

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

**GENERATIONAL INVOLVEMENT
IN THE TOP MANAGEMENT TEAM OF FAMILY FIRMS:
EXPLORING NON-LINEAR EFFECTS ON ENTREPRENEURIAL ORIENTATION**

ABSTRACT

The present study contends that an inverted U-shaped relationship exists between generational involvement – i.e. the number of family generations simultaneously involved in the family firm top management team (TMT) – and entrepreneurial orientation (EO). Drawing on the upper echelons theory, we conceive generational involvement as a proxy of knowledge diversity in multigenerational family TMTs. We argue that while moderate levels of generational involvement stimulate task-related constructive conflicts for EO, increased kinship distance and relationship conflicts led by high levels of generational involvement are likely to undermine this potential advantage by damaging the relational context for EO.

Entrepreneurial Orientation (EO) – i.e. the sustained exhibition of firm-level entrepreneurial behavior (Covin & Lumpkin, 2011) - is a construct of central interest in management studies since the seminal work of Miller (1983). Its importance to firms' survival and prosperity (Lumpkin & Dess, 1996; Rauch, Wiklund, Lumpkin & Frese 2009) opens up a quest for the identification of its determinants (Covin & Slevin, 1991; Zahra 1993). In particular, given that entrepreneurship is recognized to be a process of opportunity identification and exploitation carried out by those individuals holding managerial positions (Shane, 2003), much effort has been devoted to the identification of top management team (TMT)-related factors as antecedents of a firm' entrepreneurial behavior. Specifically, scholars argue that TMT diversity or heterogeneity has the potential to provide a firm with positive outcomes, but prior studies have found mixed support for its effect on entrepreneurial activities (e.g. Ancona & Caldwell, 1992; Boeker, 1997a, 1997b). It is, thus, relevant to question whether increasing TMT diversity is a beneficial policy for EO.

In this study, we focus on TMT diversity and EO in family firms. As argued by Ling and Kellermanns (2010: 323), the family firm indeed offers “a rich avenue for research on diversity, since the family provides an additional layer of complexity and unique sources of TMT diversity not found in non-family firms.” Yet, although the world economy is dominated by this form of organization (La Porta, Lopez-de-Silanes & Shleifer, 1999) and EO is recognized to be a determinant of family firm resilience and long-term survival (Chrisman, Chua & Steier, 2011; Sharma & Salvato, 2011), only a few studies have empirically explored the effects of TMT diversity on family firms’ EO. Indeed, most of the family business literature focused on the effects of TMT diversity on behavioral dynamics (e.g. Ensley & Pearson, 2005) and financial performance (e.g. Ling & Kellermanns, 2010) rather than EO. In addition, most of the family business scholars considered the horizontal distance among family members (e.g. Ensley & Pearson, 2005) and between family and non-family members (Naldi, Nordqvist, Sjöberg & Wiklund, 2007; Cruz & Nordqvist, 2012) as major source of TMT diversity.

Following Ling and Kellermanns (2010), we focus on the vertical distance among family members as source of TMT diversity: Generational involvement, i.e. the number of family generations simultaneously involved in the firm TMT (Kellermanns & Eddleston, 2006; Ling & Kellermanns, 2010). Specifically, generational involvement produces knowledge diversity (cf. Jehn, Northcraft & Neale, 1999; Milliken & Martins, 1996) due to the different expertise and perspectives that family members belonging to different generations bring to the team (Chirico, Sirmon, Sciascia & Mazzola, 2011; Ling & Kellermanns, 2010). Salvato (2004), Zahra (2005), Kellermanns and Eddleston (2006) and Kellermanns, Eddleston, Barnett and Pearson (2008) argue that generational involvement is positively related to entrepreneurial behavior. However, they hold a position that is somewhat in contrast with most literature, according to which family

firms are risk-averse and resistant to change (Jones, Makri & Gomez-Mejia, 2008; Gomez-Mejia, Haynes, Nunez-Nickel, Jacobson & Moyano-Fuentes, 2007; Naldi et al., 2007; Short, Payne, Brigham, Lumpkin & Broberg, 2009).

The present research intends to advance this debate and understand if and to what extent generational involvement fosters or hinders the family firm EO. Specifically, drawing on the upper echelons theory (Hambrick & Mason, 1984), we hypothesize an inverted U-shaped relationship between generational involvement – a proxy of knowledge diversity in multigenerational family TMTs – and EO. We argue that moderate levels of generational involvement yield task-related constructive conflicts that foster knowledge integration and thus EO. However, high levels of generational involvement are likely to undermine this potential advantage because of increased kinship distance and disruptive relationship conflicts.

With supportive empirical results, our research offers two main contributions. First, this study contributes to the debate on whether family involvement is conducive or not for EO, based on the level of generational involvement. Second, we cautiously add some knowledge to the TMT diversity literature by proposing a nonlinear relationship between an additional source of TMT diversity and entrepreneurship, thus shedding some light on previous mixed findings.

TOP MANAGEMENT TEAM DIVERSITY AND ENTREPRENEURIAL ORIENTATION

Upper echelon theory asserts that firm outcomes are a “reflection” of the actions of its TMT (Hambrick & Mason, 1984; Finkelstein & Hambrick, 1990). The theory assumes that managers act on the basis of their cognitive frames, through which situations are differently interpreted and different actions are taken. These construals are a function of TMT members’ different education, experience, perspectives, values, affiliations and demographic

characteristics. It is argued that TMT diversity shapes the ideas and opportunities that are eventually pursued (Beckman, 2006), thus influencing a firm's entrepreneurial activities and performance (Barkema & Shvyrkov, 2007; Beckman et al., 2007; Finkelstein & Hambrick, 1990; Williams & O'Reilly, 1998). Accordingly, a wide literature on the effects of TMT diversity on strategic behaviors and outcomes has been developed (Zimmerman, 2008; Boone & Hendriks, 2009). In particular, prior studies have addressed the effects of TMT diversity on innovation and EO, but this literature has not yet reached consistent results (e.g. Ancona & Caldwell, 1992; Boeker, 1997a, 1997b; Miller, Burke & Glick, 1998; O'Reilly, Snyder & Boothe, 1993; Talke, Salomo & Kock, 2011). From the different existing conceptualizations of EO, in this research, we adopt the seminal definition developed by Miller and Friesen (1982) and Miller (1983), that is the firm's orientation towards product innovation, proactiveness and risk-taking.

Some scholars support the idea that TMT diversity leads to the consideration of many alternatives and that this enhances the likelihood that innovative decisions will be made (Bantel & Jackson, 1989; Wiersema & Bantel, 1992). TMT diversity should indeed lead to better problem solving and higher creativity and innovation because of the constructive dialogue built around top manager's multiple ideas, knowledge and perspectives not available in homogeneous TMTs (Talke, Salomo & Rost, 2010; Talke et al., 2011). The most prominent benefit of a heterogeneous group is thus related to knowledge diversity (Milliken & Martins, 1996), defined as the different expertise and perspectives possessed by individuals in a given domain to perform a task or activity in a team (cf. Jehn et al., 1999; Postrel, 2002). Knowledge diversity highly stimulates task-related conflicts, i.e. productive debate and criticism about the content of the task being performed (Jehn, 1995; 1997; Jehn *et al.*, 1999), which promote knowledge integration (Grant, 1996; Nonaka, 1994) and thus entrepreneurial action (Boeker, 1997a, 1997b). For

instance, Talke et al. (2011: 823) found that “top managers with diverse educational, functional, industry, and organizational backgrounds will combine different views of the world and have more constructive task conflicts, which encourages...a proactive innovation orientation of firm.” Also, Boeker (1997a, 1997b) found that heterogeneous TMTs are more likely to be entrepreneurial and enter new product markets than homogeneous teams. Similarly, Simons, Pelled and Smith(1999) suggest diversity in educational background and tenure can create alternative views and foster innovative choices.

However, despite its merits, TMT diversity is also accompanied by costs. For instance, TMT diversity can produce high levels of relationship or emotional conflicts, i.e. “interpersonal incompatibilities among group members, which typically includes tension, animosity, and annoyance” (Jehn, 1995: 258) that undermine consensus and agreement, and thereby the potential entrepreneurial advantages of having a group with different knowledge and perspectives. Miller et al. (1998) for example found that more diverse TMTs make less comprehensive evaluations of opportunities and threats; and Knight et al. (1999) and Hambrick, Cho and Chen (1996: 664) showed that team heterogeneity is negatively related to strategic consensus and leads to “dispersion in the group’s perspective”, thus constraining or delaying entrepreneurial action. Also, Ancona and Caldwell (1992) and O’Reilly et al. (1993), among others, found that TMT diversity decreases entrepreneurship.

Such mixed results have induced most scholars to argue that TMT diversity is a ‘double-edged sword’ (cf. Milliken & Martins, 1996) in which the “effect of TMT diversity on innovativeness [and entrepreneurship]” is “mixed and ambiguous because of the dual impact of the benefits and costs associated with TMT diversity” (Auh & Menguc, 2005: 250). TMT diversity apparently brings the necessary knowledge to bear on complex strategic issues, but it is

also likely to promote dysfunctional rivalries, impair social integration, and restrict knowledge flows – all of which serve to inhibit EO. In this research we aim to achieve a better understanding of this complexity and of the circumstances in which “potential benefits of diverse teams appear to be highly vulnerable to certain liabilities.” (Michie, Dooley & Fryxell, 2006: 131).

As such, we address this controversial topic by examining how EO is affected by the involvement in the TMT of managers who, although closely related through kinship ties, differ in their knowledge and perspectives based on the family generation they belong to. Specifically, we study TMT diversity and EO in family firms by focusing on an important source of knowledge diversity: generational involvement– i.e. the number of family generations simultaneously involved in the firm TMT (Kellermanns & Eddleston, 2006). Building on the work of Barkema and Shvyrkov (2007), we argue that generational involvement offers not only cognitive benefits (cf. task conflicts) but also relational obstacles (cf. relationship conflicts) for the development of EO. Accordingly, we adopt a nonlinear approach to the analysis of the relationship of interest, thus incorporating both cognitive and relational perspectives.

HYPOTHESIS DEVELOPMENT

Generational involvement has been recently depicted as “the family’s human capital spread across generations” (Chirico et al., 2011: 308) and thus as an important proxy of knowledge diversity in multigenerational family TMTs (Ling & Kellermanns, 2010). As discussed earlier, previous literature suggests that generational involvement in the TMT favors entrepreneurial behavior (Zahra, 2005; Kellermanns et al., 2008). Instead, we argue that the entrepreneurial potential of different degrees of generational involvement can be either realized or inhibited depending on the cognitive and relational dynamics existing in multigenerational family TMTs.

The advantage of generational involvement has a *cognitive nature* rooted in the different knowledge and perspectives of family managers belonging to different generations: Increased generational involvement yields groups of family managers with heterogeneous knowledge, as the knowledge and perspectives across generations tend to be more different than those within each generation, thus promoting constructive debate and entrepreneurship. This knowledge is also complementary as the individuals share some understandings of both the family and the business (Sirmon & Hitt, 2003). Family members' common affiliation to the family and the business is also likely to create a 'unified' family group (cf. Ling & Kellermanns, 2010) and thus an ideal social context that supports knowledge integration (Chirico & Salvato, 2008; Patel & Fiet, 2011). Thus, although generational involvement may incorporate (and lead to) a certain degree of relationship conflicts, it more importantly provides a resource with the potential to stimulate task-related constructive conflicts that foster entrepreneurial initiatives (Kellermanns et al., 2008; Jehn, 1995; Zahra, 2005).

In fact, while one generation "alone may find it difficult to have innovative ideas" (Salvato, 2004: 73), multiple generations are found to enhance knowledge diversity, animate debate and thus entrepreneurial behavior (Zahra, 2005; Kellermanns et al., 2008) through their constant "push for new ways of doing things" (Kellermanns & Eddleston, 2006: 813). For instance, Ling and Kellermanns (2010: 326) argue that when "younger generations enter the family firm, there is an increase in more entrepreneurial orientations." Specifically, this potential is based on how heterogeneous knowledge in multigenerational family TMTs supports differences in the noticing and interpretation of cues for opportunities in the marketplace (Cruz & Nordqvist, 2012) as well as in the response needed to exploit these opportunities (Chirico, Ireland & Sirmon, 2011). When managers use heterogeneous knowledge and experience, they

can see problems from different angles and consequently arrive at more creative and innovative ideas through productive discussions around the tasks to be performed (Burgelman & Hitt, 2007; Fiol, 1994; Jehn, 1995).

Accordingly, Kellermans, Zahra and colleagues (Ling & Kellermans, 2010; Kellermans & Eddleston, 2006; Kellermans et al., 2008; Zahra, 2005; Zahra et al., 2007) argue that increased generational involvement opens up a wider range of strategic options to be considered, so as to increase the novelty of strategic decisions. As a result, multigenerational family TMTs “become aware of more issues, perceive those issues differently, and are more likely to propose alternative courses of action.” (Barkema & Shvyrkov, 2007: 666). Hence, task conflict leads TMT family groups to develop new ideas and perspectives (Jehn, 1995), which foster innovation and reduce the likelihood that strategic decisions will follow familiar path-dependent patterns (Hambrick et al., 1996). To sum up, generational involvement provides knowledge diversity with the potential to increase the effective identification and assessment of opportunities as well as creative approaches to exploit them.

On the other hand, when generational involvement in the TMT reaches high levels, family relationships may become more complicated, with conflicting family members’ business objectives, so as to inhibit and constrain the potential advantages of knowledge diversity among family members belonging to different generations. The disadvantage of generational involvement thus has a *relational nature* rooted in increased relationship conflicts among family members of different generations, which hamper constructive debate (i.e. task conflicts) and innovation. For instance, Kellermans and Eddleston (2004) argue that not only do high levels of relationship conflicts have a devastating effect on a family firm’s outcomes, but they also prevent task conflicts from having a beneficial effect (see also Beckman et al., 2007). It is

therefore less likely that novel strategic options are proposed or considered by the entire TMT (Barkema & Shvyrkov, 2007).

Basically, the co-presence of many generations employed together increases the kinship distance among family managers, thus worsening not only the relational context but also the cognitive context –both needed for knowledge integration (Grant, 1996; Jehn, 1995, 1997). As Ensley and Pearson (2005: 269) explain “the greater kinship distance and dispersion of the family members in the familial teams will serve to dilute the strong central beliefs and ties of a more closely knit social group”. Such a situation prevents TMT members from integrating diverse sources of knowledge into innovative products making it increasingly difficult to assess, accept, and incorporate others’ ideas into successful innovative efforts. Relationship conflicts impede the building of consensus around organizational goals that is needed for a collaborative exchange of divergent points of view (Michie et al., 2006).

In such a relational context, a reasonable strategic posture is to maintain the status quo, a course of action that does not require debate and provides familiarity for decision makers (Barkema & Shvyrkov, 2007). Indeed, as generational involvement increases, each generation is likely to create its own comfort zone, such that path dependency along with resistance to flexibility will inhibit risk-taking and innovation. Building on the work of Miller (1993), Zahra (2005) suggests for instance that a family firm often evolves toward *simplicity*, in which “routines that worked well in the past are used again and again regardless of the strategic challenges facing the family firm” (Zahra, 2005: 24). This increases the risk of familiarity traps, which tend to convert a formula for success into a path toward failure (Ahuja & Lampert, 2001; Miller, 1993). Thus, the emphasis shifts more to taking decisions and addressing problems based on past behaviors rather than identifying and exploiting new opportunities. Family firms

replicate inherited organizational routines and strategic perspectives, especially if the resources in question contributed to prior success (Sirmon & Hitt, 2003). This rigidity prevents the business from having the flexibility to adapt when situations change, so that the family firm tends to view entrepreneurial behavior as a threat (Kellermanns & Eddleston, 2006).

Consequently, we argue that while moderate levels of generational involvement in the TMT provide the cognitive condition for entrepreneurship, increased kinship distance and relationship conflicts led by high levels of generational involvement are likely to undermine this potential advantage by damaging the relational context. Our argument leads us to assume the existence of a U-shaped relationship between generational involvement in the TMT and EO. In formal terms:

Hypothesis: An inverted U-shaped relationship exists between the number of generations involved in the top management team and entrepreneurial orientation. Moderate levels of generational involvement are associated with the highest level of entrepreneurial orientation.

METHODOLOGY

Data for this study were collected by means of a survey of 199 Swiss family firms. To select firms for the survey, we identified all the companies registered with the Chamber of Commerce in Canton Ticino, located in Switzerland's Italian-speaking region. This provided a sampling frame of 967 firms. Then, following Zahra (2005) and Miller, Le Breton-Miller & Scholnick (2008), we determined whether the firms were family-owned by multiple family members of the same family (the majority of equity owned by the family) or not. A total of 592 firms were family firms. We sent the survey to these firms, and we received 199 usable responses, a response rate of 33.61%. We compared the respondents' size, age, and industry with those of non-respondents, and found no statistically significant differences.

The survey targeted the firms' two highest executives (the CEO and the next-highest senior position). We addressed inter-respondent reliability by correlating the responses per firm. The result indicates significant inter-respondent reliability (Interclass Correlation Coefficient = .776; $p < 0.001$). Regarding generational involvement, we found differences in only a few cases. When a mismatch occurred, we personally called the firm to obtain the accurate data. Next, we addressed the issue of common methods bias in several ways. First, we used the first respondent's data regarding EO for our analysis. Also, we ran the regression analysis by using the second respondent's data of EO and results did not differ substantially from our reported analyses. We also took two additional steps to mitigate any remaining concerns related to common methods bias. First, we used Harman's one-factor test on items included in our regression model. The results showed six factors with eigenvalues higher than 1, accounting for 65.130% of the variance. The first factor explained 24.498% of the variance, and the remaining factors accounted for 40.63%. This analysis shows that the factors structure is not an artifact of the measurement process (Podsakoff & Organ, 1986). Second, we used objective secondary data for size, age and industry.

We developed the survey in a series of steps. The questionnaire was first pilot-tested on six senior executives belonging to three family firms (two from each firm), and on five academics, whose expertise focuses on research methodology and family firms. Next, the refined instrument was piloted again on a larger convenience sample of 53 family firms, and final revisions were made. These revision efforts created an instrument that provides high reliability.

While several measures of *EO* exist, we relied on the widely used instrument developed by Miller (1983). The 7-item scale accounts for product innovation, risk taking and proactiveness ($\alpha = 0.87$). This choice increases the comparability of our findings, given that the majority of

empirical research has employed this approach (Covin & Lumpkin, 2011). In order to measure *generational involvement*, we asked the respondents to report the number of generations (one, two, three, or more than three) simultaneously involved in the management of the firm (see Kellermanns & Eddleston, 2006; Zahra, 2005).

We controlled for eight variables (age, size, number of family members on the TMT, percentage of family members on the TMT, environmental dynamism, R&D Investments, industry and performance). First, because the age of a firm may affect its entrepreneurial efforts (Leonard-Barton, 1992), we controlled for *age* by measuring the number of years the firm had been in existence¹. Second, because access to external resources is easier for larger firms, and this access can affect entrepreneurship (Zahra & Nielsen, 2002), we controlled for *size* by measuring the number of full-time employees. Third, we controlled for the *number of family members on the TMT* given that the difficulties associated with increasing generational involvement could be related with the number of family members on the TMT (Zahra, 2005). In fact, the minimum number of family members automatically rises when there is one, two, three, or more generations involved. Fourth, we controlled for *percentage of family members on the TMT*, given that it is recognized that non-family professional managers may bring more objectivity to the decision-making process and thereby encourage entrepreneurial decisions (Salvato, Chirico & Sharma, 2010). Fifth, because firms that operate in dynamic environments are likely to be technology-intensive and thus need to systematically explore entrepreneurial opportunities, we controlled for *dynamism* (Zahra & Bogner, 2000), and measured it with a

¹ Additionally, given that the level of a family-firm EO may differ according to the generation in charge of the business (Salvato, 2004; Kellermanns & Eddleston 2006), as robustness check, we also ran the analyses controlling for generation in control. This variable was not statistically significant and its inclusion did not change the other results. Yet, as expected, generation in control was highly correlated with firm age (0.841; $p < 0.001$). As an additional check, we again ran the analysis excluding firm age, while keeping generation in control. Again, generation in control was not statistically significant and its inclusion did not substantively change our results. These additional analyses reveal that generation in control does not have a significant impact on family firm EO and, therefore, it was not included as a control variable in the analyses we report.

three-item index (see Jansen, Van Den Bosch & Volberda, 2005: 1006) ($\alpha= 0.80$). Sixth, we also controlled for *R&D investment*, which reflects a company's ability to acquire external knowledge and exploit it internally for entrepreneurial proposes (Cohen & Levinthal, 1990) ($\alpha= 0.79$). Seventh, because industries may differentially encourage companies to develop new and innovative products, take risks, and be more proactive, we controlled for *industry type*. Finally, a firm's performance is expected to increase entrepreneurship (Zahra & Nielsen, 2002), so, we also controlled for *performance* through four related financial items regarding net profit, sales growth, cash flow, and growth of net worth ($\alpha= 0.85$). Respondents were asked to compare their level of performance relative to their main competitors in the last three years. We used a 5-point scale ranging from 'much lower' to 'much higher (Naldi et al., 2007; Wiklund & Shepherd, 2003)².

RESULTS

Regression analysis was utilized for hypothesis testing and the descriptive statistics and correlations of the study's variables are presented in Table 1. Inspection of the variance inflation factors showed that multicollinearity was not a concern (lower than 5; Hamilton, 2006). Also, to test for heteroscedasticity, we screened the data with the help of the Breusch-Pagan/Cook-Weisberg test ($\chi^2(1)=2.02$; $\text{prob}>\chi^2=0.1530$) and the White test ($\chi^2=74.83$; $p=0.3554$). Both tests indicated that heteroscedasticity was not an issue in our study (Hamilton, 2006).

Additionally, we also controlled the potential for endogeneity in our model by using a two-stage least squares (2SLS) approach in STATA with multiple instrumental variables (Sirmon & Hitt, 2009). Instrumental variables are used to compute estimated values of the problematic predictor(s) (generational involvement) in the first stage, and then those computed values are

² EO, performance and dynamism were operationalized by adding the scale items of each construct and then dividing them by the number of items.

used to estimate a linear regression model of the dependent variable (EO) in the second stage. However, to be effective (i.e., not weak) an instrumental variable should not be correlated with the dependent variable(s) predicted in the second stage, but should be correlated with the potential endogenous variable(s) predicted in the first stage (Kennedy, 2008; Wooldridge, 2002). We identified ‘generational ownership dispersion’ and ‘generation in control’ as instrumental variables meeting these criteria.

2SLS approach with our data yielded similar results to the ordinary least squares approach. However, the results of STATA’s ‘ivendog’ command – which tests for endogeneity through the Durbin-Wu-Hausman chi-sq test and the Wu-Hausman F test (Kennedy, 2008; Wooldridge, 2002) – showed that endogeneity was not a concern in our study (Durbin-Wu-Hausman chi-sq test: 0.98373 Chi-sq(1), p-value = 0.32128; Wu-Hausman F test: 0.90335 F(1,180), p-value = 0.34316)³. We finally tested our hypothesis in three models (Table 2).

“Insert Tables 1 and 2 here”

Model 1 includes only the control variables. In model 2, EO was also regressed on generational involvement in the TMT. In model 3 generational involvement squared was added in order to test our hypothesis, which predicted a non-linear relationship between generational involvement and EO in family firms. Although generational involvement appeared not to be significantly related to EO in Model 2 (-.042; ns); in Model 3 generational involvement revealed a positive and significant coefficient (.211; p<.05), while generational involvement squared was negative and significant(-.309; p<.01). Thus, the analytical results supported our hypothesis. Further, to check for the robustness of this significant non-linear effect, we also performed the joint F-test that assesses whether generational involvement and generational involvement

³ The two instrumental variables also *individually* (see Makri, Hitt & Lane, 2010; Morrow, Sirmon, Hitt & Holcomb, 2007) supported this result of exogeneity.

squared jointly have a significant effect on EO. The joint F-test further supported our hypothesis ($F(2,179)=3.71$; $\text{Prob} > F = 0.0263$) (Hamilton, 2006).

Lastly, because the components of EO are often tested separately, we ran a post-hoc analysis to assess the robustness of our results. Specifically, we separately tested the effect of generational involvement and each of the components of EO (i.e. product innovation, proactiveness, and risk taking). Results were substantively similar for both product innovation (generational involvement: .279, $p < .05$; generational involvement²: -.430, $p < .001$) and proactiveness (generational involvement: .253, $p < .05$; generational involvement²: -.319, $p < .01$); but not for risk taking (generational involvement: -.007, ns; generational involvement²: -.007, ns).

DISCUSSION

TMT diversity is something of a double-edged sword to be approached through a cognitive and a relational perspective. Where there is diversity, teams enter into debate due to their different perceptions and the range of possible strategic options. Rather than accepting existing strategies, heterogeneous teams are likely to engage in task conflicts (cf. *cognitive perspective*), fuelled by their different knowledge and perspectives. However, task conflict is difficult to manage productively, especially when increased relationship conflicts are at stake. When people are faced with high TMT diversity, they must work with individuals who they do not easily interrelate with or understand (cf. *relational perspective*), which increases the uncertainty associated with their entrepreneurial actions (cf. Barkema & Shvyrkov, 2007).

We focus on generational involvement – a proxy of knowledge diversity in multigenerational family TMTs – and adopt a nonlinear approach to better explicate both the cognitive and relational perspectives associated with TMT diversity. Specifically, our empirical

results confirm that there is an inverted U-shaped relationship between generational involvement and EO. The highest level of EO is achieved when two generations are involved, rather than only one. Indeed, involving a second generation in the TMT enriches family managers' knowledge and perspectives, thus promoting constructive debate, knowledge integration and EO.

Apparently, while relationship conflicts are mitigated, task conflicts are promoted when two generations are simultaneously involved in the TMT. For instance, Ensley and Pearson (2005) argue that the presence of parents – as usually happens when two generations are involved – inhibits relationship conflicts and promotes cohesion. However, when three generations are involved and thus the kinship distance increases further, the cognitive advantages are overcome by increased social relational conflicts and path dependent behaviors that undermine entrepreneurial efforts. As Gersick, Davis, Hampton and Lansberg (1997) contend, as familial distance increases, the values, beliefs and consensus of the family become more diluted and thus family relationships become more complicated.

Our result thus confirms that knowledge diversity among family members belonging to different generations may enhance some beneficial dynamics but impair others depending on the number of generations involved in the TMT. Put differently, the cognitive endowment can become a liability when the relational context decays, with EO suffering as a result. Accordingly, Beckman et al. (2007: 154) clearly explain that team diversity produces negative outcomes “when the potential conflict in group dynamics [i.e. relationship conflicts] outweighs the information benefits from different perspectives [i.e. task conflicts]”. Thus, unless the costs associated with relationship conflicts are attenuated, the benefits of task conflicts on entrepreneurship will suffer as a result (Hambrick et al., 1996).

Furthermore, a closer look at the control variables in our model shows that the percentage of non-family members on the TMT significantly and positively impacts on EO. This finding confirms that having non-family members on the TMT, besides increasing the TMT diversity, offers some more “rationality” and “objectivity” in decision making that may mitigate potential family relationship conflicts, increase the level of professionalization in the business, and thus promote change and innovation⁴ (Cruz & Nordqvist, 2012). As Salvato et al. (2010) argue, non-family managers dramatically improves the quality of strategic decisions and the likelihood of entrepreneurial behaviors. In addition, under the light of agency theory, family owner-managers tend not to risk the family’s wealth and jeopardize the financial and social well-being of future generations (Naldi et al., 2007). Therefore, limiting their involvement by opening the TMT to non-family members may be beneficial for EO.

Finally, although our hypothesis is supported for both product innovation and proactiveness, it is not for risk-taking. This confirms that risk-taking is a distinct dimension of family firms’ entrepreneurial behavior – as Naldi et al. (2007) hold. Such a position is in line with more recent theorizing according to which the dimensions of EO may occur in different combinations, each representing a different and independent aspect (e.g., Covin, Green & Slevin, 2006).

Two important contributions emerge from the present research. First, our study contributes to the literature of entrepreneurship in family firms, by clarifying the effect of generational involvement on EO. We show how generational involvement in the TMT – often identified as a positive correlate of entrepreneurship (e.g. Kellermanns & Eddleston, 2006; Zahra, 2005), not always has a positive effect on EO. .As such, our work sheds some light on previous studies that offered conflicting results regarding the effect of generational involvement

⁴ We thank one of the anonymous reviewers and the editor for this insightful comment.

on EO. More generally speaking, we contribute to the debate on the implications of family involvement on EO, by analyzing the effects of a specific form of family involvement – i.e. generational involvement – on entrepreneurial behavior and by looking for non-linear effects, rather than simple linear relationships.

Second, we cautiously add some knowledge to the literature on TMT diversity by proposing a non-linear approach to explain the relationship between TMT diversity and entrepreneurship. In fact, we use both the cognitive and relational perspectives to elucidate previous research showing mixed effects of TMT diversity on entrepreneurial activities (e.g. Ancona & Caldwell, 1992; Boeker, 1997a, 1997b). Results further support and extend recent literature concluding that “it is impossible to assume a pure, simple relationship between TMT diversity and firm” outcomes (Talke et al., 2011: 908). With respect to this literature stream we also analyze a specific source of diversity in the TMT, i.e. the vertical distance among family members, thus complementing previous research that focused on the horizontal distance among family members (e.g. Ensley & Pearson, 2005).

Several future research routes can be traced on the basis of the limitations of this research. First, we do not directly measure task and relationship conflicts, but argue that they are crucial for EO efforts. Future studies should incorporate these constructs in a multi-level research design. Second, we limit our study to only generational involvement as source of TMT knowledge diversity and assume that family members’ knowledge is more similar within a generation rather than between generations. Future research may investigate if also other sources of TMT diversity impact EO in a non-linear way. We limited our study to the vertical distance among family members but horizontal distance as source of TMT diversity in family firms may affect EO in a similar vein. Further investigation is clearly required. Third, the TMTs of our

firms are mainly dominated by family members (the average percentage of non-family managers in our sample was only 24.1%; see Table 1). This condition raises some relevant provocative questions: for instance, would our result be different if the percentage of family and non-family managers was more balanced in our sample? Or if the TMT was dominated by non-family managers? Future research clearly needs to be channeled also towards these directions. Fourth, the validity of the analysis is limited by the cross-sectional nature of the study. A longitudinal research design could provide further evidence on the causal relationships between dependent and independent variables. Fifth, our data were collected exclusively in Switzerland: Given that EO is specifically bounded to cultural contingencies (Arbaugh, Cox & Camp, 2005), a multi-country study that investigates the contingency effects of cultural influences is desirable.

In conclusion, our results suggest that generational involvement is essential for family firm EO, which implies that family generations must accept each other's knowledge to be successful over time. Also, our work suggests family owners and managers to limit the involvement of family generations to two, given the relational inefficiencies that three generations involved in the TMT may generate.

REFERENCES

- Ahuja, G., & Lampert, C.M. (2001). Entrepreneurship in the large corporation: A longitudinal study of how established firms create breakthrough inventions. *Strategic Management Journal*, 22, 221–238.
- Ancona, D.G., & Caldwell, D.C. (1992). Demography and design: predictors of new product team performance. *Organization Science*, 3 321–341.
- Arbaugh, J.B., Cox, L.W., & Camp, S.M. (2005). Nature or nurture? Testing the direct and interaction effects of entrepreneurial orientation, national culture, and growth strategy on value creation. *Frontiers of Entrepreneurship Research*. Babson College, Wellesley, MA.
- Auh, S., & Menguc, B. (2005). Top management team diversity and innovativeness: The moderating role of interfunctional coordination. *Industrial Marketing Management*, 34, 249–261.
- Bantel, K.A., & Jackson, S.E. (1989). Top management and innovations in banking: does the composition of the top team make a difference? *Strategic Management Journal*, Summer Special Issue, 10, 107–124.
- Barkema, H.G., & Shvyrkov, O. (2007). Does top management team diversity promote or hamper foreign expansion? *Strategic Management Journal*, 28, 663–680.
- Beckman, C.M. (2006). The influence of founding team company affiliations on firm behavior. *Academy of Management Journal*, 49 (4), 741–758.
- Beckman, C.M., Burton, M.D., & O'Reilly, C. (2007). Early teams: The impact of team demography on VC financing and going public. *Journal of Business Venturing*, 22(2), 147–173.
- Boeker, W. (1997a). Executive migration and strategic change: the effect of top manager movement on product market entry. *Administrative Science Quarterly*, 42, 231–236.
- Boeker, W. (1997b). Strategic change: the influence of managerial characteristics and organizational growth. *Academy of Management Journal*, 40, 152–170.
- Boone, C., & Hendriks, W. (2009). Top Management Team diversity and firm performance: Moderators of functional-background and locus-of-control diversity. *Management Science*, 55(2), 165–180.
- Burgelman, R.A., & Hitt, M.A. (2007). Entrepreneurial actions, innovation, and appropriability. *Strategic Entrepreneurship Journal*, 1, 349–352.
- Chirico F., & Salvato C. (2008). Knowledge integration and dynamic organizational adaptation in family firms. *Family Business Review*, 21, 169–181.

- Chirico F, Ireland RD & Sirmon DG. (2011). Franchising and the family firm: creating unique sources of advantage through 'familiness.' *Entrepreneurship Theory and Practice*, 35(3), 483–501.
- Chirico F., Sirmon D., Sciascia S., & Mazzola P. (2011). Resource orchestration in family firms: Investigating how entrepreneurial orientation, generational involvement and participative strategy affect performance. *Strategic Entrepreneurship Journal*, 5(4), 307-326.
- Chrisman, J. J., Chua, J. H., & Steier, L. P. (2011). Resilience of family firms: An introduction. *Entrepreneurship Theory and Practice*, 35, 1107–1119.
- Cohen, M. D., & Levinthal, D. A. (1990). Absorptive capacity: A new perspective on learning and innovation. *Administrative Science Quarterly*, 35(1), 128–152.
- Covin, J.G., & Slevin, D.P. (1991). A conceptual model of entrepreneurship as firm behavior. *Entrepreneurship Theory and Practice*, 16(1), 7–25.
- Covin, J.G., Green, K.M., & Slevin, D.P. (2006). Strategic process effects on the entrepreneurial orientation-sales growth rate relationship. *Entrepreneurship Theory & Practice*, 30, 57–81.
- Covin, J.G., & Lumpkin, G.T. (2011). Entrepreneurial orientation theory and research: Reflections on a needed construct. *Entrepreneurship Theory and Practice*, 35, 5, 1042-2587.
- Cruz, C., & Nordqvist, M. (2012). Entrepreneurial orientation in family firms: A generational perspective. *Small Business Economics* 38(1), 33-49.
- Ensley, M. D., & Pearson, A. W. (2005). An exploratory comparison of the behavioral dynamics of top management teams in family and nonfamily new ventures: Cohesion, conflict, potency, and consensus. *Entrepreneurship Theory & Practice*, 29, 267-284.
- Finkelstein, S., & Hambrick, D. C. (1990). Top management team tenure and organizational outcomes: The moderating role of managerial discretion. *Administrative Science Quarterly*, 35, 484–503.
- Fiol, C.M. (1994). Consensus, diversity, and learning in organizations. *Organization Science*, 5: 403–420.
- Gersick, K.E., Davis, J.A., Hampton, M.M., & Lansberg, I. (1997). *Generation to generation: Lifecycles of family business*. Boston, MA: Harvard Business School Press.
- Gomez-Mejia, L.R., Haynes, K.T., Nunez-Nickel, M., Jacobson, K.J.L., & Moyano-Fuentes, J. (2007). Socioemotional wealth and business risks in family-controlled firms: Evidence from Spanish olive oil mills. *Administrative Science Quarterly* 52, 106–137.

- Grant, R. (1996). Prospering in dynamically competitive environments: organisational capability as knowledge integration. *Organization Science*, 7(4), 375-387.
- Hambrick, D.C., Cho, S.T., & Chen, M.J. (1996). The influence of TMT heterogeneity on firm's competitive moves. *Administrative Science Quarterly*, 41, 659-684.
- Hambrick, D.C., & Mason, P.A. (1984). Upper echelons: The organization as a reflection of its top managers. *Academy of Management Review*, 9(2), 193-207.
- Hamilton, L.C. (2006). *Statistics with Stata*. Belmont, CA: Cengage.
- Jansen, J.J.P., Van Den Bosch, F.A.J., & Volberda (2005). Managing potential and realized absorptive capacity: How do organizational antecedents matter? *Academy of Management Journal*, 48 (6), 999-1015.
- Jehn, K.A. (1995). A multimethod examination of the benefits and detriments of intragroup conflict. *Administrative Science Quarterly*, 40, 256-282.
- Jehn, K.A. (1997). A qualitative analysis of conflict types and dimensions in organizational groups. *Administrative Science Quarterly*, 42, 530-557.
- Jehn, K.A., Northcraft, G.B., & Neale, M.A. (1999). Why differences make difference: a field study of diversity, conflict, and performance in workgroups. *Administrative Science Quarterly*, 44, 741-763.
- Jones, C.D., Makri, M., & Gomez-Mejia, L.R. (2008). Affiliate directors and perceived risk bearing in publicly traded, family-controlled firms: The case of diversification. *Entrepreneurship Theory and Practice*, 32(6), 1007-1026.
- Kellermans, F. W., & Eddleston, K. (2004). Feuding families: When conflict does a family firm good. *Entrepreneurship Theory and Practice*, 28(3), 209-228.
- Kellermans, F.W., & Eddleston, K.A. (2006) Corporate entrepreneurship in family firms: a Family perspective. *Entrepreneurship Theory and Practice*, 30(6), 809-830.
- Kellermans, F.W., Eddleston, K.A, Barnett, T., & Pearson, A. (2008). An exploratory study of family member characteristics and involvement: Effects on entrepreneurial behavior in family firms. *Family Business Review*, 21(1), 1-14.
- Kennedy, P. (2008). *A guide to econometrics* (6th edition). Hoboken, NJ: Wiley-Blackwell.
- Knight, D., Pearce, C.L., Smith, K.G., Olian, J.D., Sims, H.P., Smith, K.A., & Flood, P. (1999). Top management team diversity, group process, and strategic consensus. *Strategic Management Journal*, 20(5), 445-465.

- La Porta, R., Lopez-de-Silanes, F., & Shleifer, A. (1999). Corporate ownership around the world. *The Journal of Finance*, 54(2), 471–517.
- Leonard-Barton, D. (1992). Core capabilities and core rigidities: A paradox in managing new product development. *Strategic Management Journal*, 13, 111–125.
- Ling, Y., & Kellermanns, F.W. (2010). The effects of family firm specific diversity: The moderating role of information exchange frequency. *Journal of Management Studies*, 47, 332–344.
- Lumpkin, G.T., & Dess, G.G. (1996). Clarifying the entrepreneurial orientation construct and linking it to performance. *Academy of Management Review*, 21, 135–72.
- Makri, M., Hitt, M.A., & Lane, P. (2010). Complementary technologies, knowledge relatedness and invention outcomes in high technology mergers and acquisitions. *Strategic Management Journal*, 31, 602–628.
- Michie, S., Dooley, R.S., & Fryxell, G.E. (2006). Unified diversity in top-level teams: Enhancing collaboration and quality in strategic decision making. *International Journal of Organizational Analysis*, 14, 130–149.
- Miller, C.C., Burke, L.M., & Glick, W.H. (1998). Cognitive diversity among upper-echelon executives: implications for strategic decision process. *Strategic Management Journal*, 19(1), 39–58.
- Miller, D. (1983). The Correlates of entrepreneurship in three types of firms. *Management Science*, 29(7), 770-791.
- Miller, D. (1993). The architecture of simplicity. *Academy of Management Review*, 18, 116–139.
- Miller, D. & Friesen, P.H. (1982). Innovation in conservative and entrepreneurial firms: Two models of strategic momentum. *Strategic Management Journal*, 3, 1–25.
- Miller, D., Le Breton-Miller, I., & Scholnick, B. (2008). Stewardship vs. stagnation: An empirical comparison of small family and non-family businesses. *Journal of Management Studies*, 45, 51-78.
- Milliken, F.J., & Martins, L.L. (1996). Searching for common threads: Understanding the multiple effects of diversity in organizational groups. *Academy of Management Review*, 21, 402-433.
- Morrow JL, Sirmon DG, Hitt MA, Holcomb TR. (2007). Creating value in the face of declining performance: firm strategies and organizational recovery. *Strategic Management Journal* 28(3): 271–283.

- Naldi, L., Nordqvist, M., Sjöberg, K., & Wiklund, J. (2007). Entrepreneurial orientation, risk taking, and performance in family firms. *Family Business Review*, 20 (1), 33-48.
- Nonaka, J. (1994). A dynamic theory of organizational knowledge creation. *Organization Science*, 1, 14–37.
- Patel, P. C., & Fiet, J. O. (2011). Knowledge combination and the potential advantages of family firms in searching for opportunities. *Entrepreneurship Theory and Practice*, 35, 1179–1197.
- Podsakoff, P. M., & Organ, D.W. (1986). Self-reports in organizational research: Problems and perspectives. *Journal of Management*, 12, 531–544
- Postrel, S. (2002). Islands of shared knowledge: Specialization and mutual understanding in problem-solving teams. *Organization Science*, 13, 303–320.
- Rauch, A., Wiklund, J., Lumpkin, G.T., & Frese, M. (2009). Entrepreneurial orientation and business performance: Cumulative empirical evidence. *Entrepreneurship Theory and Practice*, 33(3), 761-788.
- Salvato, C. (2004). Predictors of entrepreneurship in family firms. *Journal of Private Equity*, 7(3), 68-76.
- Salvato C., Chirico F., & Sharma, P. (2010). A farewell to the business: championing exit and continuity in entrepreneurial family firms. *Entrepreneurship & Regional Development*, 22, 1–28.
- Shane, S. (2003). *A General Theory of Entrepreneurship. The Individual-Opportunity Nexus*. Cheltenham: Edward Elgar.
- Sharma, P., & Salvato, C. (2011). Commentary: exploiting and exploring new opportunities over life cycle stages of family firms. *Entrepreneurship Theory and Practice*, 35, 1199–1205.
- Short, J.C., Payne, G.T., Brigham, K.H., Lumpkin, G.T., & Broberg, C. (2009). Family firms and entrepreneurial orientation: A comparative analysis of the S&P 500. *Family Business Review*, 22(1), 9-24.
- Sirmon, D.G., & Hitt, M.A. (2003). Managing resources: Linking unique resources, management and wealth creation in family firms. *Entrepreneurship Theory and Practice* 27, 339–358.
- Sirmon, D.G, & Hitt M.A. (2009). Contingencies within dynamic managerial capabilities: Interdependent effects of resource investment and deployment on firm performance. *Strategic Management Journal*, 30, 1375–1394.

- Simons, T., Pelled, L. H., & Smith, K. A. (1999). Making use of difference: Diversity, debate, and decision comprehensiveness in top management teams. *Academy of Management Journal*, 42, 662–673.
- Talke, K., Salomo, S., & Rost, K. (2010). How top management team diversity affects innovativeness and performance via the strategic choice to focus on innovation fields. *Research Policy*, 39, 907-918.
- Talke, K., Salomo, S., & Kock, A. (2011). Top Management Team diversity and strategic innovation orientation: The relationship and consequences for innovativeness and performance. *Journal of Product Innovation Management*, 28, 819–832.
- Wiersema, M.F., & Bantel, K. (1992). Top management team demography and corporate strategic change. *Academy of Management Journal*, 35, 91–121.
- Wiklund, J., & Shepherd, D. (2003). Knowledge-based resources, entrepreneurial orientation, and the performance of small and medium-sized businesses. *Strategic Management Journal*, 24(13), 1307–1314.
- Williams, K.Y., & O'Reilly III Ch.A. (1998). Demography and diversity in organizations: a review of 40 years of research. In B.M. Staw & L.L. Cummings (Eds) *Research in Organizational Behavior*, Vol. 20 (77–140). Greenwich, CT: JAI Press.
- Wooldridge, J. (2002). *Introductory econometrics: A modern approach*. 2nd ed. New York: South-Western College Publishing.
- Zahra, S. A. (1993). A conceptual model of entrepreneurship as firm behavior: A critique and extension. *Entrepreneurship Theory and Practice*, 17(4), 5-21.
- Zahra, S.A. (2005). Entrepreneurial risk taking in family firms. *Family Business Review*, 18,23–40.
- Zahra, S.A, & Bogner, W.C. (2000). Technology strategy and software new venture's performance: exploring the moderating effect of the competitive environment. *Journal of Business Venturing*, 15,135–173.
- Zahra, S., & Nielsen, A.P. (2002). Sources for capabilities, integration and technology commercialization. *Strategic Management Journal*, 23, 377–398.
- Zahra SA, Neubaum DO, Larraneta B. 2007. Knowledge sharing and technological capabilities: the moderating role of family involvement. *Journal of Business Research*, 60, 1070–1079.
- Zimmerman, M. A. (2008). The influence of top management team heterogeneity on the capital raised through an initial public offering. *Entrepreneurship Theory & Practice*, 32(3), 391-414.

Table 1: Descriptive Statistics and Correlations

	Mean	SD	1	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.
1. Age	46.270	39.385	1															
2. Size	92.332	738.39	.82	1														
3. # of FM on TMT	1.909	0.949	.088	-.061	1													
4. % non-FM on TMT	0.241	0.301	.38	0.125	-.235**	1												
5. Dynamism	3.266	.722	-.064	-.166*	-.016	-.105	1											
6. R&D Investments	3.688	.818	-.095	-.026	-.082	.114	.118	1										
7. Electronics/Inf.	.040	.196	-.102	-.023	-.034	-.054	.102	-.110	1									
8. Trade	.246	.431	.175*	-.052	-.032	.021	.080	-.010	-.117	1								
9. Construction	.140	.348	.117	-.035	.130	-.113	-.002	-.023	-.083	-.231**	1							
10. Manufacturing	.196	.397	.150*	-.028	.087	.117	-.106	.080	-.101	-.282**	-.200**	1						
11. Transp. & Comm.	.030	.171	.033	-.013	-.076	-.060	.016	.031	-.036	-.101	-.071	-.087	1					
12. Finance	.015	.122	-.064	-.014	-.075	-.031	-.027	-.054	-.025	-.071	-.050	-.061	-.022	1				
13. Services	.211	.409	-.233**	.164*	-.107	.052	.014	.001	-.106	-.296**	-.209**	-.255**	-.091	-.064	1			
14. Others	.090	.287	-.128	-.033	-.044	-.010	-.003	.035	-.065	-.180*	-.128	-.156*	-.056	-.039	-.163*	1		
15. Performance	3.918	.563	-.038	-.069	.036	-.110	.075	.303**	-.243**	-.031	.046	-.092	.065	.201*	.064	.100	1	
16. EO	3.596	.639	-.083	.009	-.016	.119	.329**	.254**	.078	-.077	-.110	.083	.059	.088	-.020	.129	.252**	1
17. Generational Invol.	1.540	.548	.217**	-.043	.181*	-.061	-.066	-.019	-.155*	.057	.078	.001	.095	-.046	-.058	-.118	.053	-.103

N= 199; * p<.05; ** p<.01; *** p<.001

Table 2: Results of Regression on Entrepreneurial Orientation

<i>Controls</i>	<i>Model 1</i>	<i>Model 2</i>	<i>Model 3</i>
Age	-.029	-.022	-.017
Size	.004	.011	.025
# of FM on TMT	.060	.064	.065
% non-FM on TMT	.166*	.164*	.153*
Dynamism	.304***	.303***	.291***
R&D Investments	.134+	.133+	.165*
Electronics/Informatics	.237*	.224*	.210*
Trade	.196	.178	.136
Construction	.131	.117	.061
Manufacturing	.315*	.296+	.259
Transport. & Comm.	.155+	.151	.118
Finance	.143+	.137+	.130+
Services	.213	.196	.147
Others	.272*	.257*	.227+
Performance	.210**	.211**	.191**
Gener. Inv.		-.042	.211*
Gener. Inv. squared			-.309**
<i>Change in R2</i>	.271***	.001	.028**
<i>R2</i>	.271	.272	.300
<i>Adjusted R2</i>	.210	.208	.233
<i>F</i>	4.481***	4.209***	4.509***

N= 199

+ p<.10 * p<.05; ** p<.01; *** p<.001