entrepreneurship Research* (pp. 93–116). London: Edward Elgar.

Picón-Berjoyo, A., Ruiz-Moreno, C., & Castro, I. (2016). A mediating and multigroup analysis of customer loyalty. *European Management Journal*, 34(6), 701-713.

Podsakoff, P. M., & Organ, D. W. (1986). Self-reports in organizational research: Problems and prospects. *Journal of Management*, *12*(4), 531-544.

Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: a critical review of the literature and recommended remedies. *Journal of Applied Psychology*, *88*(5), 879.

Post, C., & Byron, K. (2015). Women on boards and firm financial performance: A meta-analysis. *Academy of Management Journal*, *58(5),* 1546-1571.

Pugliese, A., & Wenstøp, P. Z. (2007). Board members' contribution to strategic decision-making in small firms. *Journal of Management & Governance*, *11*(4), 383-404.

Pugliese, A., Bezemer, P. J., Zattoni, A., Huse, M., Van den Bosch, F. A., & Volberda, H. W. (2009). Boards of directors' contribution to strategy: A literature review and research agenda. *Corporate Governance: An International Review*, *17*(3), 292-306.

Qureshi, I., & Compeau, D. (2009). Assessing between-group differences in information systems research: A comparison of covariance-and component-based SEM. *Mis Quarterly,* 197-214.

Randerson, K., Bettinelli, C., Fayolle, A., & Anderson, A. (2015). Family entrepreneurship as a field of research: Exploring its contours and contents. *Journal of Family Business Strategy*, *6*(3), 143-154.

Rauch, A., Wiklund, J., Lumpkin, G. T., & Frese, M. (2009). Entrepreneurial orientation and business performance: An assessment of past research and suggestions for the future. *Entrepreneurship Theory and Practice*, *33*(3), 761-787.

Real, J. C., Roldán, J. L., & Leal, A. (2014). From entrepreneurial orientation and learning orientation to business performance: analysing the mediating role of organizational learning and the moderating effects of organizational size. *British Journal of Management*, 25(2), 186-208.

Ringle, C.M., Wende, S., and Will, A., (2005). "SmartPLS 2.0. University of Hamburg", Hamburg, Germany.www.smartpls.de

Rose, C. (2007). Does female board representation influence firm performance? The Danish evidence. *Corporate Governance: An International Review*, 15(2), 404-413.

Runyan, R. C., Huddleston, P., & Swinney, J. (2006). Entrepreneurial orientation and social capital as small firm strategies: A study of gender differences from a resource-based view. *The International Entrepreneurship and Management Journal*, 2(4), 455-467.

Samara, G., & Berbegal-Mirabent, J. (2017). Independent directors and family firm performance: does one size fit all?. *International Entrepreneurship and Management Journal*, 1-24.

Salganicoff, M. (1990). Women in family businesses: Challenges and opportunities. *Family Business Review*, 3(2), 125-137.

Samiee, S., & Walters, P. G. (1990). Influence of firm size on export planning and performance. *Journal of Business Research*, *20*(3), 235-248.

Schepers, J., Voordeckers, W., Steijvers, T., & Laveren, E. (2014). The entrepreneurial orientation–performance relationship in private family firms: the moderating role of socioemotional wealth. *Small Business Economics*, *43*(1), 39-55.

Schuster, T., & Holtbrügge, D. (2014). Resource dependency, innovative strategies, and firm performance in BOP markets. *Journal of Product Innovation Management*, *31*(S1), 43-59.

Sciascia, S., Mazzola, P., & Chirico, F. (2013). Generational involvement in the top management team of family firms: Exploring nonlinear effects on entrepreneurial orientation. *Entrepreneurship Theory and Practice*, *37*(1), 69-85.

Sciascia, S., Mazzola, P., & Kellermanns, F. W. (2014). Family management and profitability in private family-owned firms: Introducing generational stage and the socioemotional wealth perspective. *Journal of Family Business Strategy*, 5(2), 131-137.

Simpson, W. G., Carter, D., & D'Souza, F. P. (2010). What do we know about women on boards?. *Journal of Applied Finance (Formerly Financial Practice and Education)*, 20(2).27-39.

Sirmon, D. G., & Hitt, M. A. (2003). Managing resources: Linking unique resources, management, and wealth creation in family firms. *Entrepreneurship Theory and Practice*, 27(4), 339-358.

Sorenson, R. L., Goodpaster, K. E., Hedberg, P. R., & Yu, A. (2009). The family point of view, family social capital, and firm performance: An exploratory test. *Family Business Review*, 22(3), 239-253.

Stam, W., & Elfring, T. (2008). Entrepreneurial orientation and new venture performance: The moderating role of intra-and extraindustry social capital. *Academy of Management Journal*, 51(1), 97-111.

Stone, M., (1974). "Cross-validatory choice and assessment of statistical predictions," *Journal of the Royal Statistical Society* 36, 111-147

Tenenhaus, M., Vinzi, V. E., Chatelin, Y. M., and Lauro, C. (2005). PLS path modeling. *Computational Statistics and Data Analysis*, *48*(1), 159-205.

Terjesen, S., Sealy, R., & Singh, V. (2009). Women directors on corporate boards: A review and research agenda. *Corporate Governance: an International Review*, 17(3), 320-337.

Uhlaner, L., Wright, M., & Huse, M. (2007). Private firms and corporate governance: an integrated economic and management perspective. *Small Business Economics 29 (3),* 225-241

Vallejo-Martos, M. C. (2011). The organizational culture of family firms as a key factor of competitiveness. *Journal of Business Economics and Management, 3,* 451-481.

Van Doorn, S., Jansen, J. J., Van den Bosch, F. A., & Volberda, H. W. (2013). Entrepreneurial orientation and firm performance: Drawing attention to the senior team. *Journal of Product Innovation Management*, *30*(5), 821-836.

Vera, C. F., & Dean, M. A. (2005). An examination of the challenges daughters face in family business succession. *Family Business Review*, 18(4), 321-345.

Villalonga, B., & Amit, R. (2006). How do family ownership, control and management affect firm value?. *Journal of Financial Economics*, 80(2), 385-417.

Voordeckers, W., Van Gils, A., & Van den Heuvel, J. (2007). Board Composition in Small and Medium-Sized Family Firms*. *Journal of Small Business Management*, *45*(1), 137-156.

Wiklund, J., & Shepherd, D. (2005). Entrepreneurial orientation and small business performance: a configurational approach. *Journal of Business Venturing*, 20(1), 71-91.

Wilson, N., Wright, M., & Scholes, L. (2013). Family business survival and the role of boards. *Entrepreneurship Theory and Practice, 37(6),* 1369-1389.

Wincent, J., Thorgren, S., & Anokhin, S. (2014). Entrepreneurial orientation and network board diversity in network organizations. *Journal of Business Venturing*, *29*(2), 327-344.

Yeniaras, V., Sener, P., & Unver, S. (2017). Is market learning the missing link between family involvement–firm performance relationship? A resource-based perspective. *International Entrepreneurship and Management Journal,* 13(2), 575-604.

Zahra, S. A., & Covin, J. G. (1995). Contextual influences on the corporate entrepreneurship-performance relationship: A longitudinal analysis. *Journal of Business Venturing,* 10(1), 43-58.

Zahra, S. A., Hayton, J. C., & Salvato, C. (2004). Entrepreneurship in family vs. Non-Family firms: A Resource-Based analysis of the effect of organizational culture. *Entrepreneurship Theory and Practice,* 28(4), 363-381.

Zahra, S. A., Filatotchev, I., & Wright, M. (2009). How do threshold firms sustain corporate entrepreneurship? The role of boards and absorptive capacity. *Journal of Business Venturing*, *24*(3), 248-260.

Zattoni, A., & Pugliese, A. (2012). Boards' Contribution to Strategy andInnovation. *The SAGE Handbook of Corporate Governance*, 217.

Zattoni, A., Gnan, L., & Huse, M. (2015). Does family involvement influence firm performance? Exploring the mediating effects of board processes and tasks. *Journal of Management*, *41*(4), 1214-1243.

Appendix 5.1. Common method bias

		Substantive factor		Common method factor	
Construct	**Item**	**Loading R1**	**Loading R1²**	**Loading R2**	**Loading R2²**
Entrepreneurial orientation	Inn1	0.79	0.6241	0.06	0.0036
	Inn2	0.85	0.7225	0.08	0.0064
	Inn3	0.84	0.7056	0.01	0.0001
	Pro1	0.85	0.7225	0.10	0.01
	Pro2	0.86	0.7396	0.09	0.0081
	Pro3	0.63	0.3969	0.10	0.01
	Rtk1	0.83	0.6889	0.02	0.0004
	Rtk2	0.87	0.7569	0.01	0.0001
	Rtk3	0.84	0.7056	0.04	0.0016
Firm performance	Per1	0.93	0.8649	0.06	0.0036
	Per2	0.94	0.8836	0.12	0.0144
Average			**0.7101**		**0.0067**
			Ratio		**105.99**

Appendix 5.2.

$$t = \frac{\text{PathHighSIBD} - \text{PathLowSIBD}}{\text{Sp}\sqrt{\frac{1}{m}+\frac{1}{n}}} \approx t\,(m+n-2)$$

This is a one-tailed *t*-Student distribution with (m + n – 2) degrees of freedom, where Sp is the pooled estimator for the variance, m is the number of cases in the sample of family SMEs with high SIBD, n is the number of cases with low SIBD, and SE is the standard error for the path provided by the SmartPLS 2.0 software package with the bootstrap technique.

Unai Arzubiaga (unai.arzubiaga@ehu.eus) is an Assistant Professor of Accounting, Financial Management, and Family Business at the University of the Basque Country (UPV/EHU). He received his Ph.D. from the University of the Basque Country (UPV/EHU) and made a pre-doctoral research stay at Lancaster University Management School. His research interests are at the intersection of entrepreneurship, corporate governance, and innovation, and his work focuses primarily on family firms.

Txomin Iturralde (txomin.iturralde@ehu.eus) is an Associate Professor of Finance, Investment, and Family Business at the University of the Basque Country (UPV/EHU). He received his Ph.D. from the University of the Basque Country (UPV/EHU). His research interests include finance, innovation, and family firms.

Amaia Maseda (amaia.maseda@ehu.eus) is an Associate Professor of Accounting, Financial Management, and Family Business at the University of the Basque Country (UPV/EHU). She received her Ph.D. from the University of the Basque Country (UPV/EHU). Her research interests focus on entrepreneurship, social capital, and family firms.

Josip Kotlar (j.kotlar@lancaster.ac.uk) is an Associate Professor of Family Business at the Lancaster University Management School. He received his Ph.D. from the University of Bergamo. His research interests are at the intersection of entrepreneurship, strategy and innovation, and his work focuses primarily on family firms.