

**Entrepreneurial Orientation and the Family Firm: Mapping the Field and Tracing
a Path for Future Research**

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Abstract

Despite several calls for the further study of entrepreneurial orientation in family firms, we still have a fragmented understanding of this topic, whose full potential has yet to be reached. To shed new light on this issue, this paper first maps the family business field by carrying out a systematic review and content analysis of the 78 articles identified at the confluence of entrepreneurial orientation and family firms. Our study describes and critically assesses previous research as well as the conclusions reached. Second, this paper identifies the main research gaps and provides a path for future investigations.

Keywords

entrepreneurial orientation, family firm, firm-level entrepreneurship, future research, literature review

Introduction

Entrepreneurial orientation (EO), which emerged (Covin & Slevin, 1989; Miller, 1983) as a powerful construct to explain the way companies face the challenging and volatile current environment, has become one of the more relevant constructs in the study of corporate entrepreneurship (Covin, Green, & Slevin, 2006; Wales, 2016; Wales, Gupta, & Mousa, 2013). Known as “the strategy making processes that provide organizations with a basis for entrepreneurial decisions and actions” (Rauch, Wiklund, Lumpkin, & Frese, 2009, p. 762), EO and its dimensions can vary in different organizational contexts (Lumpkin & Dess, 1996). Given their uniqueness, family firms offer a singular context for researching EO (Nordqvist & Melin, 2010) and analyzing how some environmental (e.g., institutional logics such as religion or family) and organizational characteristics (e.g., strategic conditions and personal traits of the CEO) relate to EO or its outcomes (Miller, 2011). However, beyond the fact that family firms represent a context for our improved understanding of the EO construct in the general EO literature, the presence of the family as the dominant coalition of the firm (Chrisman, Chua, Pearson, & Barnett, 2012) also leads to the need to analyze how some specific features or constructs of family firms (e.g., familiness, concern for socioemotional wealth (SEW) preservation, intra-family succession, or the need to reach family-oriented goals) affect EO and its outcomes. Despite this interest, EO research in the family business field did not begin until the mid-2000s (Zahra, Hayton, & Salvato, 2004), and it has attracted increasing scholarly attention in recent years (López-Fernández, Serrano-Bedia, & Pérez Pérez, 2016; Nordqvist & Melin, 2010), leading to a rich, complex and somewhat fragmented body of research. Given that each study typically examines only one or a small subset of antecedents and consequences, this diverse and complex literature requires a researcher to make sense of the disparate investigations (Sarasvathy, 1999).

Hence, a systematic review of the literature at the confluence of EO and family firms is needed to take stock of what we currently know as well as help family firm scholars trace a path for future research. For instance, despite the positive effect of EO on business performance (Rauch et al., 2009), EO or some of its dimensions seem to be less prominent in family firms than in other firm types (e.g., Garcés-Galdeano, Larrazakintana, García-Olaverri, & Makri, 2016; Short, Payne, Brigham, Lumpkin, & Broberg, 2009), and a literature review may provide insight into whether this observation can be confirmed, why this occurs and what effects it has: Do family firms have more prevalent or specific antecedents to EO? Do family firms choose not to foster EO as much as other firms because of their orientation towards family-oriented goals? How does a family firm's heterogeneity affect its EO? Hopefully, a comprehensive review may help identify what we know and what we should know about the EO within family firms. Additionally, literature reviews often highlight strengths and weaknesses within disciplines, provide examples of best practices to guide scholars in producing high-quality research, ratify the validity of findings, and deliver scientific evidence underpinning scholars' advice to practitioners (Finnegan, Runyan, González-Padron, & Hyun, 2016).

Therefore, to increase the effective progress within the field, we have conducted a comprehensive and systematic review of the literature with a two-fold research objective: (a) to map the field by identifying not only the main conclusions derived from the different types of studies but also the methodologies, theoretical frameworks, and metrics used and (b) to trace a path for future research based on the research gaps identified.

By covering these two objectives, we make at least two contributions to the existing EO and family firm literature. First, we conduct the first cross-journal and cross-discipline methodological assessment of EO within the family business field. We

critically examine the literature, providing scholars with the opportunity to reflect and delivering a holistic guide that may be useful for practitioners and academics alike. Second, building upon our review and systematization of the prior literature, we identify several research gaps and present some opportunities for future research.

An Approach to EO Research

Although rooted in the theory propounded by Mintzberg (1973) on strategic decision making, it is generally accepted that the concept of EO was originally proposed by Miller (1983, p. 771) who defined an entrepreneurial firm as “one that engages in product-market innovation, undertakes somewhat risky ventures and is first to come up with ‘proactive’ innovations, beating competitors to the punch”. As such, Miller conceives of EO as a construct composed of three dimensions: (1) *innovativeness*, defined as the “exhibition of experimentation, exploration, and creative acts”; (2) *risk-taking* or “willingness to commit resources to projects, ideas, or processes whose outcomes are uncertain and for which the cost of failure would be high”; and (3) *proactiveness*, referred to as “engaging in forward-looking actions targeted at the exploitation of opportunity in anticipation of future circumstances, as would be typical of firms that lead and/or preempt the actions of others” (Covin & Wales, 2012, p. 694). Lumpkin and Dess (1996) provide an alternative vision of EO that extends the number of dimensions, adding 4) *competitive aggressiveness*, defined as “the intensity of a firm’s efforts to outperform industry rivals, characterized by a combative posture and a forceful response to competitor’s actions”, and 5) *autonomy*, defined as “independent action by an individual or team aimed at bringing forth a business concept or vision and carrying it through to completion” (Lumpkin & Dess, 2001, p. 431). The Miller (1983) approach considers that for EO to be present, its three dimensions must positively covary, while the Lumpkin and Dess (1996) approach establishes that the five dimensions do not need a positive

covariance for EO to exist, though the Miller gestalt approach is the predominant approach in the EO literature (Rauch et al., 2009).

The positive effect of EO on firm performance has been confirmed by recent meta-analyses (Rauch et al., 2009; Rosenbusch, Rauch, & Bausch, 2013); this field has been extensively reviewed (Wales, 2016; Wales et al., 2013; Wales, Monsen, & McKelvie, 2011; Wiklund & Shepherd, 2011), but none of the reviews published have focused on the family firm, even though the literature has found that EO is “a useful framework for investigating entrepreneurship in family businesses” (Lumpkin, Brigham, & Moss, 2010, p. 243).

Method

We have identified articles in our study following a systematic review process including two sequential steps. First, and consistent with recent management reviews (Agostini & Nosella, 2017), we used two comprehensive citation databases: the *Web of Knowledge Social Sciences Citation Index (SSCI)* and *Scopus*. The *SSCI* focuses on scholarly journals and is characterized by its objective journal selection standards and its widespread diffusion within the academic community (Perri & Peruffo, 2016), while *Scopus* is relatively new but rapidly expanding, and it claims to be the largest abstract and citation database (Kellens, Terpstra, & De Maeyer, 2013). We have limited our search to papers or reviews published in journals, as only publications in peer-reviewed journals can be considered validated knowledge and are thus likely to have the largest impact on scholarly discourse (Podsakoff, Mackenzie, Bachrach, & Podsakoff, 2005). In other words, non-journal media, such as books, book chapters, and other non-refereed publications, have not been included because of the lack of validated review processes and their limited impact on the state-of-the-art (McWilliams, Siegel, & van Fleet, 2005). We use the entire *SSCI* and *Scopus* databases to avoid any potential bias and/or omission

caused by considering only a set of relevant journals (López-Fernández et al., 2016). Although the selected time limit was the maximum allowed to prevent distortion of the results (including papers in press in 2018), the first article found was published in 2004 by Zahra and colleagues. We have modeled the keyword selection on two systematic review articles on EO (Rauch et al., 2009; Wales et al., 2013). The criteria used for the searches in the *SSCI* and *Scopus* are shown in Table 1.

INSERT TABLE 1 ABOUT HERE

Articles were collected in two waves of searches. We performed a first wave of searches on January 13, 2017. Then, we conducted a qualitative analysis of the abstracts of the 378 documents found, screening this initial list to eliminate duplications and misclassifications as well as the papers that do not view EO as strategy making “dominated by the active search for new opportunities” (Mintzberg, 1973, p. 45). The literature has tended to look upon EO as a multidimensional construct (Lumpkin & Dess, 1996; Miller, 1983). Thus, for reasons of practicality and theoretical tenability, our review does not include those studies in which only one dimension of EO is examined (e.g., De Massis, Chirico, Kotlar, & Naldi, 2014). Similarly, we have excluded those investigations whose unit of analysis is not the family business (e.g., Welsh, Memili, Rosplock, Roure, & Segurado, 2013). Based on these criteria, 54 articles were considered relevant for this research.

In a second step, to detect any misclassifications, we performed an additional manual search in all the journals where at least one article had been identified in the first step as well as in the rest of the journals that have published the most papers on family firms according to the review by Benavides-Velasco et al. (2013): *Administrative Science Quarterly*, *Business History*, *Journal of Financial Economics*, *Journal of Management Studies*, and *Organizational Dynamics*. This manual search yielded six more papers.

In an effort to be as current and inclusive as possible, we performed a second wave of searches on April 4, 2018, for articles published since January 2017. The searches identified 127 papers, of which 18 were included in the review before finalizing the manuscript. The second wave of searches supposes that 23% of the articles identified had been published in the time period following the first wave.

To summarize, our raw search identified 78 peer-reviewed articles published in 40 journals (Table 2), which is higher than the number of publications included in recent review articles in the family business field (e.g., De Massis, Frattini, & Lichtenthaler, 2013; Feliu & Botero, 2016).

INSERT TABLE 2 ABOUT HERE

EO and Family Firms: Mapping the Field

To map EO in the family business field, we analyze the articles gathered in terms of their content, exploring five main themes: (1) methodological and sampling diversity, (2) theoretical diversity, (3) conceptualization and measurement of the family firm and EO, (4) consideration of the EO construct within the research models, and (5) contingent factors influencing EO in this type of firm.

Methodological and Sampling Diversity

Similar to EO in general (Miller, 2011), our sample is mainly composed of quantitative studies (53); while 12 articles are qualitative, one work employs both quantitative and qualitative methodologies (Hernández-Perlines, Moreno-García, & Yañez-Araque, 2016), and the remaining 12 papers are of a conceptual nature.

The 12 conceptual papers can be divided into three groups. The first includes three introductory articles to special issues exploring entrepreneurship in family firms (e.g., Nordqvist & Melin, 2010) and a commentary on three articles on EO in a special issue (Dess, Pinkham, & Yam, 2011). The second group includes six articles proposing models

that would need to be tested for a better understanding of the EO phenomenon within family firms. Specifically, three works propose a relationship between EO and family firm internationalization (Huang, Lo, Liu, & Tung, 2014; Liu, 2014; Tung, Lo, Chung, & Huang, 2014), one develops a model of transgenerational entrepreneurship (Irava & Moores, 2010), another proposes the existence of a relationship between long-term orientation and EO (Lumpkin et al., 2010), and the last one proposes sundry governance distinctions that may explain why family firms will be more or less entrepreneurial (Le Breton-Miller, Miller, & Bares, 2015). The third group comprises two works that present a more theoretical kind of literature review on succession in family firms from an entrepreneurial process perspective (Nordqvist, Wennberg, Bau, & Hellerstedt, 2013) and a reflection on the resources that may inform how entrepreneurially oriented a successful family business is (Miller, Steier, & Le-Breton-Miller, 2016).

Among the 13 works that employ qualitative methodologies (12 employing only qualitative methodologies and one using mixed methodologies), we find a diversity of approaches with case studies being the most widely used (8). However, we also find two papers using semi-structured interviews (e.g., Peters & Kallmuenzer, 2015), two using fuzzy-set qualitative comparative analyses (e.g., Covin, Eggers, Kraus, Cheng, & Chang, 2016), and one that uses content analysis (Short et al., 2009).

Among the 54 articles that employ quantitative methodologies (53 use only quantitative methodologies and one uses mixed methodologies), we find only four that use longitudinal data on large listed firms collected from secondary sources. Block (2012) uses R&D intensity as a proxy for EO given its correlation with the three traditional dimensions, while the remaining (Boling, Pieper, & Covin, 2016; Miller & Le Breton-Miller, 2011; Zachary, Payne, Moore, & Sexton, 2017) use a composite index of EO. The 50 remaining studies use primary data sources collected through surveys, except for

Garcés-Galdeano et al. (2016) who use in-depth personal interviews. All the investigations based on survey data use only one informant, except Kellermanns and Eddleston (2006), and Fu and Si (2018). Less methodological diversity is used in this group than among the qualitative works given that 57.41% of the quantitative papers use regression analysis, 38.89% structural equation models, and only two papers use other methodologies: Cox proportional hazards model (Revilla, Pérez-Luño, & Nieto, 2016) and random coefficient modelling (Zachary et al., 2017).

Most of the empirical works have researched firms in only one country, and the most studied countries are Spain (24.24%) and the United States (16.67%), followed by Austria (7.58%), Switzerland (6.06%), and Turkey (4.55% each). Five works (7.58%) study firms from more than one country (Charupongsopon & Puriwat, 2017; Chirico & Nordqvist, 2010; Covin et al., 2016; Tripopsakul, & Asavanant, 2017; Zellweger, Nason, & Nordqvist, 2012), but these papers do not compare results from different countries.

 INSERT TABLE 3 ABOUT HERE

Theoretical Diversity

In this section, we follow Sutton and Staw (1995), who argue that theory is a narrative about why acts, events, structure, and thoughts occur, and it emphasizes the nature of causal relationships, identifying both what comes first and the timing of such events. Following this idea, we find that 32.05% of the articles reviewed do not formally claim to apply any theory to support their arguments and investigations. Among the remaining articles, we unsurprisingly find that the two most widely used theories are the *resource-based view (RBV)* (Barney, 1991) and *agency theory* (Jensen & Meckling, 1976), which are the theoretical frameworks that have dominated the family firm field (Chrisman, Kellermanns, Chan, & Liano, 2010). *Stewardship theory* (Davis, Schoorman, & Donaldson, 1997), often considered contrary to *agency theory*, is the third most used.

Other theories commonly adopted are *upper echelons theory* (Hambrick & Mason, 1984), *SEW* (Gomez-Mejia, Haynes, Núñez-Nickel, Jacobson, & Moyano-Fuentes, 2007) and related theories (*behavioral* and *behavioral agency*), *social identity theory* (Ashforth & Mael, 1989), and *contingency theory* (Woodward, 1958). Notably, 26.92% of the articles identified used more than one theory (Table 3), and although *SEW* is the only homegrown theory of the family business field (Berrone, Cruz & Gómez-Mejía, 2012), it has been used alone only once (Garcés-Galdeano et al., 2016) and five times in combination with other theories (e.g., Casillas, Moreno, & Barbero, 2011; Schepers, Voordeckers, Steijvers, & Laveren, 2014). While these theories have made substantial contributions to research on the overlap between EO and family businesses, due to space limitations, we will comment only briefly on the three most relevant theories and their results when used in isolation.

RBV (Barney, 1991) and its variants, *dynamic capabilities* (Teece, Pisano, & Shuen, 1997) and *knowledge based view* (Leonard-Barton, 1992), address how firms use resources and capabilities to build and sustain a competitive advantage. Specifically, *RBV* explains different family firms' behaviors and results based on their unique resources and capabilities, with familiness prevailing (Habbershon & Williams, 1999) as well as the resources identified by Sirmon and Hitt (2003) as distinctive of family firms (human capital, social capital, patient financial capital, survivability capital, and governance structures). Zahra et al. (2004) pioneered the application of this theory to the study of EO antecedents in family firms, providing the first evidence that family firms are more sensitive to the influence that organizational culture has on their EO than are non-family firms. However, Kickul, Liao, Gundry, and Iakovleva (2010) do not find any differences related to the effect of different resources on the EO of family and non-family firms. *RBV* has also been applied to the study of EO outcomes, whereby realizing the benefits from

entrepreneurship in family firms seems to be a complicated matter affected by the tuning of EO, firm resources, generational involvement, and participative strategy (Campbell & Park, 2016; Casillas, Moreno, & Barbero, 2010; Chirico, Sirmon, Sciascia, & Mazzola, 2011).

Agency theory (Jensen & Meckling, 1976) focuses on the potential conflict between the principal, usually the company's owner, and the agent, generally a non-owner manager, given the assumption that the agent will behave opportunistically (Jensen & Meckling, 1976). Lower owner-management agency costs are expected in family firms, although, conversely, owner-owner agency costs may rise. Similarly, as Chrisman et al. (2010) posit, family social capital heightens the potential agency advantage of family firms but may be lessened to the extent that owner-related agency difficulties lead to excessive risk aversion or managerial entrenchment (Gomez-Mejia, Nuñez-Nickel, & Gutierrez, 2001). This theory has been used in isolation to explain why family ownership is found to be negatively associated with EO (Block, 2012) or why decentralization negatively mediates the relationship between family employment and EO (Madanoglu, Altinay, & Wang, 2016). *Agency theory* has also been used to explain the negative effect of risk-taking on family firm performance (Naldi, Nordqvist, Sjöberg, & Wiklund, 2007).

It is generally accepted that family firms pursue both economic and non-economic goals (Chrisman et al., 2012; Gómez-Mejía et al., 2007; Kotlar & De Massis, 2013). This background supports *stewardship theory*, which “is based on a steward whose behavior is ordered such that pro-organizational, collectivistic behaviors have higher utility than individualistic, self-serving behaviors” (Davis et al., 1997, p. 24). When this theory is used in isolation, some stewardship determinants (comprehensive strategic decision making, long-term orientation, or continuity of the business across generations) may

become the antecedents that model EO within family firms (e.g., Eddleston, Kellermanns, & Zellweger, 2012).

Conceptualization and Measurement of Family Firm and EO

A clear definition of concepts is required to build a solid theoretical framework (Pérez, Basco, García-Tenorio, Giménez, & Sánchez, 2007), to understand and compare previous empirical evidence (Uhlener, Kellermanns, Eddleston, & Hoy, 2012) and to transform the research findings into tangible and applicable practices for practitioners (De Massis, Sharma, Chua, & Chrisman, 2012). Therefore, we briefly analyze how EO and family firms have been conceptualized and operationalized by the articles reviewed. Of these works, 30.77% do not provide an explicit definition of the family business concept or operationalize it in any way, which also occurs in the general family firm literature (Hernández-Linares, Sarkar, & Cobo, 2018; Hernández-Linares, Sarkar, & López-Fernández, 2017). Among these works, however, there are ten quantitative papers that identify family firms by their affiliation to family firm associations and centers (e.g., Hernández-Perlines et al., 2016; Kellermanns, Eddleston, Barnett, & Pearson, 2008) or projects such as STEP (Charupongsopon & Puriwat, 2017; Tripopsakul & Asavanant, 2017). Among the 54 works that explicitly define family firms, a first group of 12 articles defines the family firm based on only one criterion, namely, “self-perception” (five articles), “ownership” (six), and “management” (one), while a second group embraces 42 investigations using more than one definitional criterion, with “ownership” being used in all cases except in Zachary et al. (2017) (see Table 3). Within this last group, Lee and Chu (2017) employ two alternative methods of identifying family firms.

Furthermore, the dimensions and measures of EO used by the works reviewed reflect the almost complete dominance of the Miller gestalt approach (1983) and, to a lesser extent, the Lumpkin and Dess (1996) five-dimension approach (Table 3), which is

similar to what occurs in the general literature (Rauch et al., 2009). Finally, six works pursue two alternative developments of the original EO concept: the “international EO” (e.g., Calabrò, Campopiano, Basco, & Pukall, 2017) and a novel approach based on the interaction between family and firm called “family EO” (e.g., Zellweger et al., 2012).

Consideration of the EO Construct within the Research Models

In this section, we complement the mostly descriptive information gathered in the previous sections with a content analysis of the papers identified, which allows us to map the main conclusions obtained by the previous research. Note that some articles conduct different analyses and may be included in more than one group. To facilitate follow-up, quantitative studies are presented in Table 4.

First, we have identified a group of seven papers that explore whether the intensity of EO or its dimensions is different in family firms. While Lu and Chu (2017) do not identify significant differences, the remaining papers report a lower level of EO among family firms (Garcés-Galdeano et al., 2016; Pimentel, Couto, & Scholten, 2017). This result is confirmed when the different EO dimensions are individually examined, which mostly point to the existence of lower levels of risk-taking, innovativeness, and competitive aggressiveness among family businesses, while mixed results are reported for proactiveness and autonomy. In the case of proactiveness, Pimentel et al. (2017) do not find differences between family and non-family firms, but other authors report lower levels of proactiveness in family firms (e.g., Short et al., 2009). With regard to the autonomy dimension, Short et al. (2009) find a lower level of autonomy in family firms, while other scholars (e.g., Zellweger & Sieger, 2012) report higher levels. The works included in this first group also provide some explanation for these lower levels of EO. Thus, Zellweger and Sieger (2012) find that family businesses face a higher level of ownership risk because of the concentration of the family’s financial resources in the

company, but they report lower levels of performance hazard risk or control risk. In the case of competitive aggressiveness, the main reasons seem to be the family firm's roots in its community and its concern for maintaining a good reputation (e.g., Peters & Kallmuenzer, 2015).

A second group of 29 articles (23 of which are quantitative) explores the different antecedents of EO. Most of these works research how family character or family involvement (in management, ownership, governance, or work) directly influence EO. Family involvement has also been identified as of paramount importance by both conceptual papers (Huang et al., 2014; Le Breton-Miller et al., 2015) and reviews (Nordqvist et al., 2013). Although most studies report no direct influence of family involvement on EO (e.g., Kellermanns & Eddleston, 2006), when more complex empirical approaches are used, the results are different. Thus, papers using longitudinal data find a negative relationship (Block, 2012; Miller & Le Breton-Miller, 2011), while papers researching nonlinear links find an inverted U-shaped relationship between family involvement in governance (Bauweraerts & Colot, 2017) or management (Sciascia, Mazzola, & Chirico, 2013) and EO, with EO declining beyond moderate levels of family involvement. Finally, the relationship between family involvement and different dimensions of EO is mediated by decentralization, which may be due to the family firms' conservative and cautious attitude (Madanoglu et al., 2016).

INSERT TABLE 4 ABOUT HERE

The third group of investigations consists of 26 studies exploring the consequences of EO (21 of which are quantitative), mainly in firm performance or growth, as a commonly used proxy for performance in EO research (Gupta & Wales, 2017). Despite the lower level of EO in family firms (e.g., Garcés-Galdeano et al., 2016),

the results of the works researching the EO-performance link show that when EO is measured as an aggregated construct, and the sample includes solely family firms, a positive effect of EO on performance is reported (e.g., Schepers et al., 2014). However, when this same measurement approach is used to compare family and non-family firms, the results are inconsistent. Thus, some scholars find that the EO-performance link does not differ between these two types of firms (Campbell & Park, 2016) or differs only for lone founder firms (Miller & Le Breton-Miller, 2011). Others contend that EO only influences non-family business performance (Madison, Runyan, & Swinney, 2014) or, conversely, that EO only influences family business performance (Lee & Chu, 2017). On the other hand, when EO is deconstructed into its dimensions, the effect of risk-taking, the most researched dimension, on family firm performance is negative (Naldi et al., 2007) or not significant (e.g., Stenholm, Pukkinen, & Heinonen, 2016). Proactiveness and innovativeness have mostly positive effects on family firm performance (e.g., Casillas et al., 2010). Finally, the impact of competitive aggressiveness and autonomy on performance has been scarcely researched. Thus, the relationship between competitive aggressiveness and family firm performance is not found to be significant (Akhtar et al., 2015; Casillas & Moreno, 2010; Kallmuenzer et al., 2017). In the case of autonomy, Casillas and Moreno (2010) do not identify a significant impact on family firm growth. However, both Akhtar et al. (2015) and Kallmuenzer et al., (2017) identify a positive effect of autonomy on performance, which is actually the most relevant EO dimension according to Nordqvist, Habbershon, and Melin's (2008) proposal that autonomy is more important for family firms than other dimensions such as risk-taking. Works in this group that consider mediator variables, find that absorptive capacity mediates the EO-performance link (Hernández-Perlines, Moreno-García, & Yáñez-Araque (2017) while

Stenholm et al. (2016) find that entrepreneurial activity only mediates the innovativeness-growth link.

The fourth group of investigations includes 11 works considering EO a moderator or mediator variable (10 of which are quantitative). Specifically, seven works used EO as a mediating variable, reflecting the researchers' belief that EO renders it possible to unravel the causal chain between two related variables (Wales et al., 2013); in our case, this was mainly between different general and family variables and performance or a proxy thereof. These works show, for instance, that EO mediates the relationship between family involvement in work and employment growth (Kellermanns et al., 2008) or the relationships between type of ownership and performance (Miller & Le Breton-Miller, 2011). Moreover, four works analyze the moderating effect of EO, finding, for instance, that EO mitigates the positive effect that family involvement in management has on the risk of business failure (Revilla et al., 2016).

Finally, the last group identified comprises six papers employing different approaches (four of which are quantitative). The first group explores international EO showing that international EO largely explains international performance in family firms (e.g., Hernández-Perlines et al., 2016), and mediates the relationship between the involvement of non-family members in governance and the internationalization of family firms (Calabrò et al., 2017). The second group includes three papers that explore "family EO", which try to distill the interactions of the different objectives and dynamics of the company and of the family (e.g., Zellweger et al., 2012) and their effects on EO.

Contingent Factors Influencing EO in Family Firms

Of the 29 studies investigating EO antecedents, 14 (13 of which are quantitative) include different moderating variables related to firm management/governance, family character or involvement, and environment. The diversity of antecedents and moderators

explored makes it difficult to reach any conclusions even when the independent variable is family involvement, which is the only variable researched more than once (see Table 4). Consequently, we can only report that the positive moderator effect of strategic planning on the family involvement-EO link found by Kellermanns and Eddleston (2006) is not confirmed by Weismeier-Sammer (2011). This difficulty in reaching conclusions allows us to posit that moderator effects deserve further research.

Among the 26 studies investigating the consequences of EO, 19 (15 of which are quantitative) include different moderating variables. Family involvement is the most frequently used, and the results suggest that it strengthens the EO-success (Akhtar et al., 2015) and EO-ambidextrous innovation (Arzubiaga, Kotlar, De Massis, Maseda, & Iturralde, 2018) relationships. However, the moderator effect of family involvement on the EO-performance link is negative, unless some compensating mechanism, such as participative strategy (Chirico et al., 2011), strategic involvement of the board directors (Arzubiaga, Iturralde, Maseda, & Kotlar, 2018) or family governance (Lee & Chu, 2017), is used. Finally, the two papers that use *SEW* as a moderator report, on the one hand, that the positive effect of EO on performance decreases as the concern for *SEW* preservation increases (Schepers et al., 2014) and, on the other hand, a negative moderator effect of family goals, which were measured through a selection of items from the FIBER scale (Berrone et al., 2012), on the risk-taking-performance link (Kallmuenzer et al., 2017).

Tracing a Path for Future Research

The framework used to organize the findings from the prior research has also allowed us to identify certain shortcomings that raise opportunities for future research, which we explore in this section to cover our second research objective. To do so, we apply the framework depicted in Figure 1, which integrates those antecedents, consequences, and moderating factors that may open promising lines for future research

together with the theories underpinning them. In selecting the Future Research Suggestions (FRS) proposed in this work, we focus on those that, taking advantage of the differential characteristics of family firms, can help expand not only our knowledge of the role of EO in family firms but also our understanding of EO in general.

INSERT FIGURE 1 ABOUT HERE

Antecedents

One of the main questions addressed in EO in family firms research is whether family firms are as equally entrepreneurially oriented as non-family firms (e.g., Pimentel et al., 2017; Short et al., 2009), and if not, why different levels of EO exist (e.g., Bauweraerts & Colot, 2017; Zahra et al., 2004). The systematic analysis performed in the previous section reveals that family involvement (in ownership, management, governance, or work) in the firm and family business status are the two variables most frequently used to explore the uniqueness of the antecedents of EO in family firms, mainly using *RBV* (e.g., Zahra et al., 2004) and *agency theory* (e.g., Naldi et al., 2007), either individually or in combination with other theories (e.g., Bauweraerts & Colot, 2017). The results from previous research using longitudinal data sets (Block, 2012; Boling et al., 2016; Miller & Le Breton-Miller, 2011) and models exploring nonlinear effects (Bauweraerts & Colot, 2017; Sciascia et al., 2013) are consistent with the lower level of EO reported in family firms (e.g., Pimentel et al., 2017; Short et al., 2009).

However, family involvement, despite being easily measurable, is only the minimum necessary condition for considering a company a family firm (Pearson, Carr, & Shaw, 2008) and does not capture the essence of being a family firm (Chrisman, Chua, & Sharma, 2005). Given that the involvement approach offers a limited and, to some extent, inaccurate explanation (Zellweger, Eddlestone, & Kellermanns, 2010) of how and

why family participation in the company affects its EO, it would be necessary to employ other approaches to reach a broader understanding of that influence.

The essence approach identifies the intention of transgenerational succession as the main trigger that transforms the potential influence associated with family involvement in the company into an effective influence oriented towards the preservation of the firm (Chrisman et al., 2005; Zellweger et al., 2010). Indeed, succession is one of the most studied concepts in family business research (Yu, Lumpkin, Sorenson, & Brigham, 2012) and the most challenging change that any family firm must face and try to overcome. However, our review shows that, with one exception (Nordqvist et al., 2013), succession has been largely neglected by the literature on EO and family firms, even though succession may be understood as an entrepreneurial process in which both the entry of new owners and exit of old owners are associated with the pursuit of new business opportunities (Nordqvist et al., 2013). Similarly, Zellweger and Sieger (2012) explain that generational changes facilitate the adaptation of a firm's EO profile over time, highlighting the dynamic nature of EO, which has not yet been fully addressed. From a different point of view, *family development theory* (Hill & Duval, 1948), which posits that families go through distinct stages of development, thus describing the processes of change in families, could be a framework fit for researching the possible consequences of different types of succession (i.e., planned versus unexpected or transgenerational succession versus succession out of the family) on EO within a firm. This may be researched with data from the Successful Transgenerational Entrepreneurship Practices (STEP) project, which has been scarcely used (Charupongsopon & Puriwat, 2017; Tripopsakul & Asavanant, 2017) despite the interesting data it collects. Therefore, we propose the following FRS:

FRS 1: How does succession influence EO in family firms?

The succession process may help us to enlarge our knowledge of the many ways in which family participation in the company influences a firm's EO, but other frameworks also deserve further exploration, including two specific concepts that appeared in the field's literature: familiness (Habbershon & Williams, 1999) and *SEW* (Gómez-Mejía et al., 2007). Both concepts have been scarcely researched by the EO and family firm literature according to our review, but both deserve to be fully addressed because they can help capture how both the uniqueness of family firms and their heterogeneity impact the EO within family firms (Casillas et al., 2011; Garcés-Galdeano et al., 2016; Irava & Moores, 2010; Schepers et al., 2014).

Familiness, which was first defined under the *RBV* theoretical framework as the specific set of "resources that are distinctive to a firm because of family involvement" (Habbershon & Williams, 1999, p. 1), can have either positive or negative consequences for family firms (Habbershon, Williams, & MacMillan, 2003), which is referred to as its paradoxical nature (Irava & Moores, 2010). In the only attempt that, so far, has been made to explore the familiness-EO link, Irava and Moores (2010), drawing upon *RBV* (Barney, 1991), theoretically argued that familiness is associated with the potential to maintain EO across generations. Specifically, these authors propose that distinctive familiness resources in multigenerational family firms are positively associated with EO. Theoretical debates and difficulties in measurement have hindered the empirical exploration of familiness (Frank, Kessler, Rusch, Suess-Reyes, & Weismeier-Sammer, 2017; Zellweger et al., 2010), preventing empirical testing of Irava and Moores' (2010) propositions. However, there has recently been a theoretical convergence regarding the need to integrate the elements of the involvement approach, the essence approach and *organizational identity theory* (Albert & Whetten, 1985) to offer a complete perspective of familiness (Frank et al., 2017; Zellweger et al., 2010). In addition, using the umbrella

of *new systems theory* (Luhmann, 1995), and based on the idea that familiness is “the outcome of the interplay” of these three approaches (Weismeier-Sammer, Frank, & vonn Schlippee, 2013, p. 185), Frank and colleagues (2017) recently developed the multidimensional Family Influence Familiness Scale (FIFS). The FIFS includes three dimensions emanating from the components of the involvement approach (ownership, management and control; proficiency level of active family members; and sharing information among active family members), two dimensions from the essence approach (transgenerational orientation and family-employee bond), and one dimension from the identity approach (family business identity). Thus, the development of the FIFS opens the door to further empirical research to explore how the paradoxical nature of familiness affects EO. Moreover, to date, only the first dimension of the FIFS scale (ownership, management and control) has been researched to some extent as an antecedent of EO (e.g., Block, 2012; Miller & Le Breton-Miller, 2011; Sciascia et al., 2013; Zahra, 2012), showing a path for further research to determine whether all the dimensions of the FIFS influence EO to the same degree. Therefore, we propose the following FRS:

FRS 2: How does a family firm’s familiness influence its EO?

Rooted in the principles of *behavioral agency theory* (Wiseman & Gomez-Mejia, 1998), *SEW* proposes that, because of the ties between family and firm, family firms are often willing to sacrifice their financial well-being to prevent the loss of their *SEW* (Gómez-Mejía et al., 2007, 2011), which suggests that the concern for preserving *SEW* in family firms influences management practices and strategic decisions (e.g., Cruz, Larraza-Kintana, Garcés-Galdeano, & Berrone, 2014). Such concern may therefore explain the lower levels of EO within family firms (e.g., Garcés-Galdeano et al., 2016) since it may lead family firm owners, for example, to seek to preserve control over their companies, avoid risk, maintain the *status quo* (Carney, Van Essen, Gedajlovic, &

Heugens, 2015; Gomez-Mejia et al., 2007; Gomez-Mejia, Cruz, Berrone, & De Castro, 2011) or be less innovative (Gómez-Mejia et al., 2011) and therefore less entrepreneurial. However, the *SEW* lens also suggest that, given the interest in protecting the family reputation and providing career opportunities for offspring, family firms are especially willing to invest in corporate entrepreneurship and innovation to guarantee the company's survival and the likelihood of passing a healthy firm on to next generation (e.g., Miller & Le Breton-Miller, 2005a). Moreover, fine-grained research also explains that when profitability goals are below aspirational levels managers are more likely to initiate more risky strategies, such as those related to R&D investment (Chrisman & Patel, 2012), which is closely related to EO (Block, 2012).

To be able to disentangle the complexity derived from the existence of both a bright and a dark side of *SEW* (Kellermanns et al., 2012; Miller & Le Breton-Miller, 2014) and its influence on EO within family firms, the multidimensional nature of *SEW* must be explored. The FIBER scale (Berrone et al., 2012), which includes five dimensions (family control and influence, family members' identification with the firm, binding social ties, emotional attachment, and renewal of family bonds to the firm through dynastic succession), offers the primary tool needed to overcome this challenge. Although previous entrepreneurship literature has already suggested that some of the *SEW* dimensions are linked with the entrepreneurial process (Berrone et al., 2012), only the first dimension of FIBER, which is very close to the first dimension of the FIFS, has been extensively researched as an antecedent of EO (e.g., Block, 2012; Miller & Le Breton-Miller, 2011; Sciascia et al., 2013; Zahra, 2012). Regarding the remaining *SEW* dimensions, only family members' identification with the firm has received limited attention (e.g., Eddleston et al., 2012). The remaining dimensions of FIBER remain to be explored, despite the growing recognition of their relevance in family firm strategy and

decision making (Bee & Neubaum, 2014; Chirico & Salvato, 2016; Shepherd, 2016) and, therefore, in EO (Nordqvist et al., 2013). Overall, it would be interesting to examine the direction and strength of the influence that the concern for *SEW* preservation has on EO. Hence, we encourage scholars to address the following FRS:

FRS 3: How does the concern for maintaining *SEW* influence the level of EO in family firms?

From a behavioral perspective (Cyert & March, 1963), the family can be considered the dominant coalition in family firms, and therefore, the values of the founding family will be embedded in the family firm culture, structure and control (Miller & Le Breton-Miller, 2005b). Through the lens of *upper echelons theory* (Hambrick & Mason, 1984), managers make decisions using conceptual and cognitive frameworks adapted to their experiences, beliefs and values about what is proven to be reliable and acceptable. Applied to a family firm context, this theory may lead us to understand family firm culture as a reflection of the foundations of the family's culture and beliefs, which in turn will be influenced by the family's national/religious background (Miller, 2011; Wales, 2016). This background is also related to the different concepts of "family" (Dyer, 2003). For example, kinship in many African countries goes beyond the nuclear family to include a wider network of relatives (Khayesi, George, & Antonakis, 2014). Moreover, in those countries more influenced by Confucianism, loyalty is fully focused on the family and its leaders, so some families also include their non-family employees as a way of repaying them for their loyalty to the firm (Liu, 2014). These differences explain why Miller (2011) suggests, according to the principles of the *institutional logics perspective* (Thornton & Ocasio, 2008), that a family's nationality, religion and/or values may boost or buffer EO within a family firm. However, such a suggestion has not been sufficiently researched thus far, as most of the studies on EO and family firms have been conducted

in European countries (mainly Spain) and the United States. Sabah et al.'s (2014) qualitative work is an exception, as it shows us that the religious tendencies of Islam have a positive effect on entrepreneurial intensity, while its nationalist tendencies have a negative effect, and its cultural openness has mixed results. The lack of investigations involving different religious backgrounds (i.e., Islamic countries), political contexts (i.e., former socialist countries), or economic areas (i.e., the four Asian Tigers and Latin America) prevents researchers from making international comparisons and emphasizes the need for further research into how these variables affect the EO within family firms. Therefore, in line with Holmes, Miller, Hitt, and Salmador (2013), we propose integrating *institutional theory* (Powell & DiMaggio, 1991) and *cultural dimensions theory* (Hofstede, 1991) to assess how country, cultural, or religious dimensions affect institutions (both formal and informal) and the family concept and, in turn, how these both affect the EO within a family firm. Therefore, it would be expedient to address the following FRS:

FRS 4: How does the family's nationality, religion and culture affect the EO within a family firm?

Now that we have made several suggestions related to the antecedents of EO that require further research, we will focus on those suggestions related to EO outcomes.

Outcomes

The study of the EO-performance link has thus far dominated the general EO literature (Wales, 2016) with organizational performance being measured through a variety of indicators, mostly of a hybrid self-reported nature (Gupta & Wales, 2017). Similarly, our work reveals that, apart from performance and growth, only two other outcome variables have been researched: entrepreneurial success (Akhtar et al., 2015) and innovation (Craig, Pohjola, Kraus, & Jensen, 2014; Arzubiaga et al., 2018). Both are

examples of outcomes that need careful definition to avoid a tautology involving a dependent variable included in the EO construct (Wales, 2016), as discussed at length by Wales, Wiklund, and McKelvie (2015). However, the interplay of family and business leads to a unique and complex context for goal setting in family firms (Kotlar & De Massis, 2013), where family-oriented goals play a relevant role whose link with EO has not yet been studied.

While non-family firms have to focus on different economic and non-economic goals to satisfy their stakeholders, the presence of the family as the dominant coalition in family firms leads to the powerful emergence of family-oriented goals (both economic and, especially, non-economic goals) (Chrisman et al., 2012; Kotlar & De Massis, 2013). Among family-oriented goals, the literature includes upholding family culture, cohesion and well-being, the company's survival, keeping control of the company in the hands of the family, the organization's good reputation, or securing the jobs and lifestyle of the members of the family (Block & Wagner, 2014; Gomez-Mejia et al., 2007; Revilla et al., 2016; Zellweger, Nason, Nordqvist, & Brush, 2013). However, according our review, the existence of a possible association between EO and family-oriented goals has been scarcely researched. First, Irava and Moores (2010, p. 235) propose that "the pursuit of an EO can simultaneously assist family firms in achieving their non-financial objectives", including their family-oriented goals. Similarly, Revilla and colleagues (2016) find empirical evidence that EO moderates the negative relationship between family involvement in management and risk of firm failure. Finally, Kallmuenzer et al. (2017) only find evidence that family goals negatively moderate the risk-taking-performance link. Therefore, there is room to broaden our limited knowledge of how the EO relates to non-economic and family-oriented goals by including other dependent variables aside from financial performance in empirical models. This approach would contribute not only

to our better understanding of the complex phenomenon of EO within family firms but also to the general EO literature. For instance, in their 25-year review of EO research, Gupta and Wales (2017) report that only two studies have examined the effect of EO on firm survival, even though survival is a particularly relevant performance criterion for some firms, such as start-ups (Wiklund & Shepherd, 2011). Moreover, many family-oriented goals are non-economically oriented, which makes family firms a privileged context in which to explore how EO contributes to this type of goal. Therefore, we propose the following FRS:

FRS 5: How does EO determine the achievement of family-oriented goals?

Moderators

The systematic analysis performed in the previous section reveals that a broad range of variables may moderate relationships among antecedents and EO as well as between EO and outcomes. To date, family involvement (in ownership and management) and family firm status have been the most employed moderators in researching such relationships. However, other specific variables or constructs of family firms can also exert a moderating effect. For instance, studies in the literature indicate that family cohesion (Zahra, 2012), *SEW* (Schepers et al., 2014), family goals (Kallmuenzer et al., 2017), and family-to-firm unity (Eddleston et al., 2012) affect some of those relationships. This knowledge leads us to propose that the specific aspects suggested in this review as specific antecedents of EO within family firms (e.g., succession, familiness, and *SEW*) can also serve as moderators of the relationships between general antecedents and EO and between EO and outcomes. Additionally, other family related issues, such as family structure and dynamics, can exert a moderating influence on these relationships.

Family is a dynamic institution that evolves over time as members come and go as a consequence of marriages, divorces, births, etc. (Nordqvist & Melin, 2010), leading

to changes of their goals, orientation and power distribution (Kotlar & De Massis, 2013; Nordqvist & Melin, 2010). Given that family is the dominant coalition in family firms (Chrisman et al., 2012; Kotlar & De Massis, 2013), it would therefore be expedient to discover whether factors linked to family embeddedness and the dynamic nature of family moderate the antecedents-EO and EO-outcomes links. However, both the effect of family structure and its evolutionary nature have been disregarded by the literature on EO within family businesses so far, except in Zahra (2012) who analyzes how family cohesion positively moderates the association between family ownership and EO. To address this research gap, we call upon scholars to adopt arguments from *agency theory* (Jensen & Meckling, 1976), *behavioral agency theory* (Wiseman & Gomez-Mejia, 1998), and *embeddedness theory* (Granovetter, 1985) to research whether divorce or other types of family conflicts and changes moderate, for instance, the relationship between a family business' resources and capabilities and its EO or between EO and family-oriented goals. Similarly, *resource dependence theory* (Pfeffer & Salancik, 2003) may also help in analyzing how changes or imbalances in the power structure within the family system affect the relationships between antecedents and EO or between EO and different types of outcomes and more generally to answer the following FRS:

FRS 6: How does the family's structure and its evolution over time moderate the antecedents-EO and EO-outcomes links within family firms?

Our systematic literature review has also revealed that the lower level of EO or its dimensions in family firms does not prevent family firms from surviving and succeeding (Miller et al., 2016). Some explanations have been hitherto provided, suggesting that family firms have some compensating mechanisms so that their lower level of EO or some of its dimensions (Garcés-Galdeano et al., 2016; Pimentel et al., 2017; Short et al., 2009) does not harm their ability to survive because of their long-term orientation and

patient capital (Lumpkin et al., 2010; Miller et al., 2016). The idea that family firms possess a long-term orientation is a prevalent assumption in the family firm literature (Brigham, Lumpkin, Payne, & Zachary, 2014; Lumpkin et al., 2010; Miller & Le Breton-Miller, 2005a; Zahra et al., 2004). Long-term orientation is defined as the “tendency to prioritize the long-range implications and impact of decisions and actions that come to fruition after an extended time period” (Lumpkin et al., 2010, p. 241), and it is especially promoted in most family firms because of the presence of multiple family generations in the firm and the relevance of family-oriented (mainly non-economic) goals, among other features (Lumpkin et al., 2010). The concern for the long-term preservation of the company helps explain the performance advantages of family firms in different ways. First, such an orientation facilitates goal alignment as well as balance among owners, managers and the remaining stakeholders (Hoffmann, Wulf, & Stubner, 2014). Additionally, the long-term orientation works as a dominant logic guiding decision making towards the achievement of the goals of the family (Lumpkin & Brigham, 2011). The effect of a long-term orientation may also lead family firms to have a more conservative and less risky approach to strategic decision making, focusing on long-term survival (Gentry, Dibrell, & Kim, 2016).

While long-term orientation has been analyzed as an antecedent of EO, both with a theoretical (Lumpkin et al., 2010) and an empirical approach (Eddlestone et al., 2012), we propose that it can also moderate the EO-outcomes link; therefore, a fine-grained exploration of how a long-term orientation affects the EO-performance link is needed. Such an analysis will be crucial to confirming whether the evidence pointing to a specific way in which family firms are entrepreneurially oriented (e.g., Garcés-Galdeano et al., 2016; Pimentel et al., 2017; Short et al., 2016; Zellweger & Sieger, 2012) may be equally successful (Campbell & Park, 2016; Miller & Le Breton-Miller, 2011; Miller et al., 2016)

when applied to explain other particularities of family businesses, as suggested by the strategic equifinality idea (Carney et al., 2015). In performing this empirical exploration, the recent validation of a multidimensional construct of long-term orientation (Brigham et al., 2014) can be very helpful. Thus, we call upon researchers to explore the following FRS:

FRS 7: How does a long-term orientation moderate the EO-outcomes link in family businesses?

Our literature review shows that both the characteristics of family business' top management team (TMT) or directors, such as their age or experience (Escribá-Estevez & Sánchez-Peinado, 2009), and the CEO's characteristics, such as his/her tenure (Boling et al., 2016), may also be associated with the EO of a family firm. However, multiple personal traits remain unresearched, and only one work included in this literature review studied the moderating effect of female involvement in governance on the EO-performance link with significant and positive results (Arzubiaga et al., 2018). This result is in line with other research that shows that there are differences between male and female executives regarding their entrepreneurial intentions and behaviors (Yang & Wang, 2014) and their method of managing resources (Bird & Brush, 2002). Considering that "family businesses are among the few areas where there are real opportunities for women to reach the highest positions in business" (Salganicoff, 1990, p. 128) and that *upper echelon theory* (Hambrick & Mason, 1984) states that strategic choices are determined and shaped by the values and cognitive bases of the dominant players in the organization, we propose using this theory to investigate whether the CEO's gender or the gender diversity of the TMT and boardroom moderates the relationship between EO and family firm economic or family-oriented goals. *Upper echelon theory* (Hambrick & Mason, 1984), together with the *SEW* approach (Gómez-Mejía et al., 2007), may also be

used to investigate whether family firm CEOs' emotional attachment to the firm has some moderating effect on the EO-outcomes link. From a family point of view, other sources of heterogeneity in the TMT or the boardroom, such as generational involvement or the involvement of in-laws, also provide avenues for future research. Therefore, we propose a final FRS:

FRS 8: How do the personal traits of the CEO, TMT and/or directors moderate the EO-outcomes link?

To conclude this section, in addition to these FRSs, and in line with the general literature on EO (Miller, 2011), we would like to add that qualitative methodologies are required to complement and further our fragmented understanding of the numerous and complex contextual factors that could affect EO within family firms or its consequences. Additionally, the empirical research on EO and family firms has mostly tended to use cross-sectional studies, as is the case for EO in general (Wales, 2016); hence, the question of causality within EO relationships remains largely open. Finally, taking advantage of the fact that family business scholars have been pioneers in the use of objective measures of EO (e.g., Miller & Le Breton-Miller, 2011), we invite scholars to continue exploring this trend. Additionally, although we justify some of the above FRSs based on a single theory, we encourage scholars to adopt multiple theoretical approaches that complement each other by identifying and respecting underlying assumptions to build solid cumulative knowledge (Zahra, 2007). This would give us a broader theoretical platform and a clearer, more pluralistic view of family entrepreneurship (Randerson, Bettinelli, Fayolle, & Anderson, 2015).

Conclusions, Limitations and Practical Implications

Using a well-defined methodology, this study reviews and synthesizes the current theoretical and empirical knowledge on EO and family firms to exploit the specific

knowledge these two research areas bring to our understanding of the unique setting of family businesses. We also provide a possible agenda guiding future research, including eight suggestions and different perspectives for addressing each of them.

However, this work is not without its limitations. First, the use of additional databases or search engines might have yielded additional or different results. Second, given that we limited our search to articles and reviews in peer-reviewed journals, which tend to receive and accept only articles reporting significant results (Begg & Berlin, 1988), and although this is admittedly common in review studies (e.g., Wales et al., 2013), we recognize that our work may present a degree of ‘publication bias’.

Despite these limitations, two important contributions and practical implications emerge from this study. *First*, at a time when there is increased interest in EO in family firms, identifying, systematizing and comprehensively reviewing existing knowledge on the topic is a first step towards helping policymakers develop effective, supporting initiatives for EO, considering the idiosyncratic characteristics of family businesses, which are a ubiquitous form of business organization. Insights into the influence that the idiosyncratic characteristics of family businesses have on their EO can help practitioners when assisting entrepreneurial families concerned about firm performance, growth, continuity, or family-oriented goals. In addition, our review offers scholars a comprehensive map of current research, which can help them to position their own contributions. *Second*, despite the numerous and diverse contributions published since the pioneering article by Zahra et al. (2004), our work contributes to the family firm literature by setting a future research agenda that highlights the fact that the family firm is not simply a context for expanding our understanding of EO. In fact, there are several unique characteristics or constructs of the family business that should be studied to increase our understanding of how the uniqueness of family firms and their heterogeneity affect EO

within such firms. We trust the research agenda proposed here contributes to the generation of more interest in a phenomenon that intersects with family, business, and EO. In short, our article provides initial insights into a very complex topic, and we therefore strongly encourage others to continue this line of inquiry.

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Figure 1. EO and the Family Business: Future Research Suggestions

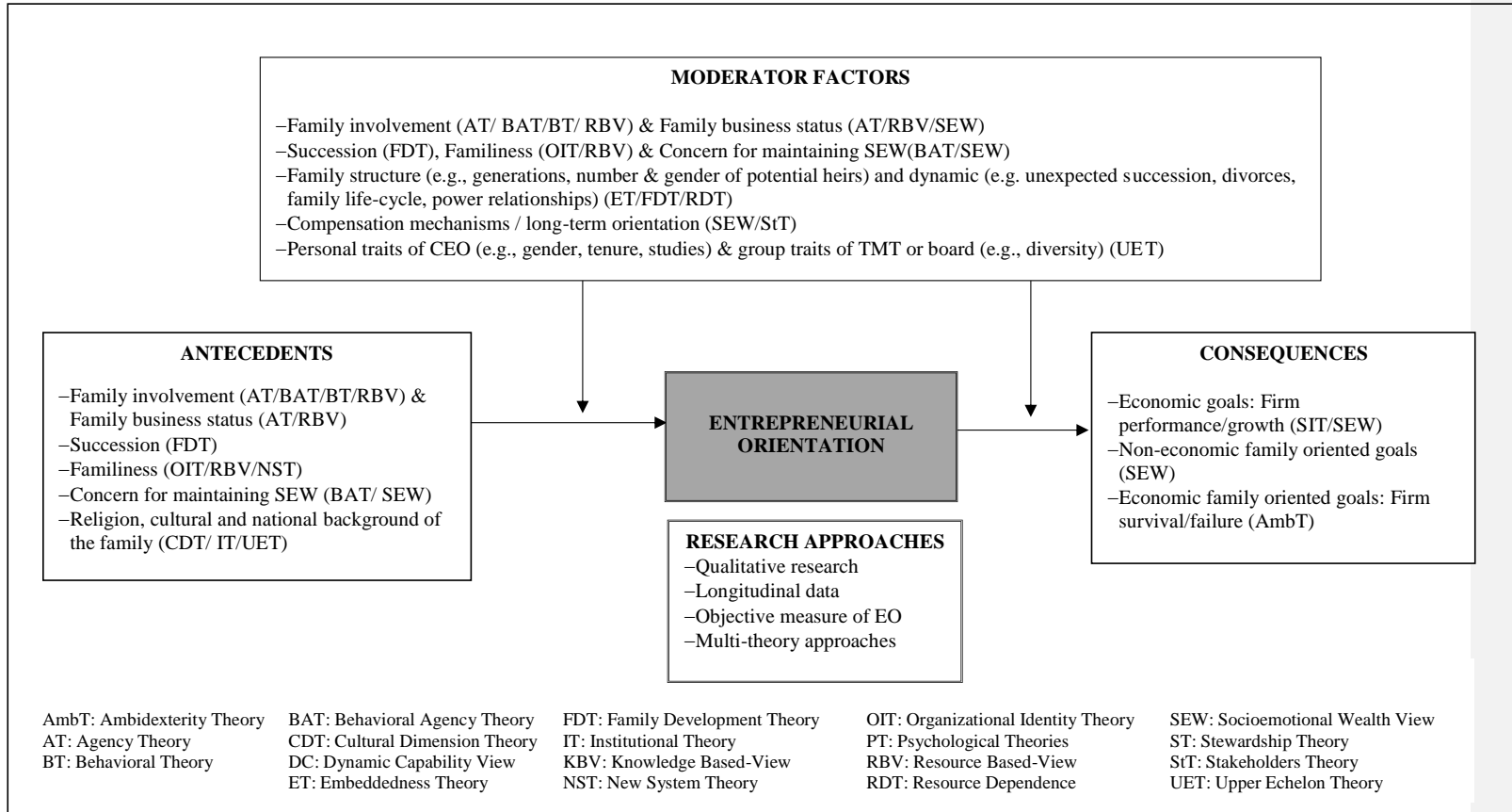


Table 1. Process of systematic search

| Keywords | 1 st step | | 2 nd Step |
|--|---|---|--|
| | ISI Web of Science | Scopus | Journals |
| “Famil*” and following keywords : “entrepreneurial orientation*” ¹ “entrepreneurial proclivity” ² “entrepreneurial posture” ² “entrepreneurial disposition” ² “entrepreneurial intensity” ² “firm level entrepreneur*” ² “intrapreneur” ² “corporate entrepreneur*” ² “entrepreneurial behavi*” ³ “strategic orientation*” ³ “strategic postur*” ³ | ■ Search in: Topic ■ Research area: All ■ Language: “English” ■ Document type: “Article or review” ■ Years: all | ■ Search in: Title-abs-key: “ ■ Sub-area: All ■ Language: “English” ■ Document type: “Article” OR “Article in press” ■ Outlet type: “Journal” ■ Years: all | ■ Journals with at least one article identified in ISI/Scopus ■ Journals most productive in family business (Benavides et al., 2013): <i>Administrative Science Quarterly</i> , <i>Business History</i> , <i>Journal of Financial Economics</i> , <i>Journal of Management Studies</i> , & <i>Organizational Dynamics</i> |

¹ Rauch et al. (2009) and Wales et al. (2013); ² Wales et al. (2013); ³ Rauch et al. (2009)

Table 2. Breakdown of identified articles by source journal

| Journal | Papers | Journal | Papers |
|---|--------|--|-----------|
| Entrepreneurship Theory and Practice | 8 | Encontros Científicos-Tourism & Management Studies | 1 |
| Journal of Family Business Strategy | 7 | European Journal of Economics, Finance and Administrative Sciences | 1 |
| Family Business Review | 6 | European Journal of International Management | 1 |
| Journal of Business Research | 5 | European Management Journal | 1 |
| Small Business Economics | 5 | European Research Studies Journal | 1 |
| International Journal of Entrepreneurship and Small Business | 4 | Frontiers in Psychology | 1 |
| Entrepreneurship and Regional Development | 3 | International Journal of Applied Business and Economic Research | 1 |
| Journal of Small Business Management | 3 | International Journal of Business and Globalisation | 1 |
| Anthropologist | 2 | International Journal of Economic Research | 1 |
| International Entrepreneurship and Management Journal | 2 | International Journal of Healthcare Management | 1 |
| International Journal of Entrepreneurial Venturing | 2 | International Journal of Management and Enterprise Development | 1 |
| International Journal of Entrepreneurship and Innovation Management | 2 | International Small Business Journal | 1 |
| Journal of Business Venturing | 2 | Journal of Enterprising Culture | 1 |
| Academy of Strategic Management Journal | 1 | Management Decision | 1 |
| African Journal of Business Management | 1 | Psychology and Marketing | 1 |
| British Journal of Management | 1 | Review of Managerial Science | 1 |
| Chinese Management Studies | 1 | Revista de Cercetare si Interventie Sociala | 1 |
| Cogent Business & Management | 1 | Strategic Entrepreneurship Journal | 1 |
| Creativity and Innovation Management | 1 | Sustainability | 1 |
| Current Issues in Tourism | 1 | Tourism Recreation Research | 1 |
| TOTAL | | | 78 |

Table 3. Articles examining EO and the Family Firm

| Author/s (year) | Main Theory | Method | Criteria for FB definition | Dimensions of EO considered | Sample description | Main finding/conclusion |
|---|--------------|--------|---|-----------------------------|---|---|
| Zahra, Hayton, & Salvato (2004) | RBV | E/Qn | Ownership, Management, Continuity | I, RT, P | 536 U.S. manufacturing firms (218 FBs) | The associations between the dimensions of organizational culture and EO are stronger in FBs than in non-FBs, except in the case of external orientation. Hence, FBs may use the organizational culture for achieving a competitive advantage by promoting EO. |
| Kellermanns & Eddleston (2006) | NA | E/Qn | Ownership, Employ | I, RT, P | 74 U.S. private FBs | Willingness to change and perceive technological opportunities are positively associated to EO. Strategic planning enhances EO in first generation FBs, but it does not have a positive effect of multigenerational FBs. |
| Naldi, Nordqvist, Sjöberg, & Wiklund (2007)* | AT | E/Qn | Ownership, Management, Self-perception | I, RT, P | 696 Swedish private SMEs (265 FBs) | In FBs, RT is positively associated to innovation and P, but negatively associated to performance. FBs take significantly less risk than non-FBs. |
| Kellermanns, Eddleston, Barnett, & Pearson (2008) | ST, TAT | E/Qn | NA | I, RT, P | 232 U.S. private FBs | In FBs: 1) EO is strongly related to employment growth (EG); 2) there is not a significant relationship between CEO age and EO or EG, 3) the organizational tenure of the CEO is negatively associated to EG; and 4) the generational involvement-EG link is mediated by EO. |
| Escribá-Esteve & Sanchez-Peinado (2009) | AT, RBV, UET | E/Qn | Ownership, Management | I, RT, CA | 295 Spanish private SMEs from mature industries (50% FBs) | A firm's strategic orientation (including EO dimensions) plays a mediating role in explaining how top management team (TMT) characteristics determine SMEs' performance. An increased presence of family members in the TMT can constrain the adoption of proactive strategic orientation, and thus limit the potential SMEs performance. |
| Short, Payne, Brigham, Lumpkin & Broberg (2009)* | AT | E/QI | Ownership, Management, Continuity, Governance | I, RT, P, CA, A | 426 U.S. public firms (146 FBs) | The language used by FBs in the letters from CEOs to shareholders tends to indicate less RT, P and A than in NFBs. |
| Casillas & Moreno (2010)* | AT, RBV | E/Qn | Ownership, Management, Governance | I, RT, P, CA, A | 449 Spanish private FB-SMEs | I and P influence on company's growth. Family involvement positively moderates the I-growth link, while negatively moderates the RT-firm growth link. |
| Casillas, Moreno, & Barbero (2010)* | RBV | E/Qn | Ownership, Self-perception | I, RT, P | 317 Spanish private FBs | I and marginally P positively influence firm growth. P-growth link is positively moderated by generational involvement and environmental dynamism while RT-growth link is moderated by environmental hostility. |
| Chirico & Nordqvist (2010) | DC, RBV | E/QI | Ownership, Management, Continuity | I, RT, P | 4 private (2 Italian and 2 Swiss) FBs | Family inertia prevents the creation of dynamic capabilities and entrepreneurial performance. Family inertia depends of the FB culture. Specifically, paternalism influences family inertia positively, while EO influences it in a negative sense. |

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| Irava & Moores (2010) | DC, RBV | C | NA | I, RT, P | - | Authors develop a model of transgenerational entrepreneurship that includes connections between familiness and EO, and between EO and the achievement of non-financial goals. |
| Kickul, Liao, Gundry, & Iakovleva (2010) | RBV | E/Qn | Self-perception | I, RT, P | 555 Russian private SMEs (56% FBs) | There are no significant differences between FBs and non-FBs with regarding to performance expectations about resources, opportunity identification or EO. |
| Lumpkin, Brigham, & Moss (2010)* | AT, ST | C | NA | I, RT, P, CA, A | - | Long-term orientation will be positively associated with I, P, and A, but negatively associated with RT and CA. Long- and short-term implications of EO on FBs performance are also discussed. |
| Morris & Craig (2010) | ST | E/QI | NA | I, RT, P, CA, A | 1 third generation Australian private FB | There is an explicit shift from an almost ad-hoc type of entrepreneurship to one to one that takes more into account the benefit to future generations. This change in mindset, framed at the interface of stewardship and EO perspectives, encapsulates family enterprising. |
| Nordqvist & Melin (2010) | NA | C/ISI | NA | - | - | Authors offer a conceptual framework with 3 elements (actors or entrepreneurial families, activities or entrepreneurial actions, and attitudes or EO) and discuss unexplored themes in each. |
| Casillas, Moreno, & Barbero (2011)** | AT, RBV, SEW | E/Qn | Ownership, Self-perception | I, RT, P | 317 Spanish private FBs | Environmental dynamism positively affects EO and moderates the next generation's involvement-EO link. Environmental hostility positively moderates the relationships between next generation involvement and non-family involvement in management and RT, but it negatively moderates the relationship between non-family involvement in management and P. |
| Çavus & Demir (2011)* | IT | E/Qn | NA | I, RT, P | 244 Turkish FBs | The dimensions of institutionalization influence the EO dimensions. The A dimension of institutionalization positively affects RT, P and I. Transparency positively affects RT and P. Professionalism and consistency positively affect P. Formalization negatively affects RT and P, but has a positive influence on I. |
| Chirico, Sirmon, Sciascia, & Mazzola (2011) | RBV | E/Qn | Ownership, Management | I, RT, P | 199 private Swiss FBs | Generational involvement negatively moderates the EO-performance link, except when participative strategy is high. |
| Dess, Pinkham, & Yam (2011) | NA | C | NA | - | - | Authors summarize the articles in the special issue and propose some directions for future research, one of which is the relevance of exploring the FB context in EO research. |
| Miller & Le Breton-Miller (2011) | IdT SIT | E/Qn | Ownership, Management, Governance | I, RT, P | 898 U.S. listed companies | The owner-CEO identities influence EO, and in turn firm performance. Specifically, lone founder firms exhibit higher levels of EO and outperform other firms. Post-founder FBs identity as family nurturers, limits their EO and performance. FBs' founders exhibit blended identities and their firms demonstrate intermediate levels of EO and performance. |
| Moog, Mirabella, & Schlepphorst (2011)** | NA | E/QI | Ownership, Management | I, RT, P, CA, A | 6 German family SMEs | Personal orientations of owners, predecessors and successors affect the strategy and orientations of FBs. |
| Weismeier-Sammer (2011) | NA | E/Qn | Self-perception | I, RT, P | 413 Austrian private FBs in the food- and beverage- industry | This replication of Kellermanns and Eddleston's (2006) study confirms the positive effect of willingness to change and perceived technological opportunities on EO, but it finds a positive direct effect of strategic planning instead of the moderator link found in the original study. |

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| Yildirim & Saygin (2011) | NA | E/Qn | NA | I, RT, P | 94 manufacturing family SMEs from Turkey | There is a strong and positive correlation between owners' transformational leadership level and SMEs' EO. |
| Block (2012) | AT | E/Qn | Ownership, Management, Continuity, Governance | I, RT, P | 154 public U.S. firms in research-intensive industries (47 FBs). | Family ownership is negatively associated with the level of R&D intensity, this being used as a proxy of the three traditional dimensions of EO. Ownership by lone founders has a positive effect not only on R&D intensity but also on the level of R&D productivity. |
| Cruz & Nordqvist (2012) | NA | E/Qn | Ownership, Self-perception | I, RT, P | 882 Spanish private FBs | Competitive environment and EO correlate differently, depending on the generation in charge, such correlations being generally stronger in second-generation FBs. Non-family managers on the TMT make a positive difference for EO only in the third-generation-and-beyond FBs. The significance of nonfamily investors' on EO is particularly strong in third-generation- and-beyond firms. |
| Eddleston, Kellermanns, & Zellweger (2012) | ST | E/Qn | Ownership, Self-perception, Employ | I, RT, P | 179 private FBs from Switzerland | Comprehensive strategic decision making and long-term orientation contribute to EO. The family-to-firm unity positively moderates the relationships between long-term orientation/participative governance and EO, and negatively the human capital – EO link. |
| Uhlener, Kellermanns, Eddleston, & Hoy (2012) | NA | C/ISI | Ownership | - | - | Authors clarify some key terms (entrepreneurship, FB and entrepreneurial family), summarize articles in the special issue, establish a framework and propose some lines for further research. |
| Zahra (2012) | BT | E/Qn | Ownership | I, RT, P | 741 U.S. companies | Family ownership is positively associated with the breadth and speed of learning but negatively with the depth of learning. Organizational learning, especially its breadth and depth, positively influences the pace of EO within FBs. |
| Zellweger, Nason, & Nordqvist (2012)* [¥] | TE | E/Qn | Ownership, Continuity | I, RT, P, A | 118 FBs, located around the world | Empirically exploring the family EO construct, and shifting from firm to family level of analysis, a deeper understanding of FBs' ability to create value across generations is gained. |
| Zellweger & Sieger (2012)* | NA | E/QI | Ownership, Management, Self-definition, Continuity | I, RT, P, CA, A | 3 Swiss FBs | Long-lived FBs are successful over time, even with moderated or low levels of EO. Authors offers a refined view of the EO dimensions, by proposing to split A or RT in different types. They also find that lower levels of I or CA are compatible with long-term success and identify the negative influence of non-operating family members on P. |
| Nordqvist, Wennberg, Bau' & Hellerstedt (2013) | NA | C/ Literatur e review | Ownership | - | - | Systematic review of articles on succession in FBs. Succession is understood as an entrepreneurial process where both the entry of new owners and the exit of old owners are associated with the pursuit of new business opportunities. |
| Sciascia, Mazzola, & Chirico (2013) | UET | E/Qn | Ownership | I, RT, P | 199 Swiss FBs | Family generations must accept each other's knowledge to improve EO within FBs. However, the involvement of family generations should be limited to two. |
| Vecchiari, & Mussolino (2013)* | NA | E/QI | Ownership, Management | I, RT, P | 3 family-owned/ managed private hospitals from Italy | Both family involvement and the formalization and professionalization in second- or subsequent-generation firms can moderate the relationships between I/RT/ P and firm growth. |

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| Zainol (2013) | NA | E/Qn | Ownership, Management, Self-perception | I, RT, P | Malay private micro & SME-FBs (number of firms NA) | The relationships between personality traits/cultural background/government aided programmes and FB's performance are not mediated by EO. However, EO is directly associated to performance. |
| Chien (2014) | RBV | E/Qn | Management | I, RT, P | 99 couple-owned convenience store franchise in Taiwan | Franchisor resources, spousal resources, and EO are directly associated to franchisee performance. Franchisor resources also have an indirect effect on performance through EO. |
| Craig, Pohjola, Kraus, & Jensen (2014)* | NA | E/Qn | Ownership, Self-perception | RT, P | 532 Finnish firms (224 FBs) | RT does not affect innovation output in FBs, whereas it does in non-FBs. Proactive FBs influence their innovation output more positively than proactive non-FBs do. |
| Huang, Lo, Liu, & Tung (2014) | AT, RBV, ST | C | Ownership, Management | - | - | Generational involvement in firm affects time perception and goals of the incumbent generation, triggering the transfer of knowledge and values to the new generation without losing competitiveness and emotional orientation towards the company. |
| Liu (2014) | NA | C | NA | I, RT, P, CA, A | - | EO is related to firm performance and internationalization, and generational involvement moderates the EO-internationalization link. |
| Madison, Runyan, & Swinney (2014) | NA | E/Qn | Self-perception | I, RT, P | 377 U. S. private small firms (279 FBs) | EO has a greater impact on the non-FBs performance, whereas small business orientation drives FBs performance. EO has no significant effect on FBs performance. Rather, increased performance is found in FBs that adopt a small business strategic orientation. |
| Malpica, Ramírez, & Baños (2014) | CT, RBV | E/QI | NA | I, RT, P | 1 Mexican petrochemical FB | Authors propose that EO moderates the learning orientation-market orientation link. |
| Sabah, Carsrud, & Kocak (2014)* | CuT | E/QI | Ownership, Management, Governance, Employ | I, RT, P | 6 Turkish FBs | Islam is conducive to entrepreneurial intensity within Turkish FBs context. Nationalistic FBs show lower frequency and degree of entrepreneurial intensity. Cultural openness shows mixed effects. |
| Schepers, Voordecker, Steijvers, & Laveren (2014) | CT, SEW, SIT | E/Qn | Ownership, Management, Self-perception | I, RT, P | 232 Belgian private FBs | The positive effect of EO on performance decreases as the concern for SEW preservation increases. |
| Tung, Lo, Chung, & Huang (2014) | ETI, InT, ST, UET | C | NA | I, RT, P, CA, A | - | Generational involvement affects EO, which in turn positively affects internationalization and firm survival. |
| Akhtar, Ismail, Hussain, & Umair-ur-Rehman (2015)** | NA | E/Qn | Ownership, Management | I, RT, P, CA, A | 150 manufacturing Pakistani firms (57.3% being FBs) | P and A are the most significant dimensions in the firm success. The influence of EO dimensions is reduced when family is taken as a moderator. Cultural setting inhibits certain aspects of entrepreneurial activity. |
| Le Breton-Miller, Miller, & Bares (2015) | AT, BAT, RBV | C | NA | I, RT, P | - | Authors propose various governance distinctions that can reconcile the ambiguous findings of empirical studies. They also suggest when FBs will be most and least entrepreneurial. |

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| Peters, & Kallmuenzer (2015)* | ET | E/QI | Ownership, Management | I, RT, P, CA, A | 17 hospitality FBs from Tyrol, Austria | FBs show low RT, and due to their embeddedness in the destinations, present a lower CA. However, their orientation towards A leads it to short-term cooperation activities. |
| Barroso, Sanguino, & Bañegil (2016a) | KBV | E/Qn | NA | I, RT, P | 93 Spanish FB | Knowledge transfer has a positive and significant effect on EO, and hence on firm performance. Family influence strengthens the relationship between knowledge transfer and performance, as well as between knowledge transfer and EO. |
| Barroso, Sanguino, & Bañegil (2016b) | | | | | | |
| Boling, Pieper, & Covin (2016) | UET | E/Qn | Ownership, Governance | I, RT, P | 210 U.S. public firms (85 FBs) | There exists an inverse U-shaped relationship between CEO tenure and EO, but in FBs the shape of the inverse U is less pronounced and the level of EO peaks considerably later in the CEO's tenure when compared with non-FBs. |
| Campbell, & Park (2016) | RBV | E/Qn | Self-perception | I, RT, P | 449 U.S. firms (227 FBs) | EO, firm capital, and corporate social responsibility are positively associated to performance of FBs and non-FBs. |
| Covin, Eggers, Kraus, Cheng, & Chang (2016)* | NA | E/QI | Ownership, Continuity, Governance | I, RT, P | 1671 firms from Central Europe (1310 FBs) | Different configurations of radical innovators among FBs and non-FBs are identified. FBs engage in risky radical innovation when customer responsiveness is combined with proactiveness or when proactiveness is combined with networking. |
| Davidkov, & Yordanova (2016) | RBV, UET | E/Qn | Ownership, Management | I, RT, P | 190 Bulgarian SMEs (83 FBs) | The presence of foreign owners and EO mediates the negative effect of FBs status on the odds of internationalization. Owner-manager's tenure and education level, access to finance, and learning orientation do not account for differences between FBs and non-FBs. |
| Garcés-Galdeano, Larraza-Kintana, García-Olaverri, & Makri (2016) | SEW | E/Qn | Ownership | I, RT, P | 322 public & private medium size Spanish manufacturing firms (178 FBs) | While FBs are less entrepreneurially-oriented than non-FBs, this gap closes with increasing technological intensity of the sector. However, there is no evidence that a change in EO of FBs results from a drop in firm performance. |
| Hernández-Perlines, Moreno-García, & Yañez-Araque (2016) [¥] | NA | E/QI & Qn | NA | I, RT, P | 174 Spanish FBs | International EO largely explains international performance in FBs, being I the more relevant dimension. This relationship is mediated by the competitive strategy of the firm, especially by the differentiation by marketing, by innovation and by service. |
| Madanoglu, Altinay, & Wang (2016)* | AT | E/Qn | Self-perception | I, RT | 145 FB-SMEs from U.K. | Family involvement has no direct influence on I and RT. However, decentralization is an important antecedent of both of them. Given that family involvement has a negative effect on decentralization, the total effect of family involvement on I and RT is negative. |
| Miller, Steier, & Le Breton-Miller (2016)* | NA | C | NA | I, RT, P | - | Many FBs are successful, enduring, and enjoy advantages for many reasons. In the case of EO, long-term orientation compensates their lower levels of I and RT. |
| Revilla, Pérez-Luño, & Nieto (2016) | BT | E/Qn | Ownership, Management | I, RT, P | 369 Spanish technological firms (178 FBs) | Family involvement in management reduces the risk of business failure, but this effect decreases as EO increases. |
| Stenholm, Pukkinen, & Heinonen (2016)* | DisT | E/Qn | Ownership, Self-perception | I, RT, P | 532 Finnish firms (224 FBs) | FBs benefit from I, which is both directly and indirectly associated with firm growth via entrepreneurial activity. This association does not exist in non-FBs. RT does not influence FB's growth even if it does in non-FBs. |

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| Bauweraerts & Colot (2017) | AT, RBV, ST | E/Qn | Ownership, Self-perception | I, RT, P | 208 Belgian private FBs | There exists an inverted U-shaped relationship between family involvement in board and EO. Board monitoring task limits the negative effects of high family involvement in board on EO, whereas the board service task does not have any significant effect. |
| Bettinelli, Sciascia, Randerson, & Fayolle (2017) | NA | C/ISI | NA | I, P, RT, AC, A | - | Systematic literature review of influential articles published in established peer-review journals about entrepreneurship in FB. |
| Calabrò, Campopiano, Basco, & Pukall (2017) | RDT | E/Qn | Ownership, Self-perception | - | 113 German private and public FBs | A high involvement of non-family members in governance has a positive impact on FBs pace of internationalization, this relationship being mediated by the international EO of the firm. |
| Charupongsopon, & Puriwat (2017) | RBV | E/Qn | NA | I, P, RT, AC, A | 1008 FBs from 28 countries | Both EO and FB's resources and capabilities affect positively to their performance. |
| Cherchem (2017) | CVF | E/Qn | Ownership | I, P, RT | 106 French family SMEs | There is no single cultural path for developing and maintaining long-term EO within FBs. While the clan culture fosters EO when only one generation is involved, the hierarchical culture fosters EO when multiple generations are simultaneously involved. |
| Hernández-Perlines, & Ibarra Cisneros (2017) | NA | E/Qn | NA | I, P, RT | 140 Mexican FBs | EO positively moderates the association between corporate social responsibility and performance of FBs. |
| Hernández-Perlines, Moreno-García, & Yáñez-Araque (2017) | DC | E/Qn | NA | I, P, RT | 218 Spanish FBs | In FBs, absorptive capacity positively mediates the relationship between EO and performance. This total mediation effect suppresses the direct effect of EO on performance. |
| Hernández-Perlines, & Rung-Hoch (2017) | NA | E/Qn | NA | I, P, RT | 174 Spanish FBs | In the FBs context, EO positively moderates the effect of corporate social responsibility on performance. |
| Kallmuenzer & Peters (2017)* | SIT | E/QI | Ownership, Management | I, RT, P, CA, A | 25 Austrian private FBs | All dimensions of EO are important for FBs, except CA, which contradicts the social embeddedness of FBs. For FBs, non-financial performance goals are more relevant. |
| Kallmuenzer, Strobl, & Peters (2017)* | AT, SEW | E/Qn | Ownership Management | I, P, RT, AC, A | 180 FBs from Western Austria | P and A are particularly relevant to performance. Agency-problems avoiding control mechanisms moderate the effect of I and A on performance, while family-related goals negatively moderate the RT- performance link. |
| Lee & Chu (2017) | AT, ST | E/Qn | Ownership & (Management or Governance) | I, P, RT | 223 Public Taiwanese firms | The positive association between EO and sustaining performance of firms is particularly strong when family ownership is combined with active family management and control. In passive family governance, the EO-performance relationship becomes insignificant |
| Pimentel, Couto, & Scholten (2017)** | NA | E/Qn | Ownership Management | I, P, RT | 155 Portuguese small firms (82 FBs) | EO, as well as I and RT, are lower in FB. Family participation is negatively associated with EO and its three dimensions. |
| Sobirin & Rosid (2017) | OLC | E/QI | Ownership Management | I, P, RT, AC, A | 1 Indonesian rice-milling FB | Small and medium FBs implement EO and strategic entrepreneurship along the life cycle with different degrees. |
| Tripopsakul, & Asavanant (2017) | RBV | E/Qn | NA | I, P, RT, AC, A | 783 FBs from 18 Asian and European countries | In the FBs, both EO and firm resources positively impact on their performance. |

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| Zachary, Payne, Moore, & Sexton (2017) | RBV, SEW, OC | E/ Qn | Management Governance | I, P, RT | 136 public FBs from USA | In FBs, EO changes before, during, and after an environmental jolt (a major unforeseen and discontinuous environmental change). |
| Arzubiaga, Iturralde, Maseda, & Kotlar (2018) | RBV, SEW | E/Qn | Ownership Management | I, P, RT | 230 non-listed Spanish family SMEs | EO and performance are stronger in firms with lower levels of family involvement and higher levels of gender diversity on the board. Moreover, the board’s high strategic involvement may strengthen the positive impact of gender diversity on the EO-performance link and change the moderating influence of family involvement effect on the same link from negative to positive. |
| Arzubiaga, Kotlar, De Massis, Maseda, & Iturralde (2018) | RDT, ST | E/Qn | Ownership Management | I, P, RT | 230 non-listed Spanish family SMEs | The positive EO-innovation link is negatively moderated by family involvement on the board and the intensity of board activity while is positively moderated by the board’s strategic involvement in service and control tasks and in the provision of knowledge and skills. |
| Fu & Si (2018) | AT, RBV | E/Qn | Ownership Management | I, P, RT | 683 Chinese FBs | The family ownership – EO link is stronger in FBs that have second-generation returnees and for returnees who stay abroad longer. |
| Hernández-Perlines & Xu (2018) [‡] | NA | E/Qn | NA | I, P, RT | 218 Spanish FBs | In the FBs context, the effect of the international EO on the international performance improves with the mediation of the absorptive capacity and the moderation of the environment. |
| Kallmuenzer & Peters (2018)* | NA | E/Qn | Ownership Management | I, P, RT | 198 rural tourism FBs from Western Austria | I and P are relevant variables to explain performance, while RT is not. In addition, the P–performance effect is negatively impacted by micro firm size. |
| Pittino, Barroso, Chirico, & Sanguino (2018) | ST | E/Qn | NA | I, P, RT | 93 Spanish FBs | The relationship between psychological ownership (PO) and EO is mediated by knowledge sharing. Family generation in control and family involvement in the top management team significantly moderate the PO - knowledge sharing link. |
| <i>*EO is deconstructed in its dimensions; ** EO is considered both as a combined construct and deconstructed in its dimensions; [‡] Different approach to EO, such as International EO or Family EO</i> | | | | | | |
| A: Autonomy AT: Agency Theory BAT: Behavioral Agency Theory BT: Behavioral Theory C: Conceptual CA: Competitive Aggressiveness CT: Contingency Theory | CuT: Cultural Theory DC: Dynamic Capability View DisT: Discovery Theory E: Empirical ET: Embeddedness Theory ETI: Eclectic Th. Internationalization FB: Family Business | I: Innovativeness IdT: Identity Theory InT: International Theory ISI: Introductory article to special issue IT: Institutional Theory KBV: Knowledge Based-View | NA: FF&EO review, not explicit or atheoretical QI: Qualitative analysis Qn: Quantitative analysis P: Proactiveness RBV: Resource Based-View RDT: Resource Dependence Theory RT: Risk-taking | SEW: Socioemotional View SIT: Social Identity Theory ST: Stewardship Theory UET: Upper Echleon Theory TAT: Time Allocation Theory TE: Transgeneratelial Entrepreneurship | | |

Table 4. EO in the Quantitative and Mixed Studies

| EO as dependent variable | | | |
|-----------------------------------|--|-------------------|---|
| <i>Author/s (year)</i> | <i>IV</i> | <i>MeV</i> | <i>MoV</i> |
| Block (2012) | Family involvement in ownership & management | | |
| Çavus & Demir (2011)* | Institutionalization | | |
| Miller & Le Breton-Miller (2011) | Family involvement in ownership, management & governance | | |
| Pimentel et al. (2017)** | Family involvement in management & governance | | |
| Sciascia et al. (2013) | Family involvement in management | | |
| Yildirim & Saygin (2011) | Transformational leadership | | |
| Zachary et al. (2017) | Time & industry | | |
| Zahra et al. (2004) | Organizational culture | | |
| Boling et al. (2016) | CEO tenure | | Family business |
| Barroso et al. (2016a, 2016b) | Knowledge transfer | | Family involvement in management & ownership |
| Bauweraerts & Colot (2017) | Family involvement in governance | | Board monitoring & board service |
| Casillas et al. (2011)* | Non-family involvement in management & generational variables | | Environmental dynamism & hostility |
| Cherchem (2017) | Clan culture, & hierarchical culture | | Generational involvement |
| Cruz & Nordqvist (2012) | External & internal factors | | Family involvement in management |
| Eddleston et al. (2012) | Comprehensive strategic decision making, participative governance, long-term orientation, & employee human capital | | Family-to-firm unity |
| Fu & Si (2018) | Family ownership | | Second generation returnees & overseas duration |
| Garcés-Galdeano et al. (2016) | Family business | | Technological intensity & firm performance |
| Kellermanns & Eddleston (2006) | Willingness to change, family involvement in management, & perceived technological opportunities | | Strategic planning |
| Weismeier-Sammer (2011) | | | |
| Zahra (2012) | Breadth, depth and speed of organizational learning, family involvement in ownership | | Family cohesion |
| Madanoglu et al. (2016)* | Family involvement in work | Decentralization | |
| Pittino et al. (2018) | Psychological ownership | Knowledge sharing | Family generation in control, family involvement in the top management team |
| EO as independent variable | | | |
| <i>Author/s (year)</i> | <i>DV</i> | <i>MeV</i> | <i>MoV</i> |
| Charupongsopon , & Puriwat (2017) | | | |
| Tripopsakul & Asavanant (2017) | | | |

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|---|---|--------------------------|--|
| Miller & Le Breton-Miller (2011) | Performance | | |
| Naldi et al. (2007)* | | | |
| Campbell & Park (2016) | | | Family ownership |
| Madison et al. (2014) | | | Family business |
| Barroso et al. (2016a, 2016b) | | | Family involvement in management & ownership |
| Chirico et al. (2011) | | | Family involvement in management & participative strategy |
| Arzubiaga et al.(2018a) | | | Family and female involvement in governance, moderated by strategic involvement of the board directors |
| Kallmuenzer & Peters (2018)* | | | Firm size |
| Kallmuenzer et al. (2017)* | | | Control mechanisms & family related goals |
| Lee & Chu (2017) | | | Family involvement in ownership, management & governance |
| Schepers et al. (2014) | | | SEW |
| Hernández-Perlines et al. (2017) | | Absorptive capacity | |
| Casillas & Moreno (2010)* | Firm growth | | Family involvement in management |
| Casillas et al. (2010)* | | | Family involvement in management, & environment |
| Stenholm et al. (2016)* | | Entrepreneurial activity | |
| Akhtar et al. (2015)** | Entrepreneurial success | | Family involvement in management |
| Arzubiaga et al. (2018) | Ambidextrous innovation | | Strategic involvement of the board; board knowledge and skills provision; Intensity of board activity |
| Craig et al. (2014)* | Innovation output | | Family business |
| EO as mediating variable | | | |
| <i>Author/s (year)</i> | <i>IV</i> | <i>DV</i> | <i>MoV</i> |
| Chien (2014) | Franchisor, & spousal resources | Performance | |
| Escribá-Esteve & Sanchez-Peinado (2009) | TMT characteristics | | |
| Kickul et al. (2010) | Firm resources, & opportunity recognition | | |
| Miller & Le Breton-Miller (2011) | Family involvement in ownership, management & governance | | |
| Zainol (2013) | Personality traits, cultural background, & government aided programme | | |
| Davidkov & Yordanova (2016) | Family business | Internationalization | |
| Kellermanns et al. (2008) | CEO characteristics & family involvement in work | Employment growth | |

| EO as moderating variable | | | | |
|--|---|---|----------------------|-------------------------------------|
| Author/s (year) | IV | DV | MeV | |
| Hernández-Perlines, & Ibarra (2017) | Corporate social responsibility | Performance | | |
| Hernández-Perlines, & Rung-Hoch (2017) | | | | |
| Revilla et al. (2016) | Family involvement in management | Risk of firm failure | | |
| Other approaches | | | | |
| Author/s (year) | IV | DV | MeV | MoV |
| Hernández-Perlines et al. (2016) | International EO | International performance | Competitive strategy | Hostility & dynamism of environment |
| Hernández-Perlines & Xu (2018) | | | Absorption capacity | |
| Calabrò et al. (2017) | External influences or openness of governance structure | Pace of internationalization, & international performance | International EO | |
| Zellweger et al. (2012) | Authors employ exploratory factor analysis for building a Family EO scale | | | |

*EO is deconstructed in its dimensions; ** EO is considered both as a combined construct and deconstructed in its dimensions.
IV=Independent variables, DV=Dependent variables, MeV= Mediating variables, MoV= Moderating variables.
Note: Please, note Barroso et al.'s (2016ab) studies have considered the EO both as an IV and a DV; and Miller and Le Breton-Miller's (2011) work has considered the EO as an IV, a DV and a MeV.