

Family firm configurations for high performance: The role of entrepreneurship and ambidexterity

PRE-PRINT VERSION OF

Hughes, M./Filser, M./Harms, R./Kraus, S./Chang, M./Cheng, C.-F. (2018): Family firm configurations for high performance: The role of entrepreneurship and ambidexterity, *British Journal of Management*, vol. 29, no. 4, 595-612.

The performance drivers of family firms have spawned considerable research interest. Almost exclusively this research has relied on independent sets of explanatory variables in linear analyses. These analyses mask the complex interdependencies that are likely to exist among key success factors, leading to faulty theory and misspecified implications for practice. As treatment, we propose a configuration approach to family firm performance that accounts for complex interdependencies among entrepreneurial, innovation and family influence conditions. Using a fuzzy set qualitative comparative analysis (fsQCA) of a sample of 129 Finnish family firms, we identify sufficient conditions with regards to the existence *or* absence of antecedent conditions to family firm performance. These conditions include entrepreneurial orientation, exploration and exploitation activities that form causal paths towards family firm performance. To enrich our analysis, we theorize and empirically analyse how these conditions might differ in family firms with high and low levels of family influence. We deepen the current understanding of configurations that promote the performance of family firms, offer important implications for theory and practice, and set new directions for future research on the strategic management of family firms. Our results are also virtually identical and insensitive to change across subjective and objective performance measures.

Keywords: Entrepreneurial orientation, exploration, exploitation, family firms, family influence, fsQCA

Introduction

Family-specific conditions “allow many family businesses not only to reap advantages of continuity and focus (“exploitation”), but also to reorient themselves when needed (“exploration”)” (Le Breton-Miller and Miller, 2006, p. 215). This suggests that high-performing family firms tend to innovate based on exploitation *and* exploration, known as ‘ambidexterity’ (Raisch and Birkinshaw, 2008; He and Wong, 2004; O’Reilly and Tushman, 2013). Literature suggests a positive relationship between ambidexterity and firm performance (Allison et al., 2014; Moss et al., 2014). Yet we know little about how ambidexterity configures with other organizational factors to influence firm performance (Stettner and Lavie, 2014), particularly when the firm’s context is atypical to that of traditional, large public and private firms that dominate the current literature (Chang and Hughes, 2012; Hughes et al., 2010). We propose that exploration and exploitation alone, and various combinations thereof, together with additional dimensions, can be antecedents to family firm performance (Junni et al., 2013). Neglecting such dimensions would result in an incomplete treatise with inadequate predictive capacities. This problem is exacerbated by investigations that study only the individual effects of such conditions. To overcome this, thought must be given to how these conditions configure together for firm performance.

Not all family firms may enjoy the same success in exploration and exploitation (Sharma and Salvato, 2011). Performance differences may be due to different realizations of the family context, leading to agency problems (Carney, 2005) and different emphasis on the nonfinancial objectives that shape family firm strategy (Berrone et al., 2012; Frank et al., 2010; Gómez-Mejía et al., 2007). This is a product of family influence, or ‘familiness’, a resource unique to a family firm because of the interactions between the family, its individual members, and the business (Habbershon, 1999). Familiness brings forth a family business identity that has grown historically and can alter the firm’s ability to innovate (Frank et al., 2010). Specifically, greater family influence can lead to strategies not conducive to

entrepreneurship or performance unless systematically mitigated (Carney, 2005). As such, a linear analysis of factors antecedent to family firm performance risks understating patterns of interdependencies and particularly when accounting for the context of each family firm (by way of their degree of familiness). Instead, a configuration of factors might be at play in explaining the success of high-performing family firms beyond just the presence of exploration or exploitation. Family firm literature points to not only family influence but also entrepreneurial orientation (EO) as further components of such a configuration.

EO is a strategic orientation comprised of risk-taking, innovativeness, and proactiveness (Covin and Slevin, 1989; Miller, 1983). Family firm researchers have linked EO to superior performance (Craig et al., 2014; Cruz and Nordquist, 2012). However, scholars also report that family influence can compromise EO by diminishing the appetite for risk-taking, prioritizing the family's financial and social well-being (Naldi et al., 2007), parochial interests (Miller et al., 2015) and their desire to maintain and protect control over the business (Carney, 2005). The theoretical background of these findings appears to be grounded in agency logic and principles associated with the preservation of family influence.

This collective ambiguity surrounding the composition of exploration, exploitation and EO as likely drivers of performance in family firms indicates that a non-traditional approach is necessary to analyse their relationship more effectively. We use a configuration analysis grounded in fuzzy-set qualitative comparative analysis (fsQCA) to resolve this ambiguity by categorizing these performance antecedents into groups of family firms that exhibit high and low levels of family influence. Our research question is: *What are the sufficient configurations of antecedents (EO, exploration and exploitation, and family influence) to family firm performance?*

This study offers three contributions. First, we use configuration theory and draw together expectations from agency and socioemotional wealth theories of family firms to set out new propositions about configurations of family firms' EO, exploration and exploitation

activities and how these might contribute to family firm performance under high and low levels of family influence. We contribute to theory by revealing the unexpected substitutability of EO and exploration, the primacy of adaptive theory to explain configurations and its use in explaining family firm performance in ways agency and socioemotional logics fail to do, and reveal the local character of configurations of family firm performance and when specialization might be better to ambidexterity. Second, the study offers an empirical contribution by providing new data on specific configurations of exploration and exploitation, EO, and family influence as causal conditions that yield high performance for family firms. Finally, the study offers a further empirical contribution by extending the fsQCA method into the family firm literature, illustrating how quantitative data on family firms can be converted by Boolean algebra to facilitate more nuanced empirical analysis than is available through more traditional quantitative methods (Ragin, 2000; Woodside, 2010a; 2010b). The power of this approach lies in its ability to determine sufficient conditions within several causal paths (configurations) that elicit a desired outcome. As a general contribution, we evidence that fsQCA results are robust across subjective and objective performance measures to increase scholars' and managers' confidence in fsQCA results.

The configurational nature of family firm performance

We first illustrate the performance impact of EO and then argue that performance is driven by configurations of EO and exploration and exploitation activities. We following this with arguments that that well-performing configurations differ between family firms with a high versus low degree of family influence (or familiness): increasing family influence changes the circumstances at play inside the firm (Frank et al., 2010), thereby causing it to require different recipes for high performance.

A configuration is a model of a firm that “contains relationships among elements or items representing multiple domains” (Dess et al., 1993, p. 776). By modelling a firm with multiple domains simultaneously, we can build more detailed models and move beyond bivariate “success factor” research (Harms et al., 2009; Kraus et al., 2017). In configurations, elements are embedded in a web of relationships with others, often creating complex relationships.

Traditionally, the strategic orientation literature (Venkatraman, 1989; Hakala, 2011) posits that a strategic orientation is a general pattern of various means; an antecedent to achieve business goals that ultimately impacts performance. In particular, EO impacts exploration and exploitation, which leads to family firm performance. Drawing on the basic framework from Gibson and Birkinshaw (2004, p. 210), which asserts that a firm’s context influences the relative value of exploration and exploitation activities to firm performance, familiness and EO are regarded as antecedents to, and family firm performance as a consequence of, ambidexterity (see Figure 1).

Insert Figure 1 about here

However, in line with configuration theory and based on fsQCA logic, we propose that EO, exploration and exploitation are combined in a set of conditions for family firm performance (see Figure 2). The circles of the Venn diagram illustrate conditions that, in isolation or in combination (overlap), may lead to family firm performance.

Insert Figure 2 about here

EO and Performance

EO reflects a proclivity towards organizational processes, methods and decision-making styles that managers use to act entrepreneurially (Lumpkin and Dess, 1996). In doing so, the

firm exhibits a propensity to engage in (1) risk-taking, (2) innovativeness, and (3) proactive initiatives (Covin and Slevin, 1989). *Risk-taking* is the degree to which the firm (usually through its senior managers) is willing to try out new or different ideas by making resource commitments to projects with uncertain outcomes that bear a danger of costly failure. *Innovativeness* is a willingness and tendency to engage in, develop, and support new ideas, novelty, experimentation, and creative processes that may bring about new or adapted product, process, administrative, or technological outcomes (Semrau et al., 2016). *Proactiveness* is a forward-looking approach to running the business in which the firm seeks to pre-empt and act in advance of opportunities and threats (Hughes and Morgan, 2007; Lumpkin and Dess, 1996; Miller, 1983). We adopt the Miller (1983) and Covin and Slevin (1989) position that a firm must exhibit all three dimension to ultimately possess an EO.

The literature supports a positive effect by EO on firm performance. For example, Rauch et al.'s (2009) meta-analysis found a moderately large and robust correlation with performance ($r = .242$), but there is still a lot of unexplained variance. The interpretation of this can be that EO can be an *ingredient* of successful firms, but does not *have to* be one. Previous research on EO-performance configurations give support to this interpretation in that both Lisboa et al. (2016) and Linton & Kask (2017) found high-performance configurations that do not include EO, while Hughes et al. (2007) find that the promise of EO for firm performance may depend on its configuration with additional factors. This literature also points towards and for family firms, Naldi et al. (2007) suggest that they often exhibit lower levels of EO as they prioritise organizational and social well-being not just financial performance.

To explain these findings, we draw on the dispositional perspective of EO. Under this perspective EO illustrates the *propensity* of firms toward entrepreneurship, but does not reflect entrepreneurial *action* per se (Anderson and Covin, 2014). Ultimately it is entrepreneurial action such as exploration and exploitation (and not unrealized propensity)

that leads to performance. This is particularly so for family firms as a study by Wright et al. (2016) into UK family firms found that while family firms reported a strong orientation towards creativity, innovating new products and proactively initiating change, their actual investments in high-risk projects was much lower. A test of disposition versus behaviour perspective could entail mediation analyses in which EO is conceptualized as a propensity, and a behavioural mediator shapes its effects on performance. A recent overview of EO-mediator studies found at least partial mediation of the EO-performance relationship (Harms, 2013). The notion that additional ingredients are needed in any organizational recipe that translates EO into firm performance is one that has emerged as a research priority since Rauch et al.'s (2009) meta-analysis. This is best illustrated in works calling on scholars to disentangle its wider system of effects and dependencies (Wales, 2016; Wales et al., 2011). In the language of fsQCA then, the theoretical background that draws on the dispositional perspective of EO as well as the empirical evidence described above point towards the assumption that EO can, but does not have to be related to firm performance. In and of itself then, EO may not present a sole sufficient condition for family firm performance. Thus:

Proposition 1: EO can be an element of family firm performance, but is not a sufficient component on its own.

Ambidexterity and Performance

Exploration implies processes engaging the firm in search, discovery, experimentation, and variation to generate new products (Kyriakopoulos and Moorman, 2004; March, 1991). Exploitation implies processes that engage the firm in productivity, refinement and efficiency that reduce variance so as to adapt, extend, and gradually improve existing products (He and Wong, 2004). Ambidexterity theory holds that firms that excel in both exploration and exploitation achieve superior performance (Cao et al., 2009; Junni et al., 2013; O'Reilly and

Tushman, 2013), since failure to do so risks trapping the firm in a suboptimal state in which it neither innovates for the future nor refines its existing offerings (March, 1991).

We argue that if EO may be dispositional, exploration, exploitation and ambidexterity may be behavioural and thus more immediately linked to performance. For example, Lumpkin and Dess (2001) argue that EO is not only linked to (exploratory) product market innovations, but also to (exploitative) innovations in the fields of technology and operations (Kollmann and Stöckmann, 2014). Ireland and Webb (2007, p. 50) further argue that EO is likened also to ambidexterity in that EO balances “between opportunity seeking (i.e. exploration) and advantage-seeking (i.e. exploitation) behaviors”.

Prevailing empirical evidence suggest that exploitation, exploration, and combinations thereof are related to a large variety of performance indicators (O’Reilly and Tushman, 2013). This is supported by the meta-analysis of Junni et al. (2013), who found effect sizes of .26 for both exploration and exploitation, and of about .45 for ambidexterity. Still, there may be contextual influences on these relationships. Exploration and exploitation are resource intensive which is why balancing both dimensions might be better than efforts to excel at both (Cao et al., 2009; March, 1991), both exploration and exploitation can have their own individual effects as well (Auh and Menguc, 2005), and evidence of the context sensitivity of ambidexterity (e.g., to resource availability, size and age of the firm) exists (Chang and Hughes, 2012; Menguc and Auh, 2008; Voss and Voss, 2013). For family firms, we know very little about ambidexterity De Massis et al., 2013a but suspect that their longer-term perspective may favour exploration while in the short term their general conservative and cautious behaviour to preserve family wealth may orient towards exploitation (Carney, 2005; Wright et al., 2016).

In summary, while general evidence points towards a significant relationship, we propose the following:

Proposition 2: Exploration, exploitation, or ambidexterity can be elements of family firm performance, but are not a sufficient component on their own.

Linking EO, Ambidexterity and Performance

Theoretical arguments and empirical evidence point to relationships between EO, exploration, exploitation, ambidexterity and performance. Yet, previous studies (that were mainly based on regression logic) do not suggest how these come together to form sufficient conditions (in configurational comparative logic). We expect that the key constructs will form multiple configurations combining at least two conditions. EO, exploration and exploitation may be “insufficient but *nonredundant* parts of different configurations which are themselves *unnecessary but sufficient* for the occurrence” (Jacobs et al., 2016, p.9) of family firm performance.

The possibility that the functioning and effects of EO relies on its configuration with and without other organizational conditions was put forward by Hughes et al. (2007). In their paper, using the more traditional regression-based form of configuration analysis, these authors found that EO (described as a form of exploration) clashed with exploitative learning (a form of exploitation) such that firms cannot sustain both. These authors also reported that the effects of EO were particularly strong for those firms whose exploitative learning was weak. This speaks to March’s (1991) concern that exploration- and exploitation-type activities exhibit a trade-off although it is against beliefs elsewhere in this literature that the two are independent (Cao et al., 2009). Hughes et al (2007) studied young, resource-constrained firms and Voss et al. (2013) in a study of SMEs found that as resource constraints are alleviated, SMEs tend to shift attention from exploitation to exploration. There are only two empirical QCA papers on EO and ambidexterity to date and these lend provisional support to their configurational nature but also highlight inconsistency. For example, Lisboa et al. (2016) find four types of well-performing firms (two with EO elements, exploration and exploitation

present; one with only risk-taking present and other constructs absent; and one with proactiveness and ambidexterity present and with innovativeness and risk-taking absent). Jacobs et al. (2016) find, among others, four types of well-performing configurations (one with EO, exploration and exploitation present; one with EO and exploitation present and exploration absent; one with EO and exploration present and exploitation absent; and one with exploration present and exploitation absent).

Theory points to the configurational nature of EO, exploration, and exploitation, but at the same time there is uncertainty in how they may organize into configurations of high firm performance, and particularly when accounting for the nature of the firm of interest (a feature caused by the local character of adaptation; March, 2006). Thus:

Proposition 3: EO, exploration, exploitation, and ambidexterity can form multiple configurations for the occurrence of family firm performance. It is expected that these conditions are insufficient but nonredundant parts of different configurations which are themselves unnecessary but sufficient for the occurrence of family firm performance.

Family Influence and Configurations of EO, Exploration and Exploitation

Family firms exhibit specific behaviour (De Massis et al., 2014b) due to family influence. Through power, experience and control over the functioning, direction and culture of the family firm (known as F-PEC, Astrachan et al., 2002), families impact firm strategy in general and innovation strategy in particular (Frank et al., 2010). Miller et al. (2015) suggest that familiness and its influence is one reason why some family firms appear to strive to create a strong business they can pass on to the next generation (resulting in innovation-promoting resources forming in the firm), while others cater heavily to family desires for nepotistic appointments, generosity towards often undeserving kin, and appropriation of firm assets to fulfil parochial desires, which deplete or prevent innovation resources from forming.

Both agency consideration and non-financial wealth considerations stand out (Carney, 2005; De Massis et al., 2013b). Thus, variations in family influence have the potential to reconfigure exploration, exploitation and entrepreneurship.

Agency theory suggests that families exhibit strong control over their firm's strategic activities (Anderson and Reeb, 2003; Shanker and Astrachan, 1996), which includes EO and exploration and exploitation (Short et al., 2009). Ownership and control are not separate in family firms. The controlling owner or family has considerable power over assets and resources and their allocation (Carney, 2005). It can minimize opportunism (Anderson and Reeb, 2003), but result in greater authoritarianism, centralization, and high monitoring with little delegation (Dyer and Handler, 1994).

Carney (2005) identified family influence as a defining characteristic of its governance in comparison to nonfamily firms. With no separation of ownership and control in family firms, their governance exhibits 'parsimony' (a frugality caused by strategic decisions being tied to the family's personal wealth), 'personalism' (the concentration of authority into the hands of family managers) and 'particularism' (where the family sees the business as an extension of themselves leading to decision-making that is particular rather than economically rational). Particularism is important because it is reflected in the priority given to socioemotional wealth (SEW) such that strategic decisions became oriented towards preserving or growing that wealth over and above their financial value (Berrone et al., 2012; Gómez-Mejía et al., 2007).

Family influence can personalise the identity of the family firm but it is not inevitable that its strategic orientation becomes so control oriented. Strategic decisions are made with the family's personal wealth and incentives exist to grow that wealth, despite the fact that under agency theory an incentive exists to minimize costs (Alchian and Demsetz, 1972) and monitor managers (as agents of the family) to prevent diversion of resources to activities that might be perceived to compromise wealth or put it at risk (Anderson and Reeb, 2003). This

'personalism', underpinning the influence of family owner-managers, means that *family* agents operate under fewer internal constraints and have latitude to implement practices that innovate to increased family wealth (Carney, 2005).

Family firms are concerned with much more than just financial wealth. They prioritize nonfinancial, SEW and a bias to protect and grow SEW directly informs their strategic actions (Gómez-Mejía et al., 2007; Cesinger et al., 2016). Family control and influence reflect two aspects of a family firm's stock of SEW (Zellweger et al., 2012). Family firms are expected to exhibit different patterns of strategic activity (such as their emphasis on EO, exploration and exploitation) depending on their desire to sustain family control and influence (Berrone et al., 2012). Short et al. (2009) observe that in the family firm the risk-taking and proactiveness dimensions of EO are lower than in nonfamily firms but innovativeness is not. They do exhibit entrepreneurial tendencies, with a particular emphasis on innovation.

Exploration, exploitation or both, have the potential to affect family firms' performance. Exploration and exploitation are unlikely to be the sole drivers of performance because from both agency and SEW theoretical perspectives, EO and family influence are meaningful to how family owners might exercise their authority and degrees of freedom to generate wealth. This indicates that relying on independent sets of explanatory variables in linear analyses mask the complex interdependencies that are likely to exist among key success factors. Neglecting how relevant factors might differ when placed in a configuration of all such variables may lead to faulty theory and wrong implications for practice.

This is not to say that all family firms are then the same. We deduce that family influence plays a significant role in shaping EO, exploration, and exploitation configurations. These configurations may differ between family firms with a low degree of family influence and those with a high degree of family firm influence. Control over strategic decisions is mainly due to ownership and ownership in the family context is the sine-qua-non condition to exceed any other influence on strategic decisions. We propose there is an impact of family

influence on configurations involving EO and might explain the mixed support for EO found among studies of family firms (Casillas and Moreno, 2010; De Massis et al., 2014a; De Massis et al., 2013b; Martin and Lumpkin, 2004; Melin and Nordqvist, 2007; Zellweger and Sieger, 2012). In line with this debate, it has been suggested that a major economic goal of family firms is to develop high-quality, innovative and sellable products that will help grow the firm (Tagiuri and Davis, 1992). This suggests that family firm managers will pursue exploration activities to facilitate product development and exploitation activities to use current and future products to increase the sales and growth of the firm. This observation was captured in the conceptual work of Miller and Le Breton-Miller (2006) who argue for the potential advantages of exploration and exploitation for family firms. Early empirical studies have again pointed towards the degree of family influence as a relevant factor for exploration respectively exploitation. A high F-PEC seems to be one of the factors that lead to a higher level of ambidexterity (Stubner et al., 2012), especially through family power and cultural alignment between family and firm interests, and higher levels of innovation in turn, to better financial performance. Nevertheless, Moss et al. (2014) highlight that family firms are rather heterogeneous, which lends further credence to the idea that exploration and exploitation at best only explain a part of the configuration of causal models that exist among comparable cases (Berg-Schlusser et al., 2009).

The literature has treated the impact of family influence on EO and exploration and exploitation activities separately. We see current empirical results pointing to an influence of family influence in these contexts but foresee that configurations of EO and exploration and exploitation across groups of family firms that exhibit high and low levels of family influence will emerge and be quite different to each other. Fundamentally, we expect that the sufficient conditions surrounding configurations of EO, exploration and exploitation associated with firm performance will (1) not be the same across groups of family firms exhibiting high and low levels of family finance and (2) that more than one route to performance (by way of more

than one configuration of these conditions) will exist. We now move to discuss our research methodology prior to an analysis of our empirically derived configurations. Thus:

Proposition 4: Configurations for high family firm performance will differ between groups of low versus high family influence.

Methodology

Sample

The sample is composed of 348 firms that were listed in the membership list of the Finnish Family Firms Association, the largest network of family firms in Finland. Membership criteria are that the majority of voting rights are in the hand of one family and that at least one family member is involved in the firm's management or administration. Based on these membership criteria, these firms qualify as family firms (Miller et al., 2007). We further required firms to be older than 6 years to show a certain level of maturity and to recognize the time lags between innovation and their financial returns (Kraus et al., 2008). Ultimately, the family firms in our sample had an average age of 53.06 years with a standard deviation of 28.892. The majority of our family firms are now in their second generation, with the second generation accounting for 52.7%, 57.4% and 55.8% of the ownership of the family firm, active in its top management team and active on the board of directors, respectively. Respondents were required to be a member of the owner family to ensure valid responses to questions about strategic and financial matters (John and Reve, 1982).

After sending out the online questionnaire twice in 2013 we received 129 fully completed responses, a response rate of 37.07%. This compares favourably to other studies of Finnish family firms Makkonen et al., 2014, and particularly well to online surveys in general. Analyses of nonresponse bias (Rogelberg and Stanton, 2007) did not reveal any issues. The sample demographics (see Table 1) are not significantly different from the Finnish Family Firms Association in general.

A summary of main characteristics (Table 1) shows that the majority ownership of each individual business is in family hands. Most of the family firms are private liability SMEs. The firms primarily operate in manufacturing, wholesale and retail.

Insert Table 1 about here

Operationalization

To measure *family firm performance*, we follow previous research and use sales growth, profit growth, and market share growth (Cronbach alpha [α] .88). These are among the most commonly used measures of success in entrepreneurship research (Carton and Hofer, 2006; Davidsson et al., 2009). To test the robustness of our results, we also use secondary performance data derived from the ORBIS database, which comprises the growth of a family firm's profit relative to mean growth in the sector (see Figure 3) on the assumption that relative growth captures the central idea of high performance (Makkonen et al., 2014). The measure of objective profit growth reflects an average score of three lapses of time and (2011-2014; 2012-2014; 2013-2014).

Insert Figure 3 about here

To measure *family influence*, we use the F-PEC scale by Astrachan et al. (2002). It comprises three items for measuring power (α .75), three items for measuring experience (α .94), and eleven items for measuring culture (α .88).

To assess *exploration* and *exploitation*, we used the scales of Lubatkin, Simsek, Ling and Veiga (2006) that measure exploration (α .79) and exploitation (α .85) with six items each. To measure *EO* we use the items for the three-dimensional representation of EO by Eggers et al. (2013), who developed and validated an alternative operationalization of EO suitable for SMEs by adapting items from the established EO scales of Miller (1983) and

Covin and Slevin (1988; 1986) and excluding items that focused only on large or larger firms (Sciascia et al., 2006; Roskos and Klandt, 2007). Five items each measure innovativeness (α .80) and proactiveness (α .78), and four items measure risk-taking (α .79).

All items were scored using a 5-point Likert-type scale, with higher scores indicating higher levels of agreement on the item in question. The survey was subjected to double-blind translation to improve the validity and reliability of the measurement instruments (Brislin, 1980).

Method of analysis

fsQCA is a normative model of set-theoretic connections and is applied as an analytical tool in social sciences. Since several problems of social science can be formulated in terms of sets and set relations (Ragin, 2008a), in which high values of a causal statement are not necessarily sufficient for high values of a dependent variable to occur (Woodside, 2013), the fsQCA method can identify these asymmetric relationships. It has been applied throughout management and innovation research to test set-theoretic relationships in social science models (Aversa et al., 2015; Bell et al., 2014; Brenes et al., 2017; Chang and Cheng, 2014; Cheng et al., 2013; Woodside, 2013).

Unlike linear analytical methods such as regression, fsQCA establishes logical connections between combinations of causal conditions and an outcome at the same time, the result being a set of configurations that summarize the sufficiency between subsets of all of the possible combinations of the conditions and the outcome (Mendel and Korjani, 2012). fsQCA therefore focuses on identifying several (not just a single) combinations of conditions explanatory factors that are sufficient to elicit a particular outcome (Bell et al., 2014; Chang and Cheng, 2014). The only article within family firm research using fsQCA so far (Garcia-Castro and Casasola, 2011) identifies different configurations of family firms on the basis of four components of family involvement, namely ownership, governance, management, and

succession. But, we use the method to probe inside our sample of family firms to determine combinations of EO, exploration and exploitation that elicit high performance in groups defined by their high or low levels of family influence.

Following fsQCA best practice (Ragin, 2008b; Schneider and Wagemann, 2010), we examine for the configurations for achieving high performance for two groups (that is, high F-PEC and low F-PEC) step-by-step. The first step is to transform the data into fuzzy sets (Ragin, 2008a; 2009; Woodside, 2013). To transform our constructs into ‘fuzzy scores’, it is necessary to calibrate them from interval scales to membership scores ranging from 0.0 to 1.0. The process of calibrating variables requires to specify the values of an interval-scale variable that correspond to full membership (95%), cross-over anchors (50%), and full non-membership (5%), which are three qualitative breakpoints structuring a fuzzy set. Following prior work using fsQCA to study social sciences, this study set the original values of 5.0 and 1.0 from the five-point Likert scales to correspond to full membership and full non-membership for all variables, except for objective performance. The default of fsQCA neglects the cases with a membership of 0.50, because this membership is the crossover that cannot indicate the presence or absence of the condition. Normally, many cases responded the values of 3.0. For avoiding neglecting too many cases, we calibrated values of 2.99 as a membership of 0.50 for avoiding variables being dropped during the analysis (Frazier et al., 2016). In terms of calibration of objective performance, values at 5, 50, and 95 percentiles served as the threshold for three memberships (Fiss, 2011).

The second step is to construct the truth table (Schneider and Wagemann, 2010), which lists the logically possible combinations of conditions, by specifying the number-of-cases threshold as 1 and the consistent cut-off value as .80. These two thresholds are used to recognize configurations that are sufficient to the outcome from those that are not.

Insert Table 2 about here

The third step is the construction of the ‘solution’. A ‘complex’ solution (in which no logical remainders, or zero cases, are used), a ‘parsimonious’ solution (in which all logical remainders may be used), and an ‘intermediate’ solution (in which partial logical remainders are incorporated into the solution so long as they are theoretically sensible) are three solutions produced for each analysis (Ragin, 2008b). Intermediate solutions are superior to both the complex and parsimonious solutions because they will not allow removal of necessary conditions (Ragin, 2009). Thus, we selected the intermediate solution.

Results

Before conducting fsQCA, we split the sample firms into two groups according to their F-PEC summated scores to compare the results across different levels of F-PEC. The intermediate solutions for the two groups produced by fsQCA are summarized in Table 3. According to Ragin’s (2008a) suggestion, the presence of a condition is signified by a black circle, whereas the absence of a condition is signified by a white circle. Blank spaces denote a ‘don’t care’ situation in which either presence or absence of a condition may not affect the outcome. To easily compare the causal configurations between these two groups, those configurations that are similar are labelled by the same number with different letters (for example, Path 1a vs. Path 1b).

Insert Table 3 about here

Two types of measures assess the strength of configurations leading to the outcome. First, the *consistency* gauges the extent to which the cases share a given configuration leading to the outcome, and the coverage, like a coefficient of determination, indicates the extent to which the outcome is explained by a given configuration (Ragin, 2008a; Woodside, 2013). Second, *unique coverage* assesses the degree to which the outcome is covered solely by each

individual configuration (Ragin, 2008b). Table 3 shows that the consistency values for each configuration and overall solutions exceed .85, indicating that these configurations are sufficient recipes leading to high overall performance. Also, the overall solution coverage approximates to or exceeds .30, suggesting that these solutions can explain a certain proportion of high overall performance.

Insert Table 4 about here

To examine whether our findings are robust, we conducted another fsQCA analysis for objective profit growth. Table 4 displays the results and indicates that all of paths are the same with those for the overall performance measure for the low F-PEC firms. In terms of the high F-PEC firms, these paths are similar to those for the overall performance measure. Among others, the “don’t care” conditions are changed to the negation of conditions in terms of Path 1b versus 1d and Path 2b versus 2d. This indicates that the absolute trade-offs between EO and exploration given a high level of exploitation. In sum, minor changes are observed but the interpretation remains unchanged. The results are similar between both outcomes, suggesting the validity and robustness of the results.

Discussion

Our research question inquired whether EO, exploration and exploitation form sufficient conditions of configurations for high performance among groups of family firms exhibiting high and low levels of family influence. Our analysis was motivated by the call of Miller and Le Breton-Miller (2006) who postulate that successful family firms are managing both exploration and exploitation, by Naldi et al. (2007) and Zellweger and Sieger (2012) who argue that EO is central to successful family firms, and by Miller et al. (2015) who argue that despite the apparent dysfunction possible when family influence is high, many of these family firms continue to perform well. We identified an important and relevant gap in the literature

that requires these elements to be brought together in one model. This gap is urgent to address because existing studies have almost exclusively relied on treating EO, exploration, exploitation and family influence as independent sets of explanatory variables in linear analyses. These analyses mask the complex interdependencies that exist among these factors, leading to faulty theory and misspecified implications for practice. We addressed this gap by investigating the configuration of these strategically-critical variables in family firms. We begin our discussion with general observations, before focusing on our propositions.

As general findings, we identify multiple configurational paths to superior family firm performance. The only construct consistent across all paths is exploitation. Exploitation is therefore a key ingredient to family firm performance. Surprisingly, we find that EO is not a general driver of family firm performance, as it is an element in only one of the configurations (path 1b) and only then for those family firms that exhibit high family influence. The same is also found for exploration. Only in one path (2b) and solely for those family firms with high family influence does exploration drive performance. Also, exploration does not co-occur with EO suggesting that they are substitutes. Finally, because of these results, ambidexterity (the co-occurrence of exploration and exploitation within a specific configurational path) also occurs only once (path 2b) and for family firms exhibiting high family influence only. For family firms exhibiting low family influence, neither EO nor exploration matter for configurations of high performance (paths 1a and 2a) and in this instance, the results point to the absence or negation of EO and exploration as causal conditions. It seems then that family firms with low family influence create a set of conditions within themselves that negate the need for EO or exploration for high firm performance. Exploitation is always present, however. Finally, we find that the configurational paths are almost identical across subjective (Table 3) and objective (Table 4) measures of firm performance, providing us with a high level of confidence that our results are not sensitive to the form of performance measurement. The latter is important because studies of firm performance from a variety of management

perspectives using fsQCA are increasing rapidly (Aversa et al., 2015; Brenes et al., 2017; Kraus et al., 2017; Woodside et al., 2016). Scholars and managers need confidence that fsQCA results are robust across subjective and objective performance measures. We, therefore, offer a timely contribution to this endeavour that transcends our specific focus on family firms.

For our propositions, Proposition 1 suspected that EO can be an element of family firm performance but is not a sufficient component on its own. We find evidence for this. EO is not sufficient on its own and it is not a particularly compelling ingredient in configurations of family firm performance either, playing no part in the configurational paths associated with high performance in family firms with low family influence, but playing a key role in one of the two paths for family firms exhibiting high family influence. An explanation might be that not all dimensions of EO are important or beneficial to family firms. For example, while family firm researchers have linked the three dimensions of EO individually and together to superior performance (Cruz and Nordquist, 2012; Naldi et al., 2007), scholars also report that the peculiarities of family influence can compromise EO by diminishing the appetite for risk-taking, prioritizing the family's financial and social well-being, and lead it to exhibit lower levels of certain dimensions of EO (Naldi et al., 2007), in part because of their desire to maintain and protect family control (Carney, 2005). Our findings align with this and provide an extension by suggesting that those family firms with high family influence require the whole of EO to offset the problems that excessive familiness causes. Yet, we cannot exclude the possibility that not all of the dimensions of EO are necessarily beneficial for family firms (Hughes and Morgan, 2007; Lumpkin and Dess, 1996; Zellweger and Sieger, 2012).

For Proposition 2, we expected that exploration, exploitation or ambidexterity can be elements of family firm performance, but not a sufficient component on their own. This proposition again holds well for family firms with high family influence. This may suggest a latent bias in the theorization of ambidexterity in family firms that fails to account for

situations when family influence is not particularly present or prevalent. In path 2b, both exploration and exploitation are part of a high-performance configuration for high F-PEC firms. Ambidexterity is vital to these types of firms in one of their two configurational paths. We suggest that this reveals a local character to ambidexterity in which exploration is needed to offset the dysfunctional effects of high family influence. But, for low F-PEC firms, high performance can consist of solely exploitation, which goes against the final part of our proposition 2 that exploitation, exploration or ambidexterity are insufficient on their own. This is important for theory because it suggests that for these types of firms, specialization is better than ambidexterity. Gupta et al. (2006) questioned whether ambidexterity was inherently best for all firms, arguing that specialization in exploitation (or exploration) may yield higher gains, especially given March's (1991) insistence that exploitation and exploration represent a trade-off due to their competing resource and organizational needs. O'Reilly and Tushman (2013) and Junni et al. (2013) also suggest that despite the supposed performance advantages of ambidexterity, it is not something that all firms can or should achieve, indicating a degree of context specificity. Our findings point to family firms and their degree of family influence as one such context, calling into question how theorizing about ambidexterity should treat family firms.

We find support for Proposition 3 that EO, exploration, exploitation and ambidexterity form multiple configurations for the occurrence of family firm performance. There are indeed multiple configurations and these are robust across subjective and objective measures of family firm performance, being virtually identical and largely insensitive to the change in measure. Important in our results for Proposition 3, however, is that EO and exploration appear to be substitutes to each other for high F-PEC groups. This points to the local character of adaptation again. March (2006) insists that the survival of adaptive systems in environments that are changing and incompletely known requires firms to reproduce the attributes responsible for success (in this instance that appears to be exploitation given its

consistency across all paths) and generate sufficient variety to enable the firm to experiment with new opportunities. The latter according to March (2006) would require the firm to have exploration, but EO appears to be a substitute for that as both exploration and EO can create the requisite variety. This finding extends EO directly into the ambidexterity debate but also suggests that ambidexterity in a firm might be 'hidden' by another construct substituting for one of its core elements (in this case EO for exploration). This lends support to a theoretical argument originally seen in (Hughes et al. , 2007).

Our expectations behind Proposition 4 receive support. Configurations of high family firm performance do differ between groups of low versus high family influence. This provides a first set of evidence to explain what Miller et al. (2015) referred to as the 'Janus-face' of socioemotional preferences in family firms. Some family firms strive to create strong businesses that can be passed to future generations, tending to be highly focused on innovative investment; others are excessively altruistic in which resources are misappropriated and strategic decisions become dysfunctional and distorted. The latter firms focus disproportionately on socioemotional wealth (Berrone et al., 2012) and are more likely to exhibit high F-PEC (Astrachan et al., 2002). Familiness can be positive (Miller et al., 2015), but its attributes can undermine the innovation capacity of the family firm (Frank et al., 2010), prioritising nepotistic appointments, rewarding undeserving kin and misappropriating firm assets to fulfil parochial desires (depleting resources for innovation) (Carney, 2005; De Massis et al., 2013b). These features explain why the configurational paths we find for those family firms with high family influence require either EO or exploration to offset those dysfunctional conditions. These findings advance our understanding of family firms by demonstrating the error inherent in relying on theory developed from independent sets of explanatory variables examined in linear analyses. These analyses do indeed mask the complex interdependencies that are likely to exist among EO, exploration, exploitation and

family influence and our findings refine currently-faulty theory as revealed through our propositions.

Collectively, our findings point to an overlooked theoretical lens relevant to the study of family firms: adaptive theory (Baum and McKelviey, 1999; Campbell, 1985; March, 1991; March, 2006). In the family firm literature, agency theory and non-financial wealth considerations contained in the theory of socioemotional wealth stand out as the chief means to predict the behaviour and outcomes of family firms (Berrone et al., 2012; Carney, 2005; De Massis et al., 2013a). Greater family influence changes the circumstances and attributes within the firm—attributes that are responsible for success and must be replicated, but also attributes that are dysfunctional and require action to overcome. In our case, exploitation must be replicated but conditions to ensure variety generation (exploration) are relevant but only when family firms exhibit high familiness. Outside of that, EO appears to substitute for exploration and family firms with low familiness may already contain sufficient conditions for innovation (if March's 2006 view is combined with theory of family firms). Thus, we reveal important conditions to understand and develop better predictions of family firm performance.

To illustrate, greater familiness leads to greater desire to protect control with nepotistic appointments, misplaced altruism and misappropriation of assets. This has its roots in agency theory and socioemotional wealth, which suggests that greater familiness leads to greater control over strategic initiatives (Anderson and Reeb, 2003; Carney, 2005; Shanker and Astrachan, 1996). Adaptive theory can help us understand this more from the point of view of attributes being replicated but also the local character of adaptation (i.e., it differs across high/low familiness). But adaptive theory is flawed on its own because greater familiness changes the meaning of success away from purely economic goals and towards a mix of economic and non-economic ones (Berrone et al., 2012). Thus, its usage in the study of family firms must account for their specific features.

At the outset of our paper, we argued that neglecting how critical factors might differ when placed in a configuration might lead to faulty theory and misspecified implications and we find support for this. Bringing together adaptive theory and existing lenses in family firm management research provides a better solution. We find different configurational routes to performance *and* these differ depending on the degree of familiness. Our study provides a basis to explain Miller et al.'s (2015) position that despite the apparent dysfunction caused by high familiness, successful examples of such family firms exist and we better understand both how and why this is the case.

Implications

Implications for family firm managers are apparent: family firms with low family influence benefit by specializing in exploitation and not ambidexterity; EO appears to substitute for exploration in configurations of high performance for family firms with high family influence; ambidexterity is present in one of the two configurations for high performance for family firms exhibiting high family influence while EO is present in the other (but neither are present in those for family firms with low family influence); and configurations of EO, exploration and exploitation are specific to the context, or local character, of the family firm and managers must configure their firm accordingly after an analysis of the presence and effects of family influence in their firm. EO is no silver bullet for family firm performance, and family managers should not blindly adopt an EO. It may be that other strategic orientations are more suitable (Altindag et al., 2011) and managerial emphasis on the more proximal and actionable success factors of, in particular exploitation, seems to be a more promising way towards a high degree of family firm performance.

These implications are tempered by our study limitations. First, our variables refer to the same point in time, which does not allow us to infer causality, though we hasten to add

that this is not the purpose of fsQCA. fsQCA ascertains whether several plausible configurations associated with an outcome variable of interest can be observed, breaking the restraints of traditional regression analyses which depend on identifying individual effects of independent variables on a dependent variable. Second, research needs to scrutinize whether the results can be transferred to other contexts beyond our sample. Third, researchers may have some leeway in how to implement fsQCA. As fsQCA is still nascent in the different fields of management research, there is no critical mass of studies to be used as reference points for the consistent choice of cross-over points and membership-criteria. Different cross-over points might generate different conclusions and thus a sophisticated approach to set calibration is needed in which the calibration process is properly described and disclosed (Garcia-Castro and Casasola, 2011; Mendel and Korjani, 2012). This would further facilitate the comparison between different empirical fsQCA assessments to improve understanding and enrich the quality of theory building. Fourth, we were unable to return to our respondents to collect qualitative evidence about the ways our factors interact within each configuration.

Interesting questions for future research include a finer examination of the implications of adaptive theory for family firm performance, EO and ambidexterity. We find that family firms with low family influence can benefit from specializing in exploitation only, but this may jeopardise longer term success if exploration is not provided through some other means. Examining EO and ambidexterity across time or within family firms of different ages or periods of next-generation succession may reveal further important information. Having empirically identified configurations of high-performing family firms, and begun to speculate about their internal consistency, we invite future research to further explore the processes that link EO, exploration, exploitation, and family influence to superior family firm performance. This way, the field can move to mid-range theories of family firm performance and practitioners will learn about the sequence of implementing management practices.

References

- Alchian, A.A. and Demsetz, H. (1972). 'Production, information costs, and economic organization', *The American Economic Review*, **62**, pp. 777-795.
- Allison, T.H., McKenny, A.F. and Short, J.C. (2014). 'Integrating time into family business research: Using random coefficient modeling to examine temporal influences on family firm ambidexterity', *Family Business Review*, **27**, pp. 20-34.
- Altindag, E., Zehir, C. and Acar, A.Z. (2011). 'Strategic orientations and their effects on firm performance in Turkish family owned firms', *Eurasian Business Review*, **1**, pp. 18-36.
- Anderson, B.S. and Covin, J.G. (2014). 'Entrepreneurial orientation: Disposition and behavior'. In: A. Fayolle (ed.) *Handbook of research on entrepreneurship: What we know and what we need to know*. pp. 215-337. Cheltenham, U.K.: Edward Elgar Publishing.
- Anderson, R.C. and Reeb, D.M. (2003). 'Founding-family ownership and firm performance: Evidence from the S&P 500', *The Journal of Finance*, **58**, pp. 1301-1328.
- Astrachan, J.H., Klein, S.B. and Smyrnios, K.X. (2002). 'The f-PEC scale of family influence: A proposal for solving the family business definition problem', *Family Business Review*, **15**, pp. 45-58.
- Auh, S. and Menguc, B. (2005). 'Balancing exploration and exploitation: The moderating role of competitive intensity', *Journal of Business Research*, **58**, pp. 1652-1661.
- Aversa, P., Furnari, S. and Haefliger, S. (2015). 'Business model configurations and performance: A qualitative comparative analysis in Formula One racing, 2005–2013', *Industrial and Corporate Change*, **24**, pp. 655-676.
- Baum, J.A.C. and McKelvey, B. (1999). *Variations in organization science: Essays in Honor of Donald D. Campbell*, Sage, Thousand Oaks, CA.
- Bell, R.G., Filatotchev, I. and Aguilera, R.V. (2014). 'Corporate governance and investors' perceptions of foreign IPO value: An institutional perspective', *Academy of Management Journal*, **57**, pp. 301-320.
- Berg-Schlosser, D., De Meur, G., Rihoux, B. and Ragin, C.C. (2009). 'Qualitative comparative analysis (QCA) as an approach". In: B. Rihoux and C. C. Ragin (eds.), *Configurational comparative methods*. pp. 1-18. London: Sage.
- Berrone, P., Cruz, C. and Gomez-Meija, L.R. (2012). 'Socioemotional wealth in family firms: Theoretical dimensions, assessment approaches, and agenda for future research', *Family Business Review*, **25**, pp. 258-279.
- Brenes, E.R., Ciravegna, L. and Woodside, A. (2017). 'Constructing useful models of firms' heterogeneities in implemented strategies and performance outcomes', *Industrial Marketing Management*, **62**, pp. 17-35.
- Brislin, R.W. (1980). 'Translation and content analysis of oral and written materials". In: H. C. Triandis and J. W. Berry (eds.), *Handbook of cross-cultural psychology*. pp. 389-444. Boston: Allyn and Bacon.
- Campbell, B.G. (1985). *Human Evolution: An Introduction to Man's Adaptations*, Aldine, Chicago, IL.
- Cao, Q., Gedajlovic, E. and Zhang, H. (2009). 'Unpacking organizational ambidexterity: Dimensions, contingencies, and synergistic effects', *Organization Science*, **20**, pp. 781-795.
- Carney, M. (2005). 'Corporate governance and competitive advantage in family-controlled firms', *Entrepreneurship Theory & Practice*, **29**, pp. 249-265.
- Carton, R.B. and Hofer, C.W. (2006). *Measuring Organizational Performance - Metrics for Entrepreneurship and Strategic Management Research*, Edward Elgar, Cheltenham.

- Casillas, J. and Moreno, A.M. (2010). 'The relationship between entrepreneurial orientation and growth: The moderating role of family involvement', *Entrepreneurship & Regional Development*, **22**, pp. 265-291.
- Cesinger, B., Hughes, M., Mensching, H., Bouncken, R., Fredrich, V. and Kraus, S. (2016). 'A Socioemotional Wealth Perspective on how Collaboration Intensity, Trust, and International Market Knowledge affect Family Firms' Multinationality', *Journal of World Business*, **51**, pp. 586-599.
- Chang, M.L. and Cheng, C.F. (2014). 'How balance theory explains high-tech professionals' solutions of enhancing job satisfaction', *Journal of Business Research*, **67**, pp. 2008-2018.
- Chang, Y.Y. and Hughes, M. (2012). 'Drivers of innovation ambidexterity in small- to medium-sized firms', *European Management Journal*, **30**, pp. 1-17.
- Cheng, C.F., Chang, M.L. and Li, C.S. (2013). 'Configural paths to successful product innovation', *Journal of Business Research*, **66**, pp. 2561-2573.
- Covin, J.G. and Slevin, D.P. (1986). 'The Development and Testing of an Organizational-Level Entrepreneurship Scale'. In: R. Ronstad, J. A. Hornaday, R. Peterson and K. H. Vesper (eds.), *Frontiers of Entrepreneurship Research*. pp. 628-639. Wellesley, Mass.: Babson College.
- Covin, J.G. and Slevin, D.P. (1988). 'The influence of organization structure on the utility of an entrepreneurial top management style', *Journal of Management Studies*, **25**, pp. 217-234.
- Covin, J.G. and Slevin, D.P. (1989). 'Strategic Management of Small Firms in Hostile and Benign Environments', *Strategic Management Journal*, **10**, pp. 75-87.
- Craig, J.B., Pohjola, M., Kraus, S. and Jensen, S.H. (2014). 'Exploring Relationships among Proactiveness, Risk-Taking and Innovation Output in Family and Non-Family Firms', *Creativity & Innovation Management*, **23**, pp. 199-210.
- Cruz, C. and Nordquist, M. (2012). 'Entrepreneurial orientation in family firms: A generational perspective', *Small Business Economics*, **38**, pp. 33-49.
- Davidsson, P., Steffens, P. and Fitzsimmons, J. (2009). 'Growing profitable or growing from profits: Putting the horse in front of the cart?', *Journal of Business Venturing*, **24**, pp. 388-406.
- De Massis, A., Chirico, F., Kotlar, J. and Naldi, L. (2014a). 'The temporal evolution of proactiveness in family firms: The horizontal s-curve hypothesis', *Family Business Review*, **27**, pp. 35-50.
- De Massis, A., Frattini, F. and Lichtenthaler, U. (2013a). 'Research on Technological Innovation in Family Firms: Present Debates and Future Directions', *Family Business Review*, **26**, pp. 10-31.
- De Massis, A., J., Kotlar, J., Campopiano, G. and Cassia, L. (2013b). 'Dispersion of family ownership and the performance of small-to-medium size private family firms', *Journal of Family Business Strategy*, **4**, pp. 166-175.
- De Massis, A., Kotlar, J., Chua, J.H. and Chrisman, J.J. (2014b). 'Ability and willingness as sufficiency conditions for family-oriented particularistic behaviour: Implications for theory and empirical studies', *Journal of Small Business Management*, **52**, pp. 344-364.
- Dess, G., Newport, S. and Rasheed, A.M.A. (1993). 'Configuration Research in Strategic Management: Key Issues and Suggestions', *Journal of Management*, **19**, pp. 775-795.
- Dyer, W.G. and Handler, W. (1994). 'Family business and entrepreneurship: exploring the connections', *Entrepreneurship Theory & Practice*, **19**, pp. 71-71.
- Eggers, F., Kraus, S., Hughes, M., Laraway, S. and Snyckerski, S. (2013). 'Implications of customer and entrepreneurial orientations for SME growth', *Management Decision*, **51**, pp. 524-546.

- Fiss, P.C. (2011). 'Building better causal theories: A fuzzy set approach to typologies in organization research', *Academy of Management Journal*, **54**, pp. 393-420.
- Frank, H., Lueger, M., Nosé, L. and Suchy, D. (2010). 'The concept of “Familiness”': Literature review and systems theory-based reflections', *Journal of Family Business Strategy*, **1**, pp. 119-130.
- Frazier, M.L., Tupper, C. and Fainshmidt, S. (2016). 'The path(s) to employee trust in direct supervisor in nascent and established relationships: A fuzzy set analysis', *Journal of Organizational Behavior*, **37**, pp. 1023-1043.
- Garcia-Castro, R. and Casasola, M.J. (2011). 'A set-theoretic analysis of the components of family involvement in publicly listed and major unlisted firms', *Journal of Family Business Strategy*, **2**, pp. 15-25.
- Gibson, C. and Birkinshaw, J. (2004). 'The antecedents, consequences, and mediating role of organizational ambidexterity', *Academy of Management Journal*, **47**, pp. 209-226.
- Gómez-Mejía, L., Haynes, K.T., Nunez-Nickel, M., Jacobson, K.J.L. and Moyano-Fuentes, J. (2007). 'Socioemotional wealth and business risks in family-controlled firms: Evidence from Spanish olive oil mills', *Administrative Science Quarterly*, **52**, pp. 106-137.
- Gupta, A.K., Smith, K.G. and Shalley, C.E. (2006). 'The interplay between exploration and exploitation', *Academy of Management Journal*, **49**, pp. 693-706.
- Habbershon, T.G.a.M.L.W., 12, pp. (1999). 'A resource-based framework for assessing the strategic advantages of family firms', *Family Business Review*, **12**, pp. 1-25.
- Hakala, H. (2011). 'Strategic orientations in management literature: Three approaches to understanding the interaction between market, technology, entrepreneurial and learning orientation', *International Journal of Management Reviews*, **13**, pp. 199-217.
- Harms, R. (2013). 'From entrepreneurial orientation to performance - inside the black box of corporate entrepreneurship?', *M@n@gement*, **16**, pp. 410-421.
- Harms, R., Kraus, S. and Schwarz, E.J. (2009). 'The suitability of the configuration approach in entrepreneurship research', *Entrepreneurship and Regional Development*, **21**, pp. 25-47.
- He, Z.-L. and Wong, P.-L. (2004). 'Exploration vs. Exploitation: An Empirical Test of the Ambidexterity Hypothesis', *Organization Science*, **15**, pp. 481-494.
- Hughes, M. and Morgan, R.E. (2007). 'Deconstructing the Relationship between Entrepreneurial Orientation and Business Performance at the Embryonic Stage of Firm Growth', *Industrial Marketing Management*, **36**, pp. 651-661.
- Hughes, M., Hughes, P. and Morgan, R.E. (2007). 'Exploitative learning and entrepreneurial orientation alignment in emerging young firms: Implications for market and response performance', *British Journal of Management*, **18**, pp. 359-375.
- Hughes, M., Martin, S.L., Morgan, R.E., and Robson, M. (2010). 'Realizing product-market advantage in high-technology international new ventures: The mediating role of ambidextrous innovation', *Journal of International Marketing*, **18**(4), pp. 1-21.
- Ireland, R.D. and Webb, J. (2007). 'Strategic Entrepreneurship: Creating Competitive Advantage Through Streams of Innovation', *Business Horizons*, **50**, pp. 49-59.
- Jacobs, S., Cambré, B., Huysentruyt, M. and Schramme, A. (2016). 'Belgian designer's pathways to success: a configurational perspective'. EGOS: Naples.
- John, G. and Reve, T. (1982). 'The Reliability and Validity of Key Informant Data from Dyadic Relationships in Marketing Channels', *Journal of Marketing Research*, **19**, pp. 517- 524.
- Junni, P., Sarala, R.M., Taras, V. and Tarba, S.Y. (2013). 'Organizational ambidexterity and performance: A meta-analysis', *Academy of Management Perspectives*, **27**, pp. 299-312.

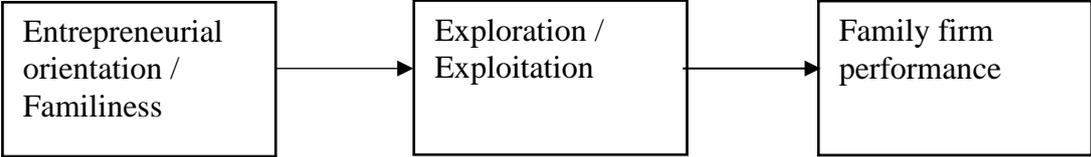
- Kollmann, T. and Stöckmann, C. (2014). 'Filling the entrepreneurial orientation-performance gap: The mediating effects of exploratory and exploitative innovations', *Entrepreneurship Theory & Practice*, **38**, pp. 1001-1026.
- Kraus, S., Ribeiro-Soriano, D. and Schüssler, M. (2017). 'Fuzzy-set qualitative comparative analysis (fsQCA) in entrepreneurship and innovation research – the rise of a method', *International Entrepreneurship Journal*, p. forthcoming.
- Kraus, S., Schwarz, E.J. and Harms, R. (2008). 'Strategic business planning and success in small firms', *International Journal of Entrepreneurship and Innovation Management*, **8**, pp. 381-396.
- Kyriakopoulos, K. and Moorman, C. (2004). 'Tradeoffs in marketing exploitation and exploration strategies: The overlooked role of market orientation', *International Journal of Research in Marketing*, **21**, pp. 219-240.
- Le Breton-Miller, I. and Miller, D. (2006). 'Why do some family businesses out-compete? Governance, long-term orientations, and sustainable capability', *Entrepreneurship: Theory and Practice*, **30**, pp. 731-746.
- Linton, G. and Kask, J. (2017). 'Configurations of entrepreneurial orientation and competitive strategy for high performance', *Journal of Business Research*, **70**, pp. 168-176.
- Lisboa, A., Skarmeas, D. and Saridakis, C. (2016). 'Entrepreneurial orientation pathways to performance: A fuzzy-set analysis', *Journal of Business Research*, **69**, pp. 1319-1324.
- Lubatkin, M.H., Simsek, Z., Ling, Y. and Veiga, J.F. (2006). 'Ambidexterity and performance in small-to medium-sized firms: The pivotal role of top management behavioral integration', *Journal of Management*, **32**, pp. 646-672.
- Lumpkin, G.T. and Dess, G.G. (1996). 'Clarifying the Entrepreneurial Orientation Construct and Linking It to Performance', *Academy of Management Review*, **21**, pp. 135-172.
- Lumpkin, G.T. and Dess, G.G. (2001). 'Linking Two Dimensions of Entrepreneurial Orientation to Firm Performance: The Moderating Role of Environment and Industry Life Cycle', *Journal of Business Venturing*, **16**, pp. 429-452.
- Makkonen, H., Pohjola, M., Olkkonen, R. and Koponen, A. (2014). 'Dynamic capabilities and firm performance in a financial crisis', *Journal of Business Research*, **67**, pp. 2707-2719.
- March, J.G. (1991). 'Exploration and Exploitation in Organizational Learning', *Organization Science*, **2**, pp. 71-87.
- March, J.G. (2006). 'Rationality, foolishness, and adaptive intelligence', *Strategic Management Journal*, **27**, pp. 201-214.
- Martin, W.L. and Lumpkin, G.T. (2004). 'From entrepreneurial orientation to family orientation: Generational differences in the management of family businesses', *Frontiers of Entrepreneurship Research*.
- Melin, L. and Nordqvist, M. (2007). 'The reflexive dynamics of institutionalization: The case of the family business', *Strategic Organization*, **5**, pp. 321-333.
- Mendel, J.M. and Korjani, M. (2012). 'Charles Ragin's fuzzy set qualitative comparative analysis (fsQCA) used for linguistic summarizations', *Information Sciences*, **202**, pp. 1-23.
- Menguc, B. and Auh, S. (2008). 'The asymmetric moderating role of market orientation on the ambidexterity-firm performance relationship for prospectors and defenders', *Industrial Marketing Management*, **37**, pp. 455-470.
- Miller, D. (1983). 'The correlates of entrepreneurship in three types of firms', *Management Science*, **29**, pp. 770-791.
- Miller, D., Le Breton-Miller, I., Lester, R. and Cannella, A. (2007). 'Are family firms really superior performers?', *Journal of Corporate Finance*, **13**, pp. 829-858.

- Miller, D., Wright, M., Le Breton-Miller, I. and Scholes, L. (2015). 'Resources and innovation in family businesses: the Janus-face of family socioemotional preferences', *California Management Review*, **58**, pp. 20-40.
- Moss, T.W., Payne, G.T. and Moore, C.B. (2014). 'Strategic consistency of exploration and exploitation in family businesses', *Family Business Review*, **27**, pp. 51-71.
- Naldi, L., Nordqvist, M., Sjöberg, K. and Wiklund, J. (2007). 'Entrepreneurial orientation, risk taking, and performance in family firms', *Family Business Review*, **20**, pp. 33-47.
- O'Reilly, C.A. and Tushman, M.L. (2013). 'Organizational ambidexterity: Past, present, and future', *Academy of Management Perspectives*, **27**, pp. 324-338.
- Ragin, C.C. (2000). *Fuzzy-set social science*, University of Chicago Press., Chicago.
- Ragin, C.C. (2008a). *Redesigning social inquiry: Fuzzy sets and beyond*, University of Chicago Press, Chicago.
- Ragin, C.C. (2008b). *User's guide to fuzzy-set/qualitative comparative analysis*, Available online at: <http://www.fsqca.com>.
- Ragin, C.C. (2009). 'Qualitative comparative analysis using fuzzy sets (fsQCA)'. In: B. Rihoux and C. C. Ragin (eds.), *Configurational comparative methods: Qualitative comparative analysis (QCA) and related techniques (applied social research method)*. pp. 87-121. Thousand Oaks and London: Sage.
- Raisch, S. and Birkinshaw, J. (2008). 'Organizational ambidexterity: Antecedents, outcomes, and moderators', *Journal of Management*, **34**, pp. 375-409.
- Rauch, A.J., Wiklund, J., Lumpkin, G.T. and Frese, M. (2009). 'Entrepreneurial orientation and business performance: An assessment of past research and suggestions for the future', *Entrepreneurship Theory and Practice*, **33**, pp. 761-788.
- Rogelberg, S.G. and Stanton, J.M. (2007). 'Introduction: Understanding and dealing with organizational survey nonresponse', *Organizational Research Methods*, **10**, pp. 195-209.
- Roskos, S. and Klandt, H. (2007). 'Young technology ventures in Europe: Aspects of market orientation and entrepreneurial orientation', *International Journal of Entrepreneurship and Small Business*, **4**, pp. 543-563.
- Schneider, C.Q. and Wagemann, C. (2010). 'Standards of good practice in qualitative comparative analysis (QCA) and fuzzy-sets', *Comparative Sociology*, **9**, pp. 1-20.
- Sciascia, S., Naldi, L. and Hunter, E. (2006). 'Market orientation as determinant of entrepreneurship: An empirical investigation on SMEs', *International Entrepreneurship and Management Journal*, **2**, pp. 21-38.
- Semrau, T., Ambos, T.C. and Kraus, S. (2016). 'Entrepreneurial orientation and SME performance across societal cultures', *Journal of Business Research*, **69**, pp. 1928-1932.
- Shanker, M.C. and Astrachan, J.H. (1996). 'Myths and realities: Family business contribution to the US economy - a framework for assessing family business statistics', *Family Business Review*, **9**, pp. 107-123.
- Sharma, P. and Salvato, C. (2011). 'Commentary: Exploiting and exploring new opportunities over life cycle stages of family firms', *Entrepreneurship: Theory & Practice*, **35**, pp. 1199-1205.
- Short, J.C., Payne, G.T., Brigham, K.H., Lumpkin, G. and Broberg, J.C. (2009). 'Family firms and entrepreneurial orientation in publicly traded firms', *Family Business Review*, **22**, pp. 9-24.
- Stettner, U. and Lavie, D. (2014). 'Ambidexterity under scrutiny: Exploration and exploitation via internal organization, alliances, and acquisitions', *Strategic Management Journal*, **35**, pp. 1903-1929.

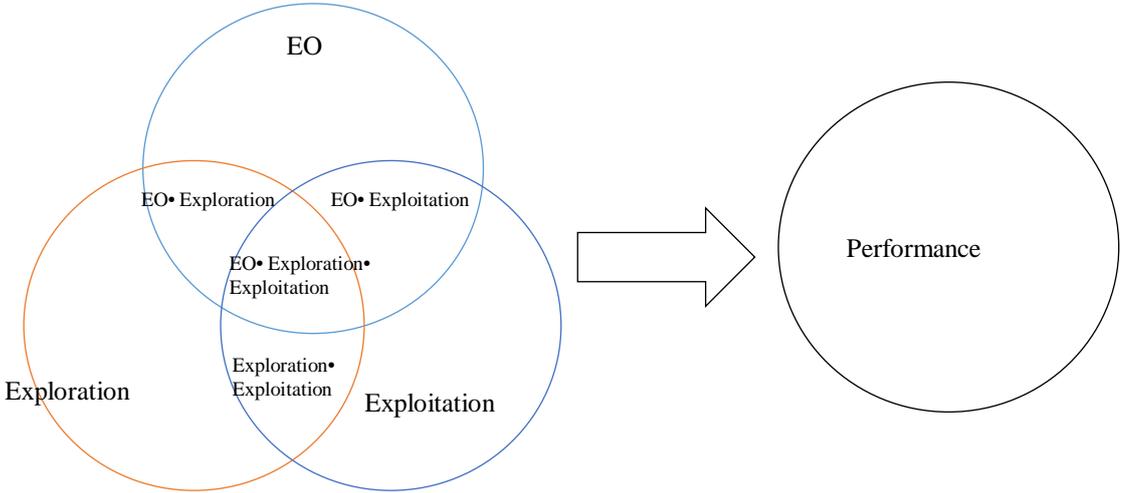
- Stubner, S., Blarr, W.H., Brands, C. and Wulf, T. (2012). 'Organizational ambidexterity and family firm performance', *Journal of Small Business & Entrepreneurship*, **25**, pp. 217-229.
- Tagiuri, R. and Davis, J.A. (1992). 'On the goals of successful family companies', *Family Business Review*, **5**, pp. 43-62.
- Venkatraman, N. (1989). 'Strategic Orientation of Business Enterprises: The Construct, Dimensionality and Measurement', *Management Science*, **35**, pp. 941-962.
- Voss, G. and Voss, Z.G. (2013). 'Strategic ambidexterity in small and medium-sized enterprises: Implementing exploration and exploitation in product and market domains', *Organization Science*, **24**, pp. 1459-1477.
- Wales, W.J. (2016). 'Entrepreneurial orientation: A review and synthesis of promising research directions', *International Small Business Journal*, **34**, pp. 3-15.
- Wales, W.J., Monsen, E. and McKelvie, A. (2011). 'The organizational pervasiveness of entrepreneurial orientation', *Entrepreneurship Theory and Practice*, **35**, pp. 895-923.
- Woodside, A.G. (2010a). 'Bridging the chasm between survey and case study research: Research methods for achieving generalization, accuracy, and complexity', *Industrial Marketing Management*, **39**, pp. 64-75.
- Woodside, A.G. (2010b). *Case study research: Theory, methods, practice*, Emerald Group Publishing, Bingley, UK.
- Woodside, A.G. (2013). 'Moving beyond multiple regression analysis to algorithms: Calling for adoption of a paradigm shift from symmetric to asymmetric thinking in data analysis and crafting theory', *Journal of Business Research*, **66**, pp. 463-472.
- Woodside, A.G., Bernal, P.M. and Coduras, A. (2016). 'The general theory of culture, entrepreneurship, innovation, and quality-of-life: Comparing nurturing versus thwarting enterprise start-ups in BRIC, Denmark, Germany, and the United States', *Industrial Marketing Management*, **53**, pp. 136-159.
- Wright, M., De Massis, A., Scholes, L., Hughes, M. and Kotlar, J. (2016). 'Family Business Entrepreneurship', *Report prepared for the Institute for Family Business Research Foundation*. United Kingdom.
- Zellweger, T., Kellermanns, F.W., Chrisman, J.J. and Chua, J.H. (2012). 'Family control and family firm valuation by family CEOs: The importance of intentions for transgenerational control', *Organization Science*, **23**, pp. 851-868.
- Zellweger, T. and Sieger, P. (2012). 'Entrepreneurial Orientation in long-lived Family Firms', *Small Business Economics*, **38**, pp. 67-84.

Tables and Figures

**Figure 1
Basic framework**



**Figure 2
Set-theoretic framework**



**Figure 3
Formula to calculate objective profit growth rate**

$$\frac{\text{Growth rate (year } x \text{ /year } y) - \mu}{\sigma_x}$$

Table 1
Sample characteristics

Characteristic		Sample	Sample population
Percentage of shares owned by family members	51% to 75%	10.1%	
	76% to 100%	89.9%	
Size of firms (employees)	Micro business = 10 employees or less	20.2%	24.7%
	Small business = Between 10 and 50 employees	38.8%	38.8%
	Medium business = Between 51 and 250 employees	36.4%	26.4%
	Large business = Above 250 employees	4.6%	10.1%
Industry	Agriculture, forestry and fishing	1.6%	2.0%
	Manufacturing	40.3%	27.4%
	Electricity, gas, steam, and air conditioning supply	2.3%	1.8%
	Building and construction	5.4%	5.5%
	Wholesale and retail trade	27.1%	29.6%
	Transportation and storage	3.9%	4.4%
	Accommodation and food service activities	2.3%	3.3%
	Information and communication activities	1.6%	2.4%
	Financial and insurance activities	0.8%	4.8%
	Real estate activities	2.3%	2.9%
	Administrative and support service activities	3.1%	4.4%
	Human health and social work activities	0.8%	1.1%
	Arts, entertainment and recreation	0.8%	1.1%
	Other service activities	7.8%	9.3%
Legal form	Private limited liability company	96.1%	96.3%
	Public limited liability company	3.9%	3.7%

Table 2
Truth table

EO	Exploration	Exploitation	Number of cases	Raw consistency	PRI consistency
<i>Low F-PEC group (n=65) ^a</i>					
High	High	High	60	0.92	0.89
High	Low	High	1	0.97	0.89
Low	High	High	1	0.98	0.90
Low	Low	High	1	0.98	0.88
High	High	Low	0		
High	Low	Low	0		
Low	High	Low	0		
Low	Low	Low	0		
<i>High F-PEC group (n=64)</i>					
High	High	High	61	0.91	0.87
Low	High	High	2	0.95	0.83
High	Low	High	1	0.97	0.91
High	High	Low	0		
High	Low	Low	0		
Low	High	Low	0		
Low	Low	High	0		
Low	Low	Low	0		

^a Two cases with a membership of 0.50 in causal conditions or outcome were excluded from the truth table.

Table 3
The causal configurations for the overall performance ^a

	Low F-PEC group (n=65)		High F-PEC group (n=64)	
	Path 1a	Path 2a	Path 1b	Path 2b
Entrepreneurial orientation	○		●	
Exploration		○		●
Exploitation	●	●	●	●
Raw coverage	.26	.25	.92	.92
Unique coverage	.05	.04	.03	.02
Consistency	.97	.96	.90	.88
Solution coverage		.30		.94
Solution consistency		.95		.87

Notes: Black circles “●” indicate the presence of causal conditions (i.e., antecedents). White circles “○” indicate the absence or negation of causal conditions. The blank cells represent “don’t care” conditions.

^a Overall performance was measured on sales growth, profit growth, and market share growth.

Table 4
The causal configurations for the objective profit growth

	Low F-PEC group (n=65)		High F-PEC group (n=64)	
	Path 1c	Path 2c	Path 1d	Path 2d
Entrepreneurial orientation	○		●	○
Exploration		○	○	●
Exploitation	●	●	●	●
Raw coverage	.38	.36	.37	.40
Unique coverage	.08	.06	.06	.09
Consistency	.93	.92	.86	.87
Solution coverage		.44		.46
Solution consistency		.93		.84

Notes: Black circles “●” indicate the presence of causal conditions (i.e., antecedents). White circles “○” indicate the absence or negation of causal conditions. The blank cells represent “don’t care” conditions.