Effect of environmental dynamism on entrepreneurial orientation in family firms: the moderating role of informal institutions

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Abstract

Purpose – The aim of this paper is to investigate the effects of environmental dynamism on different EO dimensions in family firms. The authors also examine the moderating role of national culture (uncertainty avoidance and in-group collectivism) and the level of family control and influence in fostering/hindering this relationship.

Design/methodology/approach – A survey was conducted among 1,143 family firms from twenty-eight countries. The authors developed and tested hypotheses through a fixed-effects regression analysis.

Findings – The findings suggest that environmental dynamism has a positive effect on all three EO dimensions. Analysis reveals a positive moderating role of family control and influence and negative moderating roles of in-group collectivism and uncertainty avoidance.

Practical implications – The findings imply that family firm managers should carefully interpret the influence of their national culture on family firm behavior. More specifically, family firms in dynamic environments should consider the importance of the national culture in which they are embedded. Those operating in high uncertainty avoidant and highly collectivist cultures should take proactive steps to cultivate a corporate entrepreneurial culture. On the other hand, the family should not undermine the effect of its control and influence. In dynamic environments, family control and influence may be a competitive advantage in reinforcing entrepreneurial orientation.

Originality/value – The study contributes to the literature on EO in family firms by expanding the previous research on the antecedents of EO and examining moderation effects of culture and family control and influence across a broad multi-country sample. In contrast with the common findings regarding the effect of family logic on EO, the study shows the strengthening role of family control and influence in the relationship between environmental dynamism and EO. The authors show that culture as an informal institution may also play a critical role in hindering/strengthening the relationship between environmental dynamism and EO.

Keywords Entrepreneurial orientation, Family control and influence, Institutional theory, Culture, Environmental dynamism, STEP project global consortium

Paper type Research paper

1. Introduction

Entrepreneurship has long been considered critical for organizational survival and success, as well as national prosperity and competitiveness (Zahra, 1999). Within entrepreneurship research, entrepreneurial orientation (EO) has been widely investigated from different angles

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and considered more and more as a specific research stream within the mainstream debate (Duran-Sanchez *et al.*, 2019). EO has also provided a useful framework for studying how family firms undertake entrepreneurial activities (Hernández-Linares and López-Fernández, 2018). The interest in EO research in the family business field has grown in parallel to recent recognition of the underlying heterogeneity in family firms (Chrisman *et al.*, 2005; Sharma, 2004).

The main focus of mainstream EO literature has been on the EO-performance relationship which has led several researchers to highlight the scarcity of research analyzing antecedents of EO (e.g. Covin and Lumpkin, 2011; Wales *et al.*, 2011). With a few exceptions (García-Villaverde *et al.*, 2018; Ruiz-Ortega *et al.*, 2013), studies examining EO as a dependent variable have generally studied direct effects, leaving out how different variables interact with each other to predict EO (e.g. Sciascia *et al.*, 2006, 2013; Yildirim and Saygin, 2011). Others have analyzed a specific dimension of EO such as innovativeness (e.g. Joshi *et al.*, 2015; Kyrgidou and Spyropoulou, 2013), or have exclusively focused on organizational (e.g. Lee *et al.*, 2019; Ling *et al.*, 2020) or environmental factors (e.g. Rosenbusch *et al.*, 2011). Prior EO research has highlighted the importance of environmental dynamism, characterized by continuous change and instability in the market, for stimulating the implementation of EO in the discovery and exploitation of new opportunities (Aloulou and Fayolle, 2005; Miller and Friesen, 1983; Rauch *et al.*, 2009; Ruiz-Ortega *et al.*, 2013). Despite the recognized importance of environmental dynamism for firm performance, we know little about the mechanisms that enable firms to benefit from environmental dynamism (Rosenbusch *et al.*, 2011). Such mechanisms are especially interesting to study in family firms in which both business-oriented and family-oriented goals may guide strategic decisions (Sharma *et al.*, 1997).

As a key external factor, environmental dynamism may influence family firms' preferences for conservative and entrepreneurial behaviors, and the strength of this influence may also vary among family firms. In this paper, we investigate how environmental dynamism influences different dimensions of EO in family firms and how this relationship may be moderated by informal institutions. Contextual approaches mention the importance of cultural foundation for a society to generate firms that are entrepreneurial-oriented (Lee and Peterson, 2000). Neoinstitutional theory emphasizes the cultural-cognitive pillar of institutions; the role of cultural support for shared logics of action (Scott, 2014) in setting the boundaries of acceptable strategic actions for firms (Hitt *et al.*, 2004). In the family business field, there is a disagreement regarding the complementarity of family and business logics (Reay *et al.*, 2015). Due to this "institutional overlap" (Lansberg, 1983), family businesses provide an interesting field to study antecedents of EO. Family logic may alter family firms' responses to environmental dynamism. On the one hand, institutional family nurturing logic, as opposed to institutional capital market logic, may have a suppressing effect on EO (Miller, 2011; Covin and Miller, 2014). On the other hand, being guided by a family logic may create an idiosyncratic bundle of resources that leads to synergistic relationship between family and business logics (Reay *et al.*, 2015). Hence, in family firms where family control and influence is high, environmental dynamism may be interpreted and responded to differently than in those where family members have little control over strategic decisions. Another factor that may alter the relationship between environmental dynamism and EO is the national culture in which the family firm is embedded. As an informal institution, culture shapes individuals' perception of entrepreneurial opportunities (Welter, 2007). The influence of national culture may be especially prominent in family firm context since the family's national background reflects on the family's values and beliefs, which in turn play an important role in family business behavior (Hernández-Linares and López-Fernández, 2018). Hence, an analysis of the interactions between different variables is needed to enhance our understanding of how EO is achieved in family firms. Therefore, the central question guiding this study is "to what extent do informal institutions (national culture and family logic) moderate the relationship between environmental dynamism and EO in family firms?"

This study adopts institutional theory as a response to calls for theories from sister disciplines in EO research (Miller, 2011). In EO literature, there have also been calls for context-specific research as this would generate more fine-grained and more empirically valid knowledge for both practitioners and scholars (Miller, 2011). In addition, there have been calls for multi-country research (Mondal and Chakrabarti, 2021), inclusion of contextual variables (Alrubaishi *et al.*, 2021) and more governance dimensions (Chakrabarti and Mondal, 2018) in explaining EO. Although adopting an aggregate index of EO is a common practice (e.g. Fayolle *et al.*, 2010; Morris *et al.*, 1994), this study uses different dimensions as each of them offers unique contributions to EO (Kreiser *et al.*, 2010; Miller, 2011). Drawing from institutional theory, we develop hypotheses regarding the relationships between environmental dynamism and EO dimensions and the moderating roles of national culture, specifically in-group collectivism and uncertainty avoidance and family control and influence in these relationships. We test our hypotheses through a fixed-effects regression model in an international sample of 1,143 family firms from twenty-eight countries collected by the STEP Project Global Consortium. We integrate GLOBE "societal practices" data provided by the GLOBE (Global Leadership and Organizational Behavior Effectiveness) project (House *et al.*, 2004) in the analysis.

Our research contributes to family business literature in two ways. First, we contribute to the literature on EO in family firms by studying how variables at different levels interact with each other to predict EO. Moreover, deploying a mix of EO dimensions, we show that these interactions may differ for different EO dimensions. Studies that investigate the interplay between external and internal factors in determining EOs are rare in the literature that intersects EO and family business topics (e.g. Cruz and Nordqvist, 2012), which limits our understanding of the complex nature of EO. Our study suggests that the relationship between the external environment and EO may depend on internal characteristics of the family firm, as well as the national cultural characteristics. We show that family firms' responses to environmental dynamism may be shaped by both internal organizational-level factors and external national-level factors. In contrast to studies which suggest a negative influence of family control and influence on EO (e.g. Miller and Le Breton-Miller), our study highlights its enabling role as a moderator in fostering EO. Second, we contribute to the literature on cross-cultural studies in family firms. Although there is a growing interest in cross-cultural research in the family business field (e.g. Gupta *et al.*, 2011; Yu *et al.*, 2019), the literature points to a need to understand how the family's nationality and culture affect EO in family firms (Hernández-Linares and López-Fernández, 2018). Our evidence from 28 countries suggests that the cultural background of family firms has an important influence on how these firms perceive the external environment and undertake entrepreneurial responses accordingly.

The paper is organized as follows: The following section provides an overview of the institutional perspective on the antecedents of EO in family firms. We then put forth our hypotheses. This is followed by a description of our methodology and presentation of our findings. We then discuss the implications and contributions to the literature and practice. Finally, we present the limitations of our research and put forth future directions for research.

2. Theoretical framework and hypothesis development

In his seminal work, Scott (2014) categorized the vital ingredients of institutions into three pillars: regulatory, normative and cultural-cognitive. In the regulatory pillar, the main mechanism of control is the force of coercion (DiMaggio and Powell, 1983) and the basis of order is the regulatory processes such as rule-setting, monitoring, sanctions and force by the authorities (Scott, 2014). In most cases, regulatory mechanisms are subject to sense-making and collective interpretations (Weick, 1995) rather than operating in an exogenous way and

relying solely on coercive basis for its effects (Scott, 2014). In this way, the regulatory pillar is not independent from the normative and cultural-cognitive dimensions.

The normative and cognitive institutional pillars are socially constructed over time (Scott, 2014). The normative pillar includes beliefs, norms and values and stresses the logic of "appropriateness" rather than a logic of "instrumentality" (Scott, 2014, p. 65). The organizational actor may prioritize the expected behaviour from his/her role over his/her best-interest. Common beliefs and values are more likely to exist in institutions such as kinship groups and communities (Scott, 2014). Logic of appropriateness can have more influence when individuals 'identify with the collective identities of an institutionalized group' such as a family (Thornton, 2008, p. 119). The individual is likely to confront the central imperative of his/her expected role in the family business where a clear boundary between the family and the family business does not usually exist (Cheng *et al.*, 2022). When norms are not complied, the feelings of shame or disgrace accompany and opposing logics are socially punished (Miller *et al.*, 2010; Scott, 2014). These feelings are likely to be more intense in family businesses where close emotional ties may elicit familial attitudes and agendas (Miller *et al.*, 2010).

Whereas social obligation is the basis of compliance for the normative pillar of institutions, shared understanding and taken-for-grantedness is the basis of compliance for the cultural-cognitive pillar. The basis of legitimacy for cultural-cognitive ingredients of institutions is the cultural support for shared logics of actions (Scott, 2014). Culture as mental programming provides patterns of feeling, thinking and acting (Hofstede *et al.*, 2010). Cultural categories are like cognitive containers (Douglas, 1982) and provide powerful templates for actors (Shank and Abelson, 1977) to align themselves with the prevailing beliefs. The meanings are embedded in symbolic systems that embody both content and emotions and activate feelings, intentions and ideas (D'andrade, 1984; Scott, 2014). Organizational actors are motivated to maintain the institutions in which they have high emotional and cognitive investment (Voronov and Vince, 2012). An organization's survival does not depend on its productive efficiency, but on the legitimacy that it gains by becoming isomorphic with its institutional environment (Meyer and Rowan, 1977). An organization may adopt EO behavior in order to gain legitimacy from significant stakeholders. To secure legitimacy, it may imitate venturesome industry leaders or prominent competitors as successful role models and this create a contagion effect for other companies (Miller, 2011). Meyer and Scott (1992) views organizational legitimacy as the extent to which there is a cultural support for the organization. The focus of legitimation in neoinstitutional perspective includes the extent to which the strategies, structures and processes of an organization are congruent with the values of the society (Berger and Luckman, 1967; Meyer and Rowan, 1977; Meyer and Scott, 1992).

Institutions are representative of a nation's culture and given meaning by the culture (Jepperson, 1991). Institutional theory provides insights about how national culture might impact dimensions of EO (Ahlstrom and Bruton, 2002; Witt and Redding, 2008). Institutions are significant to understand entrepreneurial behaviors in a societal context (Kreiser *et al.*, 2010). By providing legitimacy and sanctions, institutions determine the boundaries of acceptable strategic actions available to organizations (Hitt *et al.*, 2004; Peng, 2003). Previous research found that institutional attributes impact entrepreneurial activity level (Manolova *et al.*, 2008) and new venture strategies in emerging countries (Peng, 2003; Yamakawa *et al.*, 2008).

Institutional logics provide guidelines for behaviour through shared conceptual frameworks that comprise both normative and cultural-cognitive elements (Scott, 2014; Thornhol *et al.*, 2012). Over the past decades, contrasting institutional logics and particularly incursion of market logic across organizational fields has been commonly studied (Scott, 2014). Corporate governance, particularly ownership structure, may have an influence on EO

through socially derived institutional logics (Miller, 2011). Familial logic may elicit conservative strategies as the family bestows legitimacy to those family executives who serve family wants; financial support, security and family harmony (Miller *et al.*, 2010; Schulze *et al.*, 2001; Bertrand and Schoar, 2006). Entrepreneurial logic, on the other hand, is more likely to emerge when there is a more diverse set of stakeholders with economic interests and legitimacy is secured by embracing an entrepreneurial role (Loasby, 2007).

Logics and identities of owners may be influenced by their social context through common cognitive frames (Burke and Reitzes, 1981), normative impact and political dimension whereby identification with a group puts pressure to follow a group agenda (Miller *et al.*, 2010). Dominant control rights of the owner-families may entrench unqualified family members and may result in use or tunneling of resources for family purposes and hence may reduce innovation rates. However, literature suggests that large shareholdings by the family and family involvement in management may not destroy firm value (Morck *et al.*, 2005). Family firms are not only guided by family logic, but family and business logics are complementary (Reay *et al.*, 2015). Related research suggests that familiness brings idiosyncratic bundle of resources that are difficult to imitate (Pearson *et al.*, 2008; Sirmon and Hitt, 2003), and following a family logic may lead to a synergistic, rather than a competing relationship between family and business logics (Reay *et al.*, 2015).

2.1 Entrepreneurial orientation

Entrepreneurial orientation (EO) reflects how the entrepreneurial activity is undertaken in a firm (Miller, 1983). While entrepreneurship captures the content of entrepreneurial decisions, EO represents entrepreneurial processes (Lumpkin and Dess, 1996). It refers to "the mindset of firms engaged in pursuing new ventures" (Lumpkin and Dess, 2001, p. 432) and explains their entrepreneurial decision-making styles, methods and practices (Wiklund and Sheperd, 2005). Building on Miller (1983), innovativeness, risk-taking and proactiveness have been recognized as the three salient dimensions of EO. Innovativeness refers to a "firm's tendency to engage in and support new ideas, novelty, experimentation, and creative processes that may result in new products, services, or technological processes" (Lumpkin and Dess, 1996, p. 142). It reflects a willingness to go beyond the current state of the art and pursue new opportunities (Lumpkin and Dess, 1996). Risk-taking is described as a differentiating quality of entrepreneurs and is often used to describe entrepreneurship (Lumpkin and Dess, 1996). Lumpkin and Dess (2001, p. 431) define risk-taking as "a tendency to take bold actions". Risk-taking typically involves venturing into the unknown and indicates actions such as entering new markets or committing resources to projects with uncertain outcomes (Lumpkin and Dess, 2001). Lastly, proactiveness refers to being the first to come up with innovations or leading the way instead of imitating competitors (Miller, 1983). Proactive firms are leaders instead of followers, they seize initiative and act opportunistically (Lumpkin and Dess, 1996). Proactiveness involves being ahead of the competition (Lumpkin and Dess, 2001) and implies changing the environment by introducing new products and technologies (Miller and Friesen, 1978).

One of the main questions addressed in research on EO in family firms is whether family firms are more or less entrepreneurially oriented than nonfamily firms. Literature does not provide a clear-cut answer to this question, since the peculiar characteristics of family firms can hinder or promote entrepreneurial behavior (Lumpkin *et al.*, 2010). While most studies report lower levels of EO in family firms (e.g. Garcés-Galdeano *et al.*, 2016; Pimentel *et al.*, 2017; Short *et al.*, 2009), others report no difference (e.g. Lee and Chu, 2017). Studies investigating antecedents of EO in family firms have mostly focused on internal factors such as family involvement in the firm and family business status, while the focus on external factors has been limited (Hernández-Linares and López-Fernández, 2018).

2.2 Environmental dynamism and EO in family firms

Dynamism may be considered as an environmental variable which is characterized by continuous change, innovation and instability in the market (Aloulou and Fayolle, 2005; Miller and Friesen, 1983). It relates to the rate of unpredictable change in a firm's environment (Duncan, 1972; Tosi *et al.*, 1973; Child, 1972) and indicates uncertainty that undermines the ability of managers to predict (Lumpkin and Dess, 2001). When firms are forced to change products and markets to remain competitive, they need to adopt an entrepreneurial posture. Dynamism as an environmental challenge creates a need for innovation (Miller and Friesen, 1982).

Changes in strategy are essential to cope with increased dynamism (Miller and Friesen, 1983), which can also be a source of opportunities in arenas such as changes in customer preferences, technology and demand for new products (Aloulou and Fayolle, 2005). As a dimension of perceived environmental resourcefulness (Keats and Hitt, 1988), environmental dynamism stimulates the implementation of EO to be more efficient and effective in the discovery and exploitation of new opportunities (Rauch *et al.*, 2009). Previous studies find a positive effect of environmental dynamism on EO (e.g. Ruiz-Ortega *et al.*, 2013). Environmental dynamism increases the need for information-processing and innovation, and it is positively correlated with new products, risk taking and proactiveness (Miller and Friesen, 1983). While a more proactive behavior will be more likely to seize the opportunities in a dynamic environment (Lumpkin and Dess, 1996), it helps firms to minimize the threat of obsolescence (Lumpkin and Dess, 2001).

In the family business field, a limited number of studies have focused on the effects of environmental dynamism on EO. Cruz and Nordqvist (2012) demonstrated that environmental dynamism has a positive and strongly significant effect on EO which is strengthened by generational involvement. A dynamic environment also provides the conditions in which family firms can learn to be entrepreneurially oriented. For example, Wang (2016) found that environmental dynamism directly influences innovative capabilities of family firms. In less dynamic environments, on the other hand, family goals such as preserving family wealth and harmony will be more prominent (Chirico and Bau, 2014). Such environments also favor the emergence of opportunistic behaviors in family firms, such as extracting resources from business for personal purposes, which in turn leads to fewer resources available to pursue entrepreneurship (Chirico and Bau, 2014). Based on these arguments, we propose the following hypotheses:

H1a. Environmental dynamism positively influences innovativeness in family firms.

H1b. Environmental dynamism positively influences proactiveness in family firms.

H1c. Environmental dynamism positively influences risk-taking in family firms.

2.3 The moderating role of family control and influence

While the external environment of the firm plays a key role in EO, so do the internal characteristics of the firm (Lumpkin and Dess, 1996). A key determinant of EO is CEOs' interpretations of their firms' competitive environment (Zahra, 1991). Hence, a firm's response to environmental dynamism depends on how the instability or change of the market is interpreted by its executives. Literature points to a lack of research into how the impact of environmental perceptions on EO may differ in family firms (Cruz and Nordqvist, 2012). We argue that different levels of family control and influence over the business may play a central role in how family firms respond to environmental dynamism, leading to different levels of EO. With higher levels of family control and influence, the boundary between the family and the business is likely to disappear and the collective identity of the family as an institutionalized group will be stronger. In this case, family logic is likely to have a strong

influence on the perceptions and interpretations of the environment and consequently strategic choices of the family firm. When family control and influence is high, the distinctive "nurturer" identities of family owners and managers are likely to surface and push family firms towards conservatism (Miller and Le Breton-Miller, 2011). However, apart from internal characteristics of a firm, its external environment also plays a key role in pushing firms to switch between entrepreneurial and conservative behaviors (Kreiser *et al.*, 2019). Family firms operating in stable environments are not under the pressure to initiate new products/services or new processes (Wang, 2016). In the absence of such market pressures, firms with higher family control and influence are likely to be dominated by family logic and maintain their competitive position due to their risk-aversion regarding the traditional business (Casillas *et al.*, 2010). If environmental dynamism is high, on the other hand, the market logic may compete with family logic and drive family executives to shift from conservatism and act more entrepreneurial to respond to competitors' actions or changing customer needs (Chirico and Bau, 2014). This shift will be more significant in firms with higher family control and influence that are mostly dominated by family logic, making the effect of environmental dynamism stronger on EO.

When market logic is activated, family firms with greater family control and influence will benefit from their peculiar characteristics such as long-term orientation (Zahra *et al.*, 2004) or degree of centralization (Habbershon *et al.*, 2003). Having a greater long-term orientation will help them develop entrepreneurial responses aimed at exploiting new opportunities that usually bear fruit in the long-term (Zahra *et al.*, 2004). Besides, greater degree of centralization will allow these firms higher speed in decision-making which has been found to be beneficial for performance in dynamic environments (Eisenhardt, 1989; Garg *et al.*, 2003). Hence, family firms with higher family control and influence are also likely to act upon environmental changes in a dynamic environment faster, which will foster their innovativeness, proactiveness and risk-taking. This is in line with the concept of "familiness" (Habbershon and Williams, 1999) and the literature that views family and business logics as complementary and their relationship as synergistic rather than competitive (Reay *et al.*, 2015). Firms with high levels of family control and influence will particularly benefit from their unique bundle of resources in dynamic environments which push them towards being more entrepreneurial.

Based on these arguments, we hypothesize that the greater the family control and influence over the business, the more innovative, proactive and risk-taking the family firms will become in response to environmental dynamism.

H2a. The relationship between environmental dynamism and innovativeness is moderated by family influence and control. In family businesses with higher family influence and control, increase in environmental dynamism leads to higher innovativeness.

H2b. The relationship between environmental dynamism and proactiveness is moderated by family influence and control. In family businesses with higher family influence and control, increase in environmental dynamism leads to higher proactiveness.

H2c. The relationship between environmental dynamism and risk-taking is moderated by family influence and control. In family businesses with higher family influence and control, increase in environmental dynamism leads to higher risk-taking.

2.4 The moderating role of national culture

National culture was found to have a significant impact on strategic behaviors of firms (Marino *et al.*, 2002; Tihanyi *et al.*, 2005). This is understandable given that cultural values

influence the style, structure and process of a person's cognition (Abramson *et al.*, 1993; Busenitz and Lau, 1996) and key decision makers that determine the overall strategic orientation of the organization act as the brain of the firm (Covin and Slevin, 1991; Kreiser *et al.*, 2010). A firm's value system is to some extent a product of its dominant elite's values and orientations (Hofstede, 1985). In family firms, the influence of culture is especially significant since the values of the founding family are embedded in the family firm (Miller and Le Breton-Miller, 2005) and such values are influenced by the family's national background (Miller, 2011).

Institutional theory regards culture as an important means to transmit normative and cognitive structures (DiMaggio and Powell, 1991; Jepperson, 1991). According to institutional logics framework (Thornton, 2008), societal cultures influence the institutional logics adopted by firms. For example, Protestant societies which embrace the Protestant ethic are likely to adopt an institutional "market logic" in which risk-taking is common, whereas patriarchal societies might embrace a family logic rendering their organizations more conservative (Covin and Miller, 2014). When societal values are institutionalized at the organizational level, some cultures may develop advantages over others in terms of entrepreneurial activity (Shane, 1993). Societies have collective perceptions that make entrepreneurial behaviors more or less desirable (Busenitz *et al.*, 2000; McGrath *et al.*, 1992; Hayton *et al.*, 2002). A culture that fosters EO might be especially advantageous to family firms as cultural values are likely to transmit to the family and in turn influence family firm attitudes. Based on the institutional logics framework (Thornton, 2008), it has been suggested that a family's nationality may boost or buffer EO in family firms (Miller, 2011). Nevertheless, our understanding of how different cultural backgrounds may affect EO within family firms is limited given the lack of cross-country studies (Hernández-Linares and López-Fernández, 2018).

Whereas formal institutions such as political, legal and financial structures contribute to creation of entrepreneurial opportunities, culture as an informal institution shapes individuals' perception of such opportunities (Welter, 2007), thus affects EO of its members (Busenitz and Lau, 1996; Knight, 1997; Tiessen, 1997). Hence, culture is likely to shape how firms interpret their competitive environment. We argue that different characteristics of a culture may influence how family firms respond to environmental dynamism, leading to different levels of EO. Two cultural dimensions which may play a key role in this relationship are in-group collectivism and uncertainty avoidance. In-group collectivism represents a cultural dimension that is especially relevant for family firms since it reflects to what extent individuals depend on their families and organizations (House and Javidan, 2004). In-group collectivism is also regarded as family collectivism (Brewer and Venaik, 2011) and might be particularly relevant for the entrepreneurial behaviors of family firms. In addition to in-group collectivism, uncertainty avoidance is strongly linked to entrepreneurial behaviors (e.g. Saeed *et al.*, 2014; Mitchell *et al.*, 2004; Kreiser *et al.*, 2010) and particularly relevant for family firms. Research shows that family firms' investments are significantly more sensitive to uncertainty than nonfamily firms due to the greater opacity of family firms and their higher risk aversion (Bianco *et al.*, 2013).

Individualism-collectivism can be considered as one of the most important dimensions of culture insofar as entrepreneurship is concerned (Morris *et al.*, 1994). The link between high-level entrepreneurial activity and cultural values, such as freedom, independence and individualism is discussed by several scholars (Morris *et al.*, 1994). In GLOBE study, in-group collectivism is defined as "the degree to which individuals express pride, loyalty, and collusiveness in their organizations or families" (House and Javidan, 2004, p. 12). It represents a strong sense of family integrity (Triandis *et al.*, 1988) and is associated with collaboration, cohesion and harmony (Gupta and Kirwan, 2013). The construct is also relabeled as "family collectivism" (Brewer and Venaik, 2011) or "embeddedness construct" as it is concerned with embedded responsibilities toward the family (Gupta and Kirwan, 2013).

In-group collectivism may cause challenges for entrepreneurial endeavors and inhibit entrepreneurship (Pathak and Muralidharan, 2016). Innovation requires an inflow of external knowledge to create a combination of new ideas and perspectives (Nieto *et al.*, 2015). However, strong ties within the family may serve as a filter for new information and perspectives and can be a source of relational inertia (Gargiulo and Bernassi, 1999). Family inertia is found to prevent the creation of dynamic capabilities and entrepreneurial performance (Chirico and Nordqvist, 2010). Such inertia can also hinder family firms from benefiting from environmental dynamism. Individualism, on the other, hand, is associated with stronger self-concept, achievement motivation (Hofstede, 1980), willingness to violate norms (Verma, 1985), competition among individuals that foster innovation (Morris *et al.*, 1994) and internal locus of control which enhances entrepreneurial potential (Mueller and Thomas, 2001). Compared to their counterparts in collectivist cultures, managers in individualistic countries tend to be more willing to violate group norms and likely to involve themselves in risky situations (Morris *et al.*, 1994). It is therefore more likely that family firms in individualistic societies perceive more opportunity in environments with high dynamism and respond to it by being more innovative, risk-taking and proactive.

We therefore hypothesize the following:

H3a. The relationship between environmental dynamism and innovativeness is moderated by in-group collectivism. In lower in-group collectivistic societies, increase in environmental dynamism leads to higher innovativeness.

H3b. The relationship between environmental dynamism and proactiveness is moderated by in-group collectivism. In lower in-group collectivistic societies, increase in environmental dynamism leads to higher proactiveness.

H3c. The relationship between environmental dynamism and risk-taking is moderated by in-group collectivism. In lower in-group collectivistic societies, increase in environmental dynamism leads to higher risk-taking.

In the GLOBE study, uncertainty avoidance is defined as "the extent to which members of an organization or society strive to avoid uncertainty by reliance on social norms, rituals, and bureaucratic practices to alleviate the unpredictability of future events." (House *et al.*, 2002, p. 5). In cultures with high uncertainty avoidance there is resistance towards innovation (Rauch *et al.*, 2009) because innovations require the commitment of resources before the outcomes are known (Autio *et al.*, 2013). In such cultures, national rates of innovation are found to be lower (Shane, 1993), and entrepreneurial traits of innovativeness are less prevalent (Mueller and Thomas, 2001). Previous studies found that firms operating in cultures that are uncomfortable dealing with ambiguity are less likely to take risks and display proactive behaviors as they are less willing to interact with their environment (Covin and Slevin, 1989; Kreiser *et al.*, 2010). High uncertainty avoidance inhibits EO by imposing strict rules and regulations on individual behavior (Saeed *et al.*, 2014). Managers in uncertainty-accepting cultures, on the other hand, are more likely to act as first-movers (Kreiser *et al.*, 2010; Lieberman and Montgomery, 1988), engage in more competitive behaviors (Hofstede, 1980), display commitment tolerance and assume the risks inherent in the entrepreneurial act (Mitchell *et al.*, 2004; Kreiser *et al.*, 2010).

In societies that are open to risks, entrepreneurs have higher tolerance to uncertainty and less fear of failure (Hofstede, 1980). They have a more favorable perception of the external environment and will perceive more opportunities (Mueller and Thomas, 2001). For example, individuals who are willing to accept the uncertainty and riskiness associated with a new investment are more likely to regard an emerging niche as a business opportunity than someone with a higher uncertainty avoidance (Busenitz and Lau, 1996). Similarly, in cultures with low uncertainty avoidance, managers are likely to interpret environmental dynamism as

an opportunity rather than threat. The favorable perceptions along with the greater willingness of uncertainty accepting societies to interact with their environment (Kreiser *et al.*, 2010) will make these firms more willing to take risks, innovate and be proactive in response to environmental dynamism. Those in high uncertainty avoidance cultures, on the other hand, will be uncomfortable by the changes in their external environment. They are likely to interpret environmental dynamism as a threat rather than an opportunity, and such unfavorable perceptions will restrict their entrepreneurial responses to environmental dynamism.

We therefore hypothesize:

H4a. The relationship between environmental dynamism and innovativeness is moderated by uncertainty avoidance. In lower uncertainty avoidance societies, increase in environmental dynamism leads to higher innovativeness.

H4b. The relationship between environmental dynamism and proactiveness is moderated by uncertainty avoidance. In lower uncertainty avoidance societies, increase in environmental dynamism leads to higher proactiveness.

H4c. The relationship between environmental dynamism and risk-taking is moderated by uncertainty avoidance. In lower uncertainty avoidance societies, increase in environmental dynamism leads to higher risk-taking.

3. Methods

3.1 Sampling

The study was conducted as a part of the STEP (Successful Transgenerational Entrepreneurship Practices) Project Global Consortium 2019 Global Family Business Survey exploring the impact of changing demographics on succession and firm performance (Calabrò and Valentino, 2019). The STEP Project Global Consortium (SPGC) is a global applied research initiative that explores the entrepreneurial process within business families. The SPGC 2019 Global Family Business Survey was launched in October 2018 and completed in March 2019. The master-questionnaire was prepared SPGC in English and translated to 17 languages using professional translation services. Several criteria were used for selecting family businesses to participate in the survey: "(1) the respondent should be the most senior family business leader in the business; (2) the firm should have ownership by a single family (with a common ancestor) resulting in effective control by that family through a senior family business leader, and where there is a clear intent to pass this ownership/control to the next generation; (3) size and industry participation matched the general size and industry mix of the country where the data is being collected" (Calabrò and Valentino, 2019, p. 27).

The 2019 database has 1,760 valid surveys collected from 28 countries by convenience sampling. A minimum of 20 surveys were collected from each country. The number of firms surveyed across sample countries displayed moderate variation, from a minimum of 21 in countries such as Guatemala, Taiwan, and Hong Kong, to a maximum of 123 in the United States. 1,245 of these surveys were completed by family CEOs. In our sample, on average, the family owns 93% of the shares and 43% of family members who could work for the family business (old enough and part of the owning family branches) work for the business.

3.2 Variables

3.2.1 Dependent variable. To gauge Entrepreneurial orientation (EO), we followed Covin and Slevin (1989) and assessed three dimensions; innovativeness, proactiveness and risk-taking. To enhance the validity of our core dependent and independent variables' measurement, we

constructed several indices using survey items that tap a single domain of behavior. Accordingly, proactiveness was probed by three items (Cronbach's alpha = 0.58); innovativeness by two items (Cronbach's alpha = 0.64); and risk-taking by three items (Cronbach's alpha = 0.78). Each item was measured using a five-point scale. Table 1 reports the EO scale items.

3.2.2 Independent variables. Environmental dynamism: An index was created for environmental dynamism. Table 2 reports five constructive items adopted from Jansen *et al.* (2006), each measured on a five-point scale (1-strongly disagree, 5-strongly agree) (Cronbach's alpha = 0.77). Environmental dynamism has been measured with these five items by several studies in EO and family business literature (e.g. González *et al.*, 2021; Van Doorn *et al.*, 2013). Due to the reverse direction, the sign of item 4 was reversed.

Family control and influence was measured with six items adopted from the Socioemotional Wealth (SEW) scale developed by Berrone *et al.* (2012). The SEW scale (Berrone *et al.*, 2012) has been validated by several studies in the family business field

Dimensions	Items
Innovativeness	1, In my firm, we have not marketed any new lines of products or services in the last 5 years; 5, In my firm, we have marketed many new lines of products or services in the last 5 years
Innovativeness	1, Changes in product or service lines have been mostly of a minor nature; 5, Changes in product or service lines have usually been quite dramatic
Proactiveness	1, In dealing with its competitors, my firm typically responds to actions which competitors initiate; 5, In dealing with its competitors, my firm typically initiates actions to which competitors then respond
Proactiveness	1, In dealing with its competitors, my firm is very seldom the first business to introduce new products/services, administrative techniques, operating technologies etc.; 2, In dealing with its competitors, my firm is very often the first business to introduce new products/services, administrative techniques, operating technologies, etc.
Proactiveness	1, In dealing with its competitors, my firm typically seeks to avoid competitive clashes, preferring a "live and let live" posture; 5, In dealing with competitors, my firm typically adopts a very competitive, undo the competition posture
Risk-taking	1, In general, the top managers of my firm believe that owing to the nature of the environment, it is best to explore it gradually via cautious, incremental behavior; 5, In general, the top managers of my firm believe that owing to the nature of the environment, bold, wide-ranging acts are necessary to achieve the firm's objectives
Risk-taking	1, In general, the top managers of my firm have a strong tendency for low-risk projects (with normal and certain rates of return); 5, In general, the top managers of my firm have a strong tendency for high-risk projects (with chances of very high returns)
Risk-taking	1, When confronted with decision-making situations involving uncertainty, my firm typically adopts a cautious, "wait and see" posture in order to minimize the probability of making costly decisions; 5, When confronted with decision-making situations involving uncertainty, my firm typically adopts a bold, aggressive posture in order to maximize the probability of exploiting potential opportunities

Source(s): Adapted from Covin and Slevin (1989)

Table 1. Entrepreneurial orientation scale items

(1) Changes in our market are intense
(2) Our clients regularly ask for new products and services
(3) In our market, changes are taking place continuously
(4) In a year, nothing has changed in our market
(5) In our market, the volumes of products and services to be delivered change fast and often

Source(s): Adapted from Jansen *et al.* (2006)

Table 2. Environmental dynamism scale items

(e.g. Gómez-Mejía and Herrero, 2022; Hauck *et al.*, 2016). We created the family control and influence index by taking the means of six items, each measured on a five-point scale, reported in Table 3. (Cronbach's alpha = 0.88). To test the moderation effect we theorized in H2, we construct an interaction term between the environmental dynamism and family control and influence.

National cultural characteristics: To test H3 and H4, we construct cross-level interaction terms between the environmental dynamism at the firm level and the relevant cultural characteristics at the macro-level. Data on each country's level of uncertainty avoidance and in-group collectivism was taken from the "societal practices" scores provided by the GLOBE (Global Leadership and Organizational Behavior Effectiveness) project (House *et al.*, 2004)[1]. The GLOBE project is a multi-phase, multi-method, cross-cultural research project studying leadership and organizational practices and values in 62 cultures (House, 2004). In the GLOBE project, culture is defined as 'shared motives, values, beliefs, identities, and interpretations or meanings of significant events that result from common experiences of members of collectives and are transmitted across age generations' (House *et al.*, 2004, p. 57). In the first phase of the GLOBE project, researchers developed and validated measures of culture and leadership. In the second phase, data was collected from over 17,000 middle managers from 62 cultures. 18 core GLOBE societal culture dimensions were identified to reflect societal values and practices in each country. The GLOBE cultural framework has been widely used in cross-cultural research, also by cross-cultural studies in the family business field (e.g. Gupta *et al.*, 2011; Piana *et al.*, 2018). One of the reasons we chose to use the GLOBE cultural framework is because it distinguishes between societal values and practices (House, 2004). We believe that societal practices are more suitable for our study since practice scores reflect the observation of common behaviors and institutional practices by the focal person and have been suggested to provide higher fidelity in entrepreneurship research (Autio *et al.*, 2013). Another reason we chose GLOBE is that unlike other cultural frameworks such as Hofstede (1980), it measures collectivism with two separate dimensions including in-group collectivism (House, 2004). As we have explained in hypothesis development section, we believe that the roles played by in-group collectivism may play an important role in shaping EO in family firms.

In the GLOBE project, societal practices are measured with 'as is' statements and societal values with 'as should be' statements (House and Javidan, 2004). In this study, we use practice scores, that is respondents' assessments of 'as is' with regard to uncertainty avoidance and ingroup collectivism. Sample items are: "Employees feel great loyalty to this organization" (in-group collectivism practice) and "Most people lead highly structured lives with few unexpected events" (uncertainty avoidance practice) (House *et al.*, 2002). Note that because we employ practice scores, for uncertainty avoidance, lower scores correspond to cultures with greater comfort in taking risks, whereas higher scores refer to restrained stance toward unknown, uncertain situations.

Control variables: We controlled for several mechanisms that may affect EO. One set accounts for CEO characteristics. CEO education level was defined as the highest level of education completed and measured by an interval scale (1–9) coded as '1' if the CEO has no

(1) The majority of the shares in my family business are owned by family members
(2) In my family business, family members exert control over the company's strategic decisions
(3) In my family business, most executive positions are occupied by family members
(4) In my family business, nonfamily managers and directors are named by family members
(5) The board of directors is mainly composed of family members
(6) Preservation of family control and independence are important goals for my family business

Source(s): Adapted from Berrone *et al.* (2012)

Table 3.
Family control and influence scale items

formal schooling and '9' if he/she has a doctorate degree. CEO tenure was measured by an interval scale (1–9) coded as '1' if the CEO has been employed for 1–5 years and '9' if the CEO is employed for 41 or more years. CEO gender was measured by a dummy variable coded as '1' if the CEO is male and '0' if the CEO is female. Finally, the generation in control was probed by one question: "Which generation of the family business do you represent?" and measured by ordinal scale with "1" being the founder's generation.

Two firm related factors were also accounted for. Firm size was measured by the number of full-time employees measured by an interval scale (1–11) coded as "1" if the company has less than 20 employees and "11" if the company has more than 100,000 employees. To measure firm growth, we constructed a mean index from four survey questions on firm growth listed in Table 4 adapted from Eddleston *et al.* (2008), each measured on a 5-point scale (1-much worse, 5-much better). Cronbach alpha was 0.86, signifying high construct validity.

3.3 Data analysis

To estimate our models we use linear regressions. To control for macro-level factors (i.e. economic development, ease of business, political regime) which may explain structural heterogeneity across family firms from different countries, we use country-fixed effects. This estimation technique also allows us to test the hypothesized cross-level interactions by eliminating omitted variable bias at the higher levels. Due to the possible heteroscedasticity within clusters, our models use robust standard errors.

4. Findings

A summary of variable statistics is reported in Table 5. Table 6 provides the results of the role of environmental dynamism and the effects of cross-level interactions in driving support for

How would you rate your business performance as compared to that of your competitors in the last three years in terms of the following?
(1) Growth in sales
(2) Growth in market share
(3) Growth in number of employees
(4) Growth in profitability

Source(s): Adapted from Eddleston *et al.* (2008)

Table 4. Firm growth scale items

	N	Mean	Std. Dev	Min-Max
Innovativeness	1288	3.17	1.15	1–5
Risk taking	1288	2.91	0.94	1–5
Proactiveness	1288	3.17	0.86	1–5
CEO gender	1288	0.80	0.40	0–1
CEO tenure	1288	3.48	2.18	1–9
CEO education	1288	6.39	1.91	1–9
CEO generation	1288	1.84	0.91	1–5
Firm size	1288	3.06	1.95	1–8
Firm growth	1288	3.51	1.01	1–5
Family control and influence	1288	3.75	1.11	1–5
Environmental dynamism	1288	2.23	1.23	1–5

Source(s): Created by authors

Table 5. Variable statistics

Table 6. Fixed-effects OLS regressions on proactiveness/ risktaking/ innovativeness in family firms

Variables	Innovativeness (1)	(2)	(3)	(4)	Proactiveness (1)	(2)	(3)	(4)	Risk-taking (1)	(2)	(3)	(4)
CEO gender	0.05	0.05	0.07	0.07	0.1	0.1	0.11*	0.11*	0.03	0.03	0.03	0.02
	(0.08)	(0.08)	(0.08)	(0.08)	(0.06)	(0.06)	(0.07)	(0.07)	(0.07)	(0.07)	(0.08)	(0.08)
CEO tenure	0	0	−0.01	−0.01	0.02	0.02	0.02	0.02	0.01	0.01	0	0.01
	(0.02)	(0.02)	(0.02)	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
CEO education	0.03	0.03	0.02	0.02	0.02*	0.02*	0.02	0.02	0.01	0.01	0.01	0.01
	(0.02)	(0.02)	(0.02)	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)	(0.02)	(0.02)	(0.02)
CEO generation	−0.03	−0.03	−0.04	−0.04	0	0	0	0	−0.12****	−0.12****	−0.12****	−0.12****
	(0.04)	(0.04)	(0.04)	(0.04)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Firm size	0.04**	0.04**	0.06***	0.05***	0	0	0	0	0.02	0.02	0.02	0.02
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Firm growth	0.24****	0.24****	0.22****	0.23****	0.28****	0.28****	0.28****	0.28****	0.26****	0.26****	0.24****	0.25****
	(0.04)	(0.04)	(0.04)	(0.04)	(0.03)	(0.03)	(0.03)	(0.03)	(0.04)	(0.04)	(0.04)	(0.04)
Family control and influence	0.02	−0.14	0.03	0.03	−0.04*	−0.07	−0.05*	−0.05*	−0.01	−0.06	−0.01	−0.01
	(0.03)	(0.09)	(0.03)	(0.03)	(0.02)	(0.06)	(0.02)	(0.02)	(0.03)	(0.08)	(0.03)	(0.03)
Environmental dynamism	0.34****	0.06	1.12****	−0.58**	0.17****	0.13	0.50**	−0.23	0.16****	0.07	0.35	−0.2
	(0.04)	(0.15)	(0.31)	(0.27)	(0.03)	(0.11)	(0.21)	(0.20)	(0.03)	(0.13)	(0.25)	(0.25)
Family control and influence × Environmental dynamism		0.07**				0.01				0.02		
		(0.04)				(0.03)				(0.03)		
In-group Collectivism × Environmental dynamism			−0.15**				−0.06				−0.04	
			(0.06)				(0.04)				(0.05)	
Uncertainty Avoidance × Environmental dynamism				0.23****				0.10**				0.09
				(0.07)				(0.05)				(0.06)
Constant	1.29****	1.96****	1.34****	1.56****	1.78****	1.88****	1.80****	1.89****	1.81****	2.01****	1.87****	1.95****
	(0.32)	(0.47)	(0.33)	(0.33)	(0.24)	(0.34)	(0.25)	(0.25)	(0.27)	(0.40)	(0.27)	(0.28)

(*continued*)

Variables	Innovativeness				Proactiveness				Risk-taking			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Country FEs	*YES*	*YES*	*YES*	*YES*	*YES*	*YES*	*YES*	*YES*	*YES*	*YES*	*YES*	*YES*
Observations	1,166	1,166	1,114	1,114	1,166	1,166	1,114	1,114	1,166	1,166	1,114	1,114
R-squared	0.167	0.17	0.172	0.175	0.183	0.183	0.187	0.188	0.144	0.145	0.141	0.142

Note(s): Robust standard errors in parentheses. In-group collectivism and uncertainty avoidance is omitted as it is fully collinear with country fixed-effects ***$p < 0.001$, **$p < 0.01$, *$p < 0.05$, *$p < 0.1$

Source(s): Created by authors

Table 6.

three EO dimensions. For each dimension, Model I displays only the effects on the individual-level explanatory and control variables, whereas models II to IV, subsequently add the moderating role of family control and influence and two country-level cultural factors to test H2 to H4.

Our first hypothesis articulated that environmental dynamism has a positive effect on entrepreneurial orientation of family firms. Results provided in Model 1 in Table 6 robustly support H1a, H1b and H1c. Effect sizes are highly significant at the 0.001 level, with a positive coefficient. In other words, firms that are exposed to more dynamic environments are considerably more likely to act proactively, take risks and innovate. Intense market changes drive particularly substantial effects on innovativeness; with each unit increase in the predictor, the outcome variable shifts 0.34 points upward.

The estimates reported in Model 2 for each three EO dimensions under analysis, show that the interaction term between family control and influence and environmental dynamism exerts statistically significant effect on innovativeness. Specifically, in family businesses with higher family influence and control, any increase in environmental dynamism leads to higher innovativeness. This finding provides support for H2a, but not for H2b and H2c.

When we explore the moderating role of cultural context in driving entrepreneur orientation, we once again observe the greatest effects on innovativeness. In lower collectivistic and uncertainty-avoidance (note that this index is reversely coded) societies, increase in environmental dynamism leads to significantly higher innovativeness. Thus, H3a and H4a are confirmed. Moreover, in low uncertainty-avoidance cultures, environmental dynamism is significantly positively associated with proactiveness, lending support to our H4b. In contrast, none of the hypothesized interaction effects with environmental dynamism attain statistically significant effects on risk-taking.

As for the control variables, the results reveal significantly positive effects for firm growth on three EO dimensions. The size effects are substantial and robust across models. Namely, the higher the growth rate in the last three years relative to competitors, the greater the degree of proactiveness, risk taking and innovativeness are observed among the family firms. The finding related to firm size also warrants some discussion. Table 6 establishes that firm size is positively associated with innovativeness, attaining statistical significance at the 0.001 level, meaning that larger family firms are more innovative. Generation in control attains high statistical significance in conditioning risk-taking yet does not have a significant effect on the other dimensions. That means risk taking tendencies decrease significantly in firms that are run by later generation CEOs. We performed an additional robustness check to verify our main findings. Because two of our three measures reliability is lower than the suggested threshold of Cronbach's alpha value of 0.70, we conducted an exploratory factor analysis to determine the latent dimensions that drive the EO of our respondents. Confirming the validity of our constructs, for each dimension under analysis, the factor analysis retained only a single factor with Eigenvalue over 1. Next, in Tables A1, A2 and A3 (Appendix), we estimated our main models using the retained factors as the dependent variables. The results are fully in line with our main findings and lend further credence to our hypotheses H1a-b-c, H2a, H3a and H4b.

5. Discussion and conclusions

This study examined the role of environmental dynamism in driving different EO dimensions in family firms, and how these relationships are moderated by organizational-level (the degree of family control and influence) and country-level (uncertainty avoidance and in-group collectivism) dimensions. In line with the EO literature (Rauch *et al.*, 2009; Ruiz-Ortega *et al.*, 2013), our main findings suggest that a dynamic market triggers EO in all three dimensions, suggesting that the environment surrounding the family firm has an important impact on its strategic posture.

Our findings also show that family firms' strategic response to environmental dynamism depends on organizational-level and national-level variables. First, we show that family firms with higher family influence and control respond to environmental dynamism with higher innovativeness. Research that investigates both internal and external factors influencing EO in family firms is scarce. With this finding, we contribute to research in this area, particularly extending the findings of Cruz and Nordqvist (2012) suggesting that the relationship between environmental factors and EO in family firms depends on the generation in charge. Our study highlights the role of family control and influence in this relationship and contributes to the argument that the relationship between the external environment and EO may depend on internal characteristics of the family firm. We moreover found a positive moderating role of family control and influence, which is surprising given that most studies report lower levels of EO with higher family influence (Hernández-Linares and López-Fernández, 2018). This finding suggests that the impact of family control and influence on EO is not straightforward and should be investigated by taking into account the external environment in which the family firm operates. Recent developments in EO research also point to the importance of the concept of "fit" among environmental and organizational variables to improving performance (Casillas *et al.*, 2010). Drawing from institutional theory, our study extends this literature by demonstrating how family firms may switch between family and entrepreneurial logics to fit with their external environment.

Additionally, our findings demonstrate how culture influences the link between environmental dynamism and EO. Rapidly shifting environmental dynamics cause family firms to operate significantly more pro-actively and engage in more innovative activities in cultures where individuals are generally comfortable with uncertain conditions. Similarly, we find that in countries with lower collectivist cultures, environmental changes strongly encourage innovative behaviors among family firms. Answering previous calls for research (Hernández-Linares and López-Fernández, 2018), these findings contribute to the literature on cross-cultural studies in family firms by enhancing our understanding of how the family's nationality and culture may affect EO in family firms. We specifically show how the cultural background of family firms influences family firms' perceptions and interpretations of the external environment and shape their entrepreneurial responses.

The study of EO in the context of family businesses is particularly intriguing since it is characterized by specific influences from the owning family on the company and entrepreneurial activities that may affect many EO characteristics. Recently, mixed findings in family firm literature have led researchers make various attempts to understand this complex phenomenon using longitudinal data (Block, 2012; Miller and Le Breton-Miller, 2011), exploring nonlinear links (Bauweraerts and Colot, 2017; Sciascia *et al.*, 2013) and developing taxonomies (Kraus *et al.*, 2018; Stanley *et al.*, 2019). Our study aimed to expand on previous investigations of antecedents of EO bringing into the debate the importance of the interaction of variables at different levels, specifically integrating the cultural context with the environment and the family firm across a broad multi-country sample. Our findings overall support the idea that EO is contextually embedded (Engelen *et al.*, 2015; Wang *et al.*, 2021). This is in line with several studies that mention the importance of context in explaining EO and consider it as a contextually embedded process (Gaddefors and Anderson, 2017; Stirzaker *et al.*, 2021). Overall, according to our research, EO is a complex phenomenon that is influenced by the combination of institutional and environmental elements. Our study takes advantage of the benefits of a multi-country design to add to our understanding of how EO is accomplished in family businesses around the world.

We also contribute to the debate about the importance of including formal and informal institutional aspects when analyzing different strategies and entrepreneurial dynamics of family businesses (Leaptrott, 2005). Indeed, family businesses are influenced not only by their own internal family dynamics, but also by the broader cultural context in which they operate.

Different cultures play a significant role in shaping the behavior and practices of family businesses such us their strategic posture through their levels of EO. We thus contribute to institutional theory in the context of family firms (Soleimanof *et al.*, 2018) by suggesting that family businesses are not only influenced by the cultures in which they operate, but also by the institutional frameworks that govern their behavior. In general, the connection between institutional theory, family companies, and cultures emphasizes how crucial it is to comprehend the external environment in which family enterprises operate. Researchers and practitioners can create strategies that are better suited to the particular problems and opportunities of family company by studying the cultural and institutional aspects that drive family enterprises.

5.1 Practical implications

Our research has important practical implications. Findings imply that family firm managers should carefully interpret the influence of their national culture on family firm behavior. For example, family firm managers in high uncertainty avoidance cultures should be aware of the disadvantages produced by this element of their national culture and take proactive steps to cultivate a corporate entrepreneurial culture. Similarly, family firms operating in highly collectivist cultures should focus on additional firm-level mechanisms to encourage innovative behaviors. In other words, managers should be able to find ways to compensate for the negative impact of the national culture in which they operate. In addition, family firm managers should understand the importance of the environment surrounding the family firm, as different levels of EO are needed depending on the level of environmental dynamism; high level of EO may be a prerequisite for achieving competitive advantage in dynamic environments.

5.2 Limitations and future research directions

Our study has a few limitations that also provide opportunities for future research. First, we rely on single-source data collected from CEOs to evaluate all research variables, except for cultural dimensions gathered from the GLOBE database. However, data collection from over 28 countries as well as our use of different levels of analysis is likely to reduce the single-source bias significantly. Avolio *et al.* (1991, p. 584) state that, "the basis for investigation is that single-source information is not necessarily artifactual, particularly when different methods, including different levels of analysis, constructs, or time intervals between the measurement of constructs are used". Nevertheless, future research should take into consideration multiple data sources to increase the validity of findings. Second, our use of CEO self-report to evaluate firm-level EO may be considered a limitation of the study. Although using self-report measures is a common practice in EO research, future studies should evaluate EO with objective measures or self-report of multiple managers. Third, our conceptualization of national culture only involves two societal practices, namely uncertainty avoidance practice and in-group collectivism practice. Future studies should define culture more broadly and analyze how different elements of the national culture, such as values and practices, may impact EO. Future research may also focus on how different levels of culture, namely national and organizational-levels may interact to predict EO. Finally, this study does not use a representative sample; therefore, generalizability of our results could be questioned.

Note

1. The data source is "GLOBE phase 2 aggregated society level data for society culture" (https://globeproject.com/study_2004_2007#data)

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Appendix

Variables	finnovativen (1)	(2)	(3)	(4)
CEO gender	0.05	0.05	0.06	0.06
	(0.07)	(0.07)	(0.07)	(0.07)
CEO tenure	0.00	0.00	−0.01	−0.01
	(0.01)	(0.01)	(0.02)	(0.02)
CEO education	0.02	0.02	0.02	0.02
	(0.02)	(0.02)	(0.02)	(0.02)
CEO generation	−0.03	−0.02	−0.03	−0.04
	(0.03)	(0.03)	(0.03)	(0.03)
Firm size	0.04**	0.04**	0.05***	0.05***
	(0.02)	(0.02)	(0.02)	(0.02)
Firm growth	0.21****	0.21****	0.19****	0.20****
	(0.04)	(0.04)	(0.04)	(0.04)
Family control and influence	0.02	−0.13	0.02	0.02
	(0.03)	(0.08)	(0.03)	(0.03)
Environmental dynamism	0.30****	0.05	0.99****	−0.52**
	(0.04)	(0.13)	(0.27)	(0.24)
Family control and influence × Environmental dynamism		0.06**		
		(0.03)		
In-group Collectivism × Environmental dynamism			−0.13**	
			(0.05)	
Uncertainty Avoidance × Environmental dynamism				0.21****
				(0.06)
Constant	−1.65****	−1.06***	−1.60****	−1.41****
	(0.28)	(0.41)	(0.29)	(0.29)
Country FEs	*YES*	*YES*	*YES*	*YES*
Observations	1,166	1,166	1,114	1,114
R-squared	0.167	0.170	0.172	0.175

Note(s): Robust standard errors in parentheses
****$p < 0.001$, ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$
Source(s): Created by authors

Table A1. Innovativeness –Latent dimensions

Variables	fproact (1)	(2)	(3)	(4)
CEO gender	0.13*	0.13*	0.14*	0.14*
	(0.08)	(0.08)	(0.08)	(0.08)
CEO tenure	0.02	0.02	0.02	0.02
	(0.01)	(0.01)	(0.02)	(0.02)
CEO education	0.02	0.02	0.02	0.02
	(0.02)	(0.02)	(0.02)	(0.02)
CEO generation	−0.00	−0.00	−0.00	−0.00
	(0.04)	(0.04)	(0.04)	(0.04)
Firm size	−0.00	−0.00	0.00	0.00
	(0.02)	(0.02)	(0.02)	(0.02)
Firm growth	0.33****	0.33****	0.33****	0.33****
	(0.04)	(0.04)	(0.04)	(0.04)
Family control and influence	−0.05	−0.06	−0.05*	−0.05*
	(0.03)	(0.07)	(0.03)	(0.03)
Environmental dynamism	0.19****	0.16	−0.26	0.59**
	(0.03)	(0.13)	(0.24)	(0.25)
Family control and influence × Environmental dynamism		0.01		
		(0.03)		
In-group Collectivism × Environmental dynamism			0.11*	
			(0.06)	
Uncertainty Avoidance × Environmental dynamism				−0.08
				(0.05)
Constant	−1.65****	−1.59****	−1.53****	−1.63****
	(0.28)	(0.39)	(0.29)	(0.29)
Country FEs	*YES*	*YES*	*YES*	*YES*
Observations	1,166	1,166	1,114	1,114
R-squared	0.176	0.176	0.181	0.180

Table A2. Proactiveness –Latent dimensions

Note(s): Robust standard errors in parentheses
****$p < 0.001$, ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$
Source(s): Created by authors

Variables	frisk (1)	(2)	(3)	(4)
CEO gender	0.03	0.03	0.03	0.03
	(0.08)	(0.08)	(0.08)	(0.08)
CEO tenure	0.01	0.01	0.00	0.01
	(0.01)	(0.01)	(0.01)	(0.01)
CEO education	0.01	0.01	0.01	0.01
	(0.02)	(0.02)	(0.02)	(0.02)
CEO generation	−0.13****	−0.13****	−0.13****	−0.13****
	(0.04)	(0.04)	(0.04)	(0.04)
Firm size	0.02	0.02	0.02	0.02
	(0.02)	(0.02)	(0.02)	(0.02)
Firm growth	0.27****	0.27****	0.26****	0.26****
	(0.04)	(0.04)	(0.04)	(0.04)
Family control and influence	−0.01	−0.07	−0.01	−0.01
	(0.03)	(0.09)	(0.03)	(0.03)
Environmental dynamism	0.17****	0.07	0.37	−0.21
	(0.04)	(0.14)	(0.27)	(0.27)
Family control and influence × Environmental dynamism		0.02		
		(0.04)		
In-group Collectivism × Environmental dynamism			−0.04	
			(0.05)	
Uncertainty Avoidance × Environmental dynamism				0.09
				(0.07)
Constant	−1.17****	−0.95**	−1.11****	−1.02****
	(0.28)	(0.42)	(0.29)	(0.30)
Country FEs	*YES*	*YES*	*YES*	*YES*
Observations	1,166	1,166	1,114	1,114
R-squared	0.143	0.144	0.140	0.141

Note(s): Robust standard errors in parentheses
****$p < 0.001$, ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$
Source(s): Created by authors

Table A3.
Risk taking–Latent dimensions

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