Article

International Small Business Journal:
Researching Entrepreneurship
2019, Vol. 37(2) 153–185

DOI: 10.1177/0266242618811893
journals.sagepub.com/home/isb
SAGE

Autonomy and family business performance: The joint effect of environmental dynamism and national culture

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Abstract

Building on the entrepreneurial orientation (EO) literature, we investigate the relationship between family firm performance and autonomy, a key EO dimension. To enhance the understanding of the role of autonomy, we compare the joint impact of environmental dynamism and national cultural context (performance-based vs socially supportive cultures) on the autonomy–performance relationship of family firms in the United States and Taiwan. Using a configurational approach and data from 130 family firms (53 in the US and 77 in Taiwan), we found that in dynamic environments, autonomy is associated with improved performance in the United States, while in Taiwan, firms in dynamic environments fared worse with increasing autonomy. We discuss the implications of these findings and provide recommendations for future research.

Keywords

autonomy, configuration, culture, entrepreneurial orientation, family business

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Introduction

Does autonomy in family firms contribute to entrepreneurial success? Building on extant theory (e.g. Burgelman, 1983; Hart, 1991), Lumpkin and Dess (1996: 140) offered that autonomy – the freedom of individuals and teams to exercise their creativity and champion promising ideas for entrepreneurial development – is an important dimension of a firm's entrepreneurial orientation (EO). Although prior research generally supports a positive EO–performance relationship (e.g. Rauch et al., 2009), the role of the autonomy dimension in family firm success remains unanswered and paradoxical (Ingram et al., 2016; Short et al., 2009). On one hand, family businesses provide a fertile ground for autonomy in part because, as employers, they provide a setting where loyalty and trust can flourish, leading to higher levels of autonomous decision making on the part of their employees (e.g. Neckebrouck et al., 2018; Pittino et al., 2016). On the other hand, family firms have a reputation for being closed systems that stifle out-of-the-box thinking (Dyer, 1988). Close working relationships among family members in the dominant coalition can create dependencies and constraints that limit autonomous action, thereby creating the tensions typical of family firms (Ingram et al., 2016). Although it has been argued that autonomy is important to the long-term effectiveness that most family firms seek (Burgelman, 2001; Lumpkin et al., 2010), little is known about the impact of autonomy on family firm performance.

Given heterogeneity among family firms (Chrisman et al., 2013; Chua et al., 2012), it is important to gain a deeper understanding of how autonomy affords firm members and employees, operating within a family system, the independence needed to explore opportunities and make decisions that advance entrepreneurial initiatives. Whether different levels of autonomy help explain variations in family firm performance may depend on factors in the cultural and business environment. Prior EO research has highlighted the importance of different environments for understanding the EO–performance relationship more precisely (e.g. Rauch et al., 2009). For example, in dynamic environments where many family firms compete (Naldi et al., 2007; Zahra, 2005), increased decision-making speed has been found to be beneficial for performance (Eisenhardt, 1989; Garg et al., 2003). National culture may also alter the autonomy–performance relationship. In cultures with high individualism, autonomous behaviour may be more highly valued compared to autonomy in collectivistic cultures (Hofstede, 1984). This suggests, consistent with prior research, that a configurational analysis employing multiple variables may be needed to understand the autonomy–performance relationship (e.g. Lumpkin and Dess, 1996). Therefore, the aim of our article is to investigate the relationship between autonomy and performance among family firms experiencing contrasting cultural contexts and varying levels of environmental dynamism.

Our research contributes to the literature in at least four ways. First, we explore family businesses in a cross-cultural setting, thereby addressing the dearth of studies in the area (Lumpkin et al., 2009; Short et al., 2009). While there has been some research examining aspects of family businesses cross-nationally (e.g. Chakrabarty, 2009; Gupta et al., 2011), we know of no study that has examined whether cultural context exerts a moderating influence on the autonomy–performance relationship. Second, we also heed the call for more configurational models (Short et al., 2008; Wiklund and Shepherd, 2005) by researching how multivariate combinations of environmental dynamism and national culture affect the relationship between autonomy and performance. As argued by Kulins et al. (2016), configurations are crucial because they 'allow narrowing down an overwhelming mass of data' into something more manageable (p. 1437).

Third, given the unique role of trust and loyalty in family businesses (Eddleston and Kellermanns, 2007) which employ about 60% of the global workforce (Neckebrouck et al., 2018), the insights about autonomy derived from this study deepen our understanding of human resource management and strategic practices in family firms (Miller and Le Breton-Miller, 2006; Pittino et al., 2016).

Such insights are especially critical in the light of the importance of various aspects of autonomy in terms of success of family firms in areas such as launching of new businesses (Brumana et al., 2017), long-term sustainability (Zellweger and Sieger, 2012) and successor commitment to the family firms (Cabrera-Suarez and Martin-Santana, 2012).

Finally, we also contribute to the dearth of cross-cultural studies in family businesses. By comparing family firms from a performance-based culture with firms from a socially supportive culture (Stephan and Uhlaner, 2010), we also contribute to the literature on the heterogeneity of family businesses by providing a context to investigate the extent to which autonomy is a source of heterogeneity in the same way that family goals, governance, and resource differences are (Chrisman et al., 2013; Chua et al., 2012). Such findings shed more light on the role of national cultures as they relate to autonomy.

Our article proceeds as follows. First, we review the literature related to autonomy and family business, and the concepts of environmental dynamism and national culture. We develop three hypotheses based on configurations of autonomy, dynamism and culture that address the extent to which context influences the autonomy–performance relationship. Then, using data from small family businesses in the United States and Taiwan, we test the hypotheses and discuss the results. We conclude with implications for researchers and family business practitioners.

Theory and hypotheses

Autonomy in family businesses

In an entrepreneurial context, autonomy refers to 'the freedom and flexibility to develop and enact entrepreneurial initiatives' (Lumpkin et al., 2009: 47). Because of its importance to new venture development and entrepreneurial value creation (Burgelman, 1983, 2001), Lumpkin and Dess (1996) argued that it is a 'crucial' dimension of EO (p. 141), particularly the autonomy to define problems and opportunities, set priorities concerning those problems and the authority to take actions to provide solutions. Autonomy has not been widely explored in extant entrepreneurship research (Lumpkin et al., 2009; Short et al., 2009). It has received less attention, in part, because the original EO conceptualisation (Miller, 1983) and measurement scales (Covin and Slevin, 1989) omitted autonomy. Nevertheless, there is considerable theoretical and empirical support for the importance of autonomy to entrepreneurial success.

As with the other dimensions of EO, the theoretical roots of autonomy can be found in the strategy-making process literature. In his research on corporate venturing, Burgelman (1983) studied the processes by which product champions and other internal actors were vital to entrepreneurial growth, concluding, 'the motor of corporate entrepreneurship resides in the autonomous strategic initiative of individuals at the operational levels in the organization' (p. 241). Autonomy was also a key focus of Hart's (1991) strategy-making process research which identified four modes of strategy making, including a generative mode where 'new product ideas emerge upward from the firing line and employee initiatives shape the firm's strategic behavior' (p. 110). Mintzberg (1973), who identified an entrepreneurial mode as one of three strategy-making modes, emphasised decisiveness and action in the face of uncertainty among the key characteristics of an autonomous entrepreneurial leader. Lumpkin and Dess' (1996) discussion of autonomy draws on both these perspectives, acknowledging its importance for corporate entrepreneurship and for its role in new entry by entrepreneurial founders.

The latter point about business ownership is especially important when considering autonomy in the context of family business. Along with its importance to EO, autonomy is also used in the management literature in the context of decentralised decision making (Taggart, 1997) and work

group methodology (Gulowsen, 1972). Most uses of autonomy in the family business literature refer to these types of structural and governance issues; it is rarely discussed as a strategic or entrepreneurial attribute. Family businesses present their own unique implications for autonomy, as they have dynamics that may simultaneously enable and constrain autonomy. On one hand, family businesses often have more open communications among family members and are more likely to have trustworthy employees as suggested by stewardship theory (Corbetta and Salvato, 2004). As a result, family businesses would seem a ripe area for autonomy as it entails giving organisation members decision-making latitude, which requires trust. Even though granting autonomy raises agency cost issues, research suggests such costs may be lower in family firms (Chrisman et al., 2004), making the setting more favourable for autonomy. On the other hand, granting autonomy could weaken the owner's dominance, which could lead the owner to limit the autonomy of employees (Short et al., 2009). Because of the impulse to protect family tradition, values, legacy or socioemotional wealth, family firms can be more autocratic, risk averse and centrally controlled (Dyer and Handler, 1994; Gómez-Mejía et al., 2007). Under such circumstances, there may be little room for others to exercise autonomy (Feltham et al., 2005). Given these tensions, one purpose of this study is to compare the influence of autonomy on family firm performance outcomes.

Beyond the family business context, despite an abundance of research on subsidiary autonomy of multinationals (Beugelsdijk and Jindra, 2018), there is also scant discussion of employee autonomy as a topic in international business (Hirst et al., 2008). Autonomy-related issues can be found, however, in national culture research. For example, in cultures characterised by paternalism, there is very little support for bottom-up strategies or autonomous decision making by lower level employees (Aycan et al., 2013; Chirico and Nordqvist, 2010). In collectivist societies, even though many members of the society may be involved in decisions, they typically do not favour autonomous action by individuals challenging the status quo (Gelfand et al., 2004). By contrast, individualistic societies tend to reward independent thinking and action (Gelfand et al., 2004). These cultural and institutional forces operate as structural constraints in the use of autonomy, but autonomy itself rarely discusses in international management and entrepreneurship research.

Table 1, which identifies articles that address autonomy, confirms the scant attention to autonomy in the literature. It holds a chronology of 27 studies regarding autonomy and its relationship to variables of interest. EO is the most prevalent theoretical lenses used to examine autonomy, with 17 of the 27 studies using EO. Only two studies, however, addressed cross-cultural issues. Neither of these two studies involved family firms, however. Indeed, only five of the 27 studies involved family firms. Eight of the 27 studies investigated autonomy's relationship with performance, with five studies finding no relationship, one study finding a negative relationship and two studies finding a positive relationship.

With regard to empirical findings related to autonomy as an EO dimension, the results have been mixed. Studies by Chen et al. (2015) and Jancenelle et al. (2017) found a positive relationship between autonomy and performance outcomes, but studies by Hughes and Morgan (2007) and Lechner and Gudmundsson (2014) found no significant autonomy–performance relationship. Because this arena is somewhat paradoxical and features mixed research findings (e.g. Short et al., 2009; Zellweger and Sieger, 2012), the purpose of this research is in part to investigate alternative explanations underlying the autonomy–performance relationship. As a dimension of EO, autonomy partakes in its underlying theoretical assumption that higher levels of EO, in appropriate configurations with other key factors such as strategy, structure and environment, will contribute positively to performance outcomes as was found in Rauch et al.'s (2009) meta-analysis. Because Rauch and others suggest relationships to performance are likely complex and may depend on conditions in the environment of the business, we submit that a multivariate configuration approach may be needed to understand autonomy more clearly. Considering autonomy's roots in the strategy-making process

Table 1. A chronology of 27 autonomy studies and findings.

Author (year)	Argument	The role of autonomy	Autonomy measure	Sample	Design	Findings related to autonomy
Shane et al. (1995)[a]	Hofstede's national culture, innovation championing	DV: Preferences for championing strategies (autonomy is a subdimension)	Eight items (p. 941)	Survey of 1,228 individuals from 30 countries	Cross-sectional, quantitative	Uncertainty avoidance was significantly and negatively related to autonomy
Taggart (1997)	Subsidiary strategy	A measure for cluster analysis	Six items for decision-making autonomy (p. 72)	The primary survey of a random sample of 171 foreign manufacturing firms in the United Kingdom	Cross-sectional, quantitative	Decision-making autonomy and procedural justice are used to form four types of subsidiaries
Dant and Gundlach (1999)	Agency theory, resource dependence theory, locus of control and countervailing power premise	DV	Five items (p. 67)	Sample of 176 fast food franchisees in the Southeastern United States, with interviews using structured questionnaires	Cross-sectional, quantitative	Competition lowers desire of franchisees for autonomy. Success (dollar sales) is negatively related to autonomy
Birkinshaw et al. (2005)	Porter's theory of competitive strategy	Autonomy used as a proxy of entrepreneurship	One item (p. 237)	Interviews and survey of 24 subsidiary companies in manufacturing in Scotland	Case study and surveys, mixed methods	Subsidiaries in internally focused competitive environments have relatively low autonomy and subsidiaries in externally focused competitive environments have high autonomy
Jambulingam et al. (2005)	Resource-advantage theory	A measure for cluster analysis	Four items (p. 39)	Survey of a random sample of 251 retail pharmacies in the United States	Cross-sectional, quantitative	Autonomy is high in the clusters of 'true entrepreneurs' and 'low-risk entrepreneurs'
Hughes and Morgan (2007)	EO	IV: Autonomy as one of the five dimensions of EO	Six items (p. 659)	Survey of a random sample of 211 young high-technology firms in the United Kingdom	Cross-sectional, quantitative	Autonomy is not significantly related to product performance or customer performance, suggesting no business performance value at this very young stage of firm growth

(Continued)

Table 1. (Continued)

Author (year)	Argument	The role of autonomy	Autonomy measure	Sample	Design	Findings related to autonomy
Paik and Choi (2007)[a]	Agency theory, marketing channel theory and resource dependence theory	Autonomy vs control in franchising	NA	42 interviews of franchisors and franchisees in the United States, Iceland, Ireland, the United Kingdom, Belgium and the Netherlands	Case study, qualitative	There are substantial differences between US and international franchising in terms of driving forces on control vs autonomy dynamics
Cochet et al. (2008)	Agency theory	IV: Franchisee autonomy	Four items (p. 72)	Survey of a sample of 208 franchisees operating in Germany	Cross-sectional, quantitative	Franchisee autonomy is positively and significantly related to relational governance and is moderated by number of outlets, franchisee success and intra-chain competition
Styles and Genua (2008)	A precise model with three phases (entrepreneurial events, pre-internationalisation events and internationalisation events)	Autonomy as one of the five dimensions of EO	NA	In-depth interviews with four high-technology firms in Australia	Case study, qualitative	Autonomy is not required for all entrepreneurial activities. However, product champions (only needing few, not all individuals in a firm) are important to be successful internationally
Short et al. (2009)[b]	EO in family vs non-family firms	IV: Autonomy as one of the five dimensions of EO	Word list (CATA, p. 16)	S&P 500 firms in the United States	Cross-sectional, quantitative	Compared to non-family businesses, family businesses have lower levels of autonomy
Short et al. (2010)	EO	IV: Autonomy as one of the five dimensions of EO	Word list (CATA, p. 333)	S&P 500 and Russell 2000 firms in the United States	Cross-sectional, quantitative	Autonomy has no significant impact on Tobin's Q

Table 1. (Continued)

Author (year)	Argument	The role of autonomy	Autonomy measure	Sample	Design	Findings related to autonomy
Scott et al. (2010)	Subsidiary EO	IV: Subsidiary autonomy, including product autonomy and structural autonomy	Six items (p. 334)	24% survey response rate of 1,100 multinational corporation subsidiaries located in Ireland	Cross-sectional, quantitative	EO (three dimensions) at the subsidiary unit fully mediates the effect of subsidiary autonomy on strategy creativity, initiative and performance. No direct impact is from autonomy on the three dependent variables
Casillas and Moreno (2010)[b]	Family involvement	IV: Autonomy as one of the five dimensions of EO	One item (p. 278)	Survey of 449 firms from Spanish public database of companies	Cross-sectional, quantitative	Autonomy has no significant impact on firm growth, neither as main effect nor as interacting with family involvement
Zachary et al. (2011)	Organisational identity	IV: Autonomy as one of the five dimensions of EO	Word list (CATA, p. 637)	A sample of Franchise 500 firms and a random sample of non-franchise firms	Cross-sectional, quantitative	Compared to non-franchise 500 firms, Franchise 500 have significantly higher levels of autonomy
Blut et al. (2011)	U-curve theory and life cycle theory	DV	Three items (p. 317)	Survey of 2,668 franchisees from 54 franchise systems in Germany	Cross-sectional, quantitative	Findings demonstrated a U-shaped level of autonomy, with high level of autonomy during honeymoon and stabilisation periods, and lower levels during routine and crossroad periods
Vora et al. (2012)	EO	Autonomy as one of the five dimensions of EO	NA	Interview of five executives from a medium-sized firm in the United States	Case study, qualitative	Employee stock option programme and flat organisational structure are key organisation artefacts that facilitate autonomy

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Table 1. (Continued)

Author (year)	Argument	The role of autonomy	Autonomy measure	Sample	Design	Findings related to autonomy
Zellweger and Sieger (2012)[b]	EO in family firms	Autonomy as one of the five dimensions of EO	NA	In-depth qualitative case studies from Successful Transgenerational Entrepreneurship Practices (STEP) project in Switzerland	Case study, qualitative	High levels of external autonomy (i.e. 'independence from external stakeholders', p. 74) are more emphasised. The long-lived family firms have high external autonomy across time. Also, when later generations join the business, internal autonomy ('empowering individuals and teams', p. 74) increases
Boso et al. (2012)	Organisational ambidexterity and dynamic capability	IV: Export entrepreneurial-oriented behavior – Export autonomous behaviour as one of the five dimensions	Three items (p. 672)	Survey of a sample of 212 British exporters	Cross-sectional, quantitative	Export autonomous behaviour is part of the composite score of an overarching EOB construct. In the correlation table, the relationship between export autonomous behaviour and new product performance is implicit
Boso et al. (2013)	Strategic orientation	IV: Autonomy as one of the five dimensions of EO	Three items (p. 717)	Survey of a sample of 203 entrepreneurial firms in Ghana	Cross-sectional, quantitative	Autonomy is part of the composite score of an overarching EO construct. In the correlation table, autonomy is marginally and positively related to sales performance and has a significant, positive relationship with profitability
Lechner and Gudmundsson (2014)	EO and competitive strategy	IV: Autonomy as one of the five dimensions of EO	Not explicit on items (p. 45)	Survey of a random sample of 117 firms in Iceland	Cross-sectional, quantitative	Autonomy has a positive impact on differentiation but a negative impact on cost leadership. Both differentiation and cost leadership have positive impacts on firm performance but no direct impact from autonomy to performance

Table 1. (Continued)

Author (year)	Argument	The role of autonomy	Autonomy measure	Sample	Design	Findings related to autonomy
Chen et al. (2015)	Information processing theory	IV: Team autonomy	Three items (p. 88)	Survey of a sample of 212 new product development team leaders from 86 companies in the United States	Cross-sectional, quantitative	Team autonomy is positively related to development speed, development cost and product success
Hakala et al. (2016)	Structural contingency theory	Moderator: Subsidiary decision-making autonomy	10 items (p. 111)	294 foreign-owned Finnish subsidiaries	Cross-sectional, quantitative	Subsidiary decision-making autonomy is the boundary condition of EO to international new entries. In the condition of high rather than low autonomy, high EO is associated with high new-entry initiatives. A configuration model shows low autonomy with formal structure positively enhances the positive relationship between EO and new-entry initiatives
Vega-Vázquez et al. (2016)	EO and marketing orientation	IV: Autonomy as one of the five dimensions of EO	Two items (p. 5091)	Survey of a sample of 70 independent hotels in Spain	Cross-sectional, quantitative	Autonomy is one formative factor of an overarching EO construct. In the correlation table, the relationship between autonomy and performance is implicit
Boso et al. (2017)	International EO, absorptive capability and knowledge-based view	IV: Autonomy as one of the five dimensions of EO	Five items (p. 13)	Survey of a random sample of 214 small and medium-sized enterprises in Ghana	Multi-source longitudinal design	Autonomy is negatively correlated with regional expansion. As autonomy interacts with channel management capability, the effect to regional expansion turns positive and stronger

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Table 1. (Continued)

Author (year)	Argument	The role of autonomy	Autonomy measure	Sample	Design	Findings related to autonomy
Jancenelle et al. (2017)	Efficient market and incremental useful information perspective	IV: Autonomy as one of the five dimensions of EO	Word list (CATA, p. 359)	Stratified sample of S&P 500 firms traded on The New York Stock Exchange and 339 usable conference call transcripts in the United States	Cross-sectional, quantitative	Autonomy is the most significant finding in this study, confirming the cues of autonomy have positive impact on the same-day stock price
Kallmuenzer et al. (2018)[b]	Agency theory and socioemotional wealth	IV: Autonomy as one of the five dimensions of EO	Three items (p. 865)	Survey of a sample of 180 family firms in Western Austria	Cross-sectional, quantitative	For the main effect, autonomy has marginally and significantly positive impact on performance. Regarding contingency effect, autonomy interacting with control mechanisms positively affects performance
Peters and Kallmuenzer (2018)[b]	EO	Autonomy as one of the five dimensions of EO	NA	17 interviews conducted with family owner-managers of hospitality family firms throughout the state of Tyrol, Western Austria	Case study, qualitative	Autonomy as positive and important traits to successfully run a family business. External autonomy is considered more present in family firms than internal autonomy. Also, no sign indicates autonomy is becoming less important over generations or shifts from external to internal autonomy

EO: entrepreneurial orientation; CATA: computer-aided text analysis; IV: independent variable; DV: dependent variable; NA: not applicable or not available. This table may not be exhaustive but shows the dearth of autonomy literature and relevance to our study.

[a]Means cross-cultural studies (totally, two studies).

[b]Indicates family business studies (totally, five studies).

literature, it is notable that strategy making has been especially important in configurational approaches to understanding performance as suggested by Miller (1987) who stated,

> Aspects of strategy, structure, and environment configure to form integrated wholes whose parts support and take significance from the entire configuration … [I]mportant relationships among the variables composing structure and strategy making indeed exist and often have crucial implications for performance. (p. 27)

Given that the national cultural context in our study roughly corresponds to a structural consideration, this quote is particularly salient for the current study. Finally, interestingly, we believe the international context may be a particular helpful arena in which to investigate these questions in part because of research that suggests autonomy may be different in global settings. In a study of rapid internationalisation by high-tech firms, Styles and Genua (2008) found that the companies that successfully internationalised were those where product champions were encouraged to be autonomous and take independent action.

Dynamism on the autonomy and performance relationship

The influence of environmental dynamism on firm performance has been investigated in the management and entrepreneurship literature for decades (e.g. Child, 1972; Miller and Friesen, 1982). Dynamism, which refers to the rate, speed and instability of change in an environment (Garg et al., 2003; Sheehan et al., 2016), was identified as one of the most important environmental dimensions for understanding contingency relationships (Dess and Beard, 1984; Ensley et al., 2006). For example, literature on the structure–performance relationship found that the fit or alignment of structural attributes and environmental factors such as dynamism are useful for understanding organisational outcomes (Burns and Stalker, 1961; Lawrence and Lorsch, 1967). A highly dynamic environment is characterised by low predictability, swift changes, life cycles of shorter market offerings and general uncertainty (Miller and Friesen, 1982, 1983). These kinds of dynamic environments exist in markets around the world, in both developed and developing economies (Story et al., 2015). Entrepreneurship researchers argue that dynamic environments often favour entrepreneurial firms because of their ability to adapt quickly and respond to changes stemming from the demands of customers, competitors and technology advances (Covin and Slevin, 1991; D'Aveni, 1994; Zahra, 1993). Prior research has supported the view that a dynamic environment tends to positively moderate the EO–performance relationship (e.g. Casillas et al., 2011; Lumpkin and Dess, 2001). There is also evidence in the family business literature that, as environmental dynamism increases, family firms with higher levels of EO will have stronger performance (e.g. Casillas et al., 2010; Cruz and Nordqvist, 2012). However, prior EO-dynamism research has only investigated the original three dimensions of EO; none of these studies investigated autonomy. Therefore, the current study endeavours to gain a deeper understanding of dynamism by focusing on how it affects the relationship between autonomy and firm performance in family firms (Rauch et al., 2009).

The uncertainty of dynamism simultaneously increases the need for information to more effectively organise but also makes needed information less available (Aldrich, 1999; Simerly and Li, 2000). Decision makers in dynamic environments may be unable to assign probabilities to what will happen in the future, lack cause–effect information and typically do not know the consequences of decisions (Duncan, 1972; Milliken, 1987). These factors change a firm's decision-making processes and tend to make planning and organising less effective. Therefore, highly dynamic environments can negatively affect a firm's performance (Davis et al., 2009).

However, as a dimension of EO, autonomy can facilitate decision making in dynamic environments by giving firms a better ability to improvise and innovate. Autonomy involves empowering employees other than the top executive with decision-making authority. One result of decentralising

decision making is that individuals who are in the field or closer to operations and have access to critical information can take initiative or act on opportunities as they arise. Effective, rapid decision making relies on more rather than less comprehensive information in dynamic environments (Eisenhardt, 1989). Agile information gathering is facilitated by autonomy and should generally speed decision making to the extent that individuals with relevant information are empowered to act on that information (Baum and Wally, 2003; Fredrickson and Mitchell, 1984). Even centralised decision making can be sped up by autonomy as key organisational members act independently to collect information on threats and opportunities as they see fit. This information provides decision makers with a more comprehensive, relevant array of information, which allows faster decisions in settings where innovative thinking and prompt attention to entrepreneurial opportunities are needed such as dynamic environments (Talaulicar et al., 2005).

Although dynamic environments can be negative for firm performance, in firms where autonomy supports participation, open discussion and bottom-up initiatives, decision-making and organising capabilities can be developed in ways that mitigate the overall negative effects and contribute to improved performance relative to a firm's rivals. In family firms, there may be even greater advantages among those that support autonomous initiatives and decision making. By granting autonomy to family members and other employees to independently scan the environment and act on critical information, higher autonomy family firms are likely to perform better than family firms that are more autocratic (Garg et al., 2003; Kallmuenzer et al., 2018; Priem et al., 1995). Research suggests that independent subordinates who are more engaged in decision making because of their autonomy are more likely to conduct effective trial-and-error experimentation than are their more experienced superiors because they are mentally quicker to adapt (Zahra et al., 2006). For family members in particular, higher levels of autonomy are likely to be accompanied by a stronger sense of psychological ownership, thus enhancing their commitment and engagement when faced with the demands of a dynamic environment (Rantanen and Jussila, 2011). Therefore, we posit that performance will be stronger in family firms that exhibit higher levels of autonomy in dynamic environments and hypothesise the following:

> *Hypothesis 1.* Among family firms, environmental dynamism moderates the relationship between autonomy and business performance such that autonomy and business performance are more positively associated when the degree of environmental dynamism is higher.

National culture on the autonomy and performance relationship

The question of whether autonomy contributes to family firm success may depend on the cultural context in which it occurs. Prior research supports the use of EO in international settings, that is, respondents from multiple different countries have affirmed the validity of the EO dimensions (Kreiser et al., 2002). As with environmental dynamism, however, the autonomy dimensions of EO have not been included in these studies. We suggest that cultural differences may hold another key to explaining the autonomy–performance relationship as reflected in the variations that can be seen between Western and Asian family firms. Such differences stem from national culture, defined by Hofstede (1991) as 'the collective programming of the mind which distinguishes the members of one group or category of people from those of another' (p. 5). While culture has been conceptualised through several different research perspectives (e.g. Hofstede, 1991; House and Javidan, 2004), for investigating the autonomy dimension, we adopt the performance-based versus socially supportive perspective consistent with Laskovaia et al. (2017) in explaining the effects of national culture. This perspective emerged from a reanalysis of the nine cultural dimensions found by Global Leadership and Organizational Behavior Effectiveness (GLOBE) researchers (House and Javidan,

2004), which identified the existence of second-order factors, namely, performance-based cultures and socially supportive cultures (Peterson and Castro, 2006; Stephan and Uhlaner, 2010). This approach enables researchers to consider multiple cultural dimensions concurrently and is also compatible with contrasting country-level data for evaluating the extent to which national culture influences the autonomy–performance relationship.

According to Stephan and Uhlaner (2010), the performance-based culture can 'be described as a culture that rewards individual accomplishment … and in which systematic, future-oriented planning is viewed as a key to achieving high performance' (p. 1351). Performance-based cultures emphasise individual accomplishments and tend to favour competition and independence (Laskovaia et al., 2017). We argue that such characteristics of the performance-based culture will enhance the effects of autonomy on performance in family firms. Because societal members tend to behave in ways that are consistent with expectations, the emphasis on individual achievement and performance typifying performance-based cultures should provide societal members with the cultural context to fully benefit from autonomy in their quest for personal achievement. In addition, the preference for performance will also encourage societal members to act on the autonomy they are being afforded to make the necessary changes to improve performance. Furthermore, the performance-oriented cultures also tend to have high levels of individualism. Such societies tend to 'emphasize autonomy and individual freedom' (Schmitt and Frese, 2011: 265). Hofstede (2001) argues that in the workplace, high individualism is associated with a focus on the employee where individual decisions are favoured, and employees perform best independently. Thus, we believe that high individualism will manifest itself as individuals taking autonomous actions to enhance performance without fully coordinating with other members of the organisation.

In contrast, in socially supportive cultures, the norms are based on 'repeated experiences of supportiveness and helpfulness' (Stephan and Uhlaner, 2010: 1351); the values of reciprocity and loyalty as well as fairness are prevalent (Martin et al., 2013). In such societies, people tend to be very friendly with and supportive of each other, and such support even extends for mistakes. The overarching values of such societies tend to emphasise the need to collaborate and live together to satisfy societal norms and expectations. We posit that the autonomy–performance relationship will be attenuated in socially supportive societies. Rather than favouring independence, socially supportive societies tend to emphasise cooperation, and autonomy is less likely to fit cultural preferences. We therefore believe that more socially supportive societies will see a negative relationship between autonomy and performance as higher levels of autonomy will isolate societal members from critical support that may enhance performance. In addition, social supportive societies tend to be characterised by low individualism (or its converse, high collectivism) and are reflected in strong family ties, cohesion and strong family involvement (Schmitt and Frese, 2011). Such preferences suggest that the socially supportive societies are more likely to use a type of 'top-down' autonomy, where the actions of autonomous groups are closely sanctioned by firm leadership (Lumpkin et al., 2009). Even when firms in collectivistic societies grant autonomy, the empowered individuals still spend more time gathering peer support before taking action (Shane et al., 1995). This slows down decision making and decreases the likelihood of taking bold action. Given the above, we hypothesise the following:

Hypothesis 2. Compared to family firms in socially supportive cultures, family firms in performance-based cultures have a more positive autonomy–performance relationship.

Configurations of autonomy, environmental dynamism and national culture

Prior research indicates that multivariate configurations may be useful for effectively predicting performance in settings where firm outcomes are determined by complex interactions (e.g. Miller,

1983, 1988). As such, using a multivariate, configurational approach may explain more variation and better highlight the fit among variables (see Dess et al., 1997: 682, for a complete discussion). In addition to moderating hypotheses, therefore, we also propose a configurational hypothesis. As argued by Kulins et al. (2016), configurational approaches are 'helpful in narrowing down an overwhelming mass of data' (p. 1437). Studies of entrepreneurial strategy making and behaviour (e.g. Dess et al., 1997), and the performance of family firms (e.g. Spriggs et al., 2013), have found that two-way contingency relationships alone were unable to account for performance outcomes. We suggest, based on the arguments above, that to gain a clearer understanding of the autonomy–performance relationship, we need to consider unique configurations of these variables with environmental dynamism and national culture.

A highly dynamic environment is characterised by low predictability, swift changes, shorter life cycles and general uncertainty (Miller and Friesen, 1983). Because performance-based cultures tend to reward performance and individual achievement (Stephan and Uhlaner, 2010), highly dynamic situations are well suited to the individualistic manifestations of autonomy, where individuals feel empowered to take bold actions without extensive coordination with other co-workers. This is likely to accelerate decision-making speed. Furthermore, the focus on competition, performance and independence typifying such performance-based cultures provides societal members with the necessary impetus to quickly make decisions to implement corrective actions to face quickly changing circumstances. Such actions are possible as societal members do not necessarily need to worry about engaging in slower decision-making process to reach consensus. As such, it is likely that family firms in performance-based cultures are more equipped to deal with the inherent unpredictability of high dynamism because cultural norms favouring autonomous and quick actions focused on task accomplishments (Laskovaia et al., 2017) are congruent with the needs of dealing with high dynamism.

In contrast, the more collective preferences of a more socially supportive society like Taiwan mean that there is more likelihood of the need for collaboration and cooperation in making critical decisions. Socially supportive societies tend to place emphasis on 'seniority and experience, cooperative spirit, harmony, family and indirect relationships, and where who one is means more than what one does' (Laskovaia et al., 2017: 693). This may not fit well with fast-changing circumstances because in such a country context, workers are more likely to prefer to wait to consult with others about the best course of action. Furthermore, only the right individuals are potentially allowed to make such decisions. Thus, cultural norms of socially supportive societies may be less compatible with the quick actions needed to face fast-changing environments. Conversely, those societies that emphasise fast decision making and immediate business outcomes have a good fit with fast-changing environments. Hence, a socially supportive culture may generate inferior family business performance regarding autonomy and environmental dynamism. Accordingly, we hypothesise the following:

> *Hypothesis 3.* Environmental dynamism moderates the relationship between autonomy and business performance, such that for family businesses in a performance-based culture, autonomy relates to higher business performance when environmental dynamism is high but to lower business performance for those in a socially supportive culture when environmental dynamism is high.

Methods

Sample and data collection

We used a non-random, purposive sample to test the hypotheses consisting of 71 US small firms (76 firms were surveyed; response rate: 94%) and 247 Taiwanese small firms (602 firms were surveyed; response rate: 41%). The United States represents a performance-based culture

consistent with its low score on in-group collectivism (Stephan and Uhlaner, 2010). In addition, it is part of the Anglo culture cluster (Ashkanasy et al., 2002) that was found to score high on the performance-based cultures. In contrast, Taiwan was used to represent the socially supportive culture consistent with its high rating on in-group collectivism. It is also part of the Confucian Asian cluster that reflects high socially supportive cultures (Gupta et al., 2002).

Similar to Marshall et al.'s (2006) sampling strategy, we mostly relied on volunteer students to collect the data to increase participation and accuracy (e.g. Birley, 1986; Kalton and Anderson, 1986; Winter et al., 1998). Student volunteers, incentivised by course credit bonus (2% maximum), contacted their acquaintances to identify owners of these small private firms (Brown and Coverley, 1999).

For this research purpose, we operationalised the construct of family business using several criteria. First, businesses were 100% family-owned (e.g. DeNoble et al., 2007; Welsh and Raven, 2006) because full ownership has strategic implications and indicates direct control (Ward and Dolan, 1998). Second, at least one family member was in a key management position (e.g. Sorenson, 1999) to ensure family leadership. Third, lone-founder businesses were disallowed because of their questionable status as family businesses (Miller et al., 2007). These criteria allowed a focus on small-sized firms and avoided firms, which are either family-owned but not family-managed, or family-managed but not family-owned (Chua et al., 1999). The final sample included 130 firms after we applied list-wise deletion to cases with missing values and disqualified informants (e.g. employees): 53 US and 77 Taiwanese family businesses.

The instrument used to survey firms was adapted from the entrepreneurship literature (e.g. Naman and Slevin, 1993) and a U.S. survey of family businesses (e.g. Sorenson, 1999, 2000). For Taiwanese firms, we adopted back-translation technique (Harkness, 2003) to establish the validity foundation of measurement invariance (Vandenberg, 2002). Survey translation was completed in three steps. First, one co-author translated the survey from English to Chinese. Second, the survey was translated back into English by a bilingual doctoral student. Finally, the translated and original English surveys were compared to reconcile any differences. To reduce common method bias, we employed the procedural design suggested by Podsakoff et al. (2003). The entire questionnaire included two parts, which were separated in two envelopes with cover letters. The two envelopes were delivered to two different subjects within the same company. Part A had items regarding autonomy, dynamism and control variables; Part B included business performance and other measures. In Taiwan, the surveys were either mailed by researchers or delivered in person by students; in the United States, an online format with the same Part A and Part B design was adopted.

To reduce method variance (Podsakoff et al., 2003), in both nations, the Part A respondent needed to be a founder (entrepreneur), owner, manager, or family member in a managerial position in the firm. For Part B, we surveyed the Chief Financial Officer or a similar person in charge of financial/budget affairs when possible. Then, we combined Parts A and B into one case. To confirm that the answers were from different people within the same firm and not written by volunteer students, we randomly contacted the subjects to verify the sources of the data. In Taiwan, we randomly checked 30 firms and did not find any suspicious cases. In the United States, researchers directly contacted the firms which students only provided contact information. Hence, we concluded this threat was negligible.

Among the U.S. family firms, we found the respondents reporting were owner (56%); co-founder, Chief Executive Officer (CEO) or president (24%); manager (9%); vice president (2%); and various other managerial titles (9%). In Taiwanese family firms, survey respondents identified themselves as owner (59%); co-founder, CEO or president (7%); manager (10%); vice president (3%); and various other managerial titles (14%). Regarding firm size, in the United States, 67% of firms had no more than 10 employees, and 100% had fewer than 100 employees; in Taiwan, 72% of the sampled companies had no more than 10 employees, and 100% of firms had

fewer than 100 employees. On average, there were 13 employees in the US firms and 10 employees in the Taiwanese firms.

Measurement

Dependent variable. We measured performance with five items adapted from Sorenson (1999) and used confirmatory factor analysis to examine their validity. The items asked subjects to compare their performance with the performance of the competitors over the last three years with regard to growth or decline in the industry and financial outcomes. Subjects were also asked to characterise profit, growth and market share over the past five years. With the measurement invariance test described below, both data sets fit reasonably well (root mean square error of approximation (RMSEA) = .05, standardised root mean square residual (SRMR) = .09, comparative fit index (CFI) = .95, non-normed fit index (NNFI) = .95), demonstrating that the two data sets (Taiwan and the United States) can be combined for further tests. Furthermore, all the items were significantly convergent to the performance construct. In the combined data set, the construct reliability was acceptable ($\alpha = .82$). Following Dawson and Richter's (2006) suggestion, we standardised the items and averaged the scores of the standardised items to measure performance. Survey items and information about measurement scales are listed in Appendices 1 and 2.

Independent variable. Autonomy was assessed with a scale adapted from Sorenson (1999, 2000) which focused on business practices related to daily operations of family business owners/managers. The three autonomy items emphasise empowerment to make decisions and act, participation in discussions and firm efforts to assess employee ideas and concerns. As such, the items reflected the autonomy content found in previous EO-related autonomy studies (e.g. Hughes and Morgan, 2007; Lumpkin et al., 2009). The three items were standardised and averaged to generate a measure of this variable (Dawson and Richter, 2006), and had acceptable reliability ($\alpha = .65$).

Moderating variables. The two moderators in the study are environmental dynamism and national culture. For national culture, dummy variables were used (the United States = 0, Taiwan = 1) with Taiwan as a proxy of socially supportive cultures and the United States as a proxy of performance-based cultures. Environmental dynamism was measured by Miller and Friesen's (1983) five-item Semantic Differential Scale which loaded on one factor ($\alpha = .82$). These items were used to assess the speed and intensity of change in environments on markets, competitors, products/services, technology and predictability of competitors and customers. We standardised the five items and used the average score to generate a measure of environmental dynamism (Dawson and Richter, 2006).

Control variables. Firm size was used as a control because of its resource impact on family business performance (Peng and Luo, 2000; Zahra, 2005; Zahra et al., 2004). We also controlled for industry sectors using manufacturing, service and retail/transportation as dummy variables. Formalised control systems, even though they may be particularly difficult and challenging for a founding owner-manager (Hambrick and Crozier, 1985), can have profound implications for how a family firm views autonomy. Therefore, we also adopted formalisation (one item: assessing the degree of 'routinisation, formalisation, structure') and control (one item: assessing the degree of 'control, centralisation') as important control variables. Finally, EO reflected by risk taking, proactiveness and innovativeness explains the variance of business performance (Rauch et al., 2009). We therefore control the impact of EO using the nine-item scale developed by Naman and Slevin (1993).

The reliability was acceptable ($\alpha = .84$) for us to get a composite score of EO. These controls were all standardised.

Analytical procedures

Before testing the hypotheses with the moderated regression model, we conducted a series of analyses to increase the validity of our model testing. We considered measurement invariance, standardisation of variables, multicollinearity, missing values, common method bias, and discriminant and convergent validity. Furthermore, for both countries, we employed analysis of variance (ANOVA) to detect non-response bias, and no significant differences were found between early and late respondents for the variables used in this study (Rogelberg and Stanton, 2007). Finally, using a post hoc statistical power analysis calculator (Soper, 2018), we found the observed statistical power of our regression model is .975, which is more than .8 conventionally suggested by literature (e.g. Cohen, 1992).

Measurement invariance

The meaningful comparisons of multiple samples, especially in a cross-cultural study, are built on the confirmation of measurement invariance (Steenkamp and Baumgartner, 1998; Vandenberg, 2002). Following Steenkamp and Baumgartner's (1998) suggestions as well as Jöreskog and Sörbom's (1993) procedure, we adopted the parcelling technique (i.e. the average of two or more indicators) to test measurement invariance (Little et al., 2002). The results (RMSEA = .05, SRMR = .09, CFI = .95, NNFI = .95) demonstrated partial measurement invariance in the two countries, including partial configural invariance, metric invariance, factor covariance invariance, factor variance invariance and error variance invariance (see Steenkamp and Baumgartner, 1998, for a detailed description). The evidence indicated that the constructs were similar in both nations and could be combined and compared.

Preliminary analyses

To prevent multicollinearity in the regression model (Aiken and West, 1991), all variables used in this study were standardised. The highest value of variance inflation factor (VIF) was 1.904 showing that multicollinearity was not a problem (Hair et al., 2006).

Because the combined sample size was originally 138 cases, containing 8 cases with missing values, we employed separate variance *t* tests to validate whether the missing values could be considered 'at random'. This test showed that these values were indeed missing at random. Accordingly, we employed 'list-wise' deletion in our regression test (final sample, $n = 130$). Regarding common method bias, Harman's one-factor test was utilised in structural equation modelling. A poor fit when loading all variables onto one factor for both the US sample (RMSEA = .23, SRMR = .19, CFI = .4, NNFI = .2) and Taiwanese sample (RMSEA = .19, SRMR = .16, CFI = .69, NNFI = .59) suggests common method bias is not a threat. For the check of discriminant validity, we followed Wang et al.'s (2005) method to compare the correlation coefficients between autonomy, environmental dynamism and performance, respectively. We found that all the coefficients related to the dependent variable were different in the two samples and confirmed the evidence of variable distinctiveness (see Table 2). The test of measurement invariance provided evidence for convergent validity for the main variables since the range of factor loadings was between .46 and .92, far above the standard of .4 (Fornell and Larcker, 1981).

Table 2. Means (M), standard deviations (SD) and Pearson correlations.[a]

Variable	*M*	*SD*	1	2	3	4	5	6	7
1. Business performance	3.20	0.80							
2. Autonomy	3.65	0.70	.13						
3. Environmental dynamism	3.80	1.27	–.09	–.02					
4. National culture (Taiwan = 1, the United States = 0)	0.59	0.49	–.31***	.06	.40***				
5. Firm size	11.71	13.78	.16	.06	.03	–.11			
6. Control	3.35	1.02	.10	–.01	–.23**	–.13	.11		
7. Formalisation	3.49	0.98	.11	.29***	.08	–.13	.13	–.06	
8. EO	3.91	1.00	.03	.11	.57***	.17	.17	–.17*	.14

EO: entrepreneurial orientation.
EO as a control is reflected by proactiveness, innovativeness and risk taking.
[a]The total, combined sample size was $n = 130$ (53 US firms and 77 Taiwanese firms; after list-wise deletion). Coefficients are unstandardised.
*$p < .05$; **$p < .01$; ***$p < .001$.

Results

We used moderated regression techniques to test our hypotheses where the control variables, main effect model (autonomy, dynamism and culture), contingency model (three two-way interaction terms) and configurational model (one three-way interaction term) were entered in sequence into the regression equation. For each model, we examined the variance explained (R^2), overall model significance (F statistic) and significance level (p value). To probe the configurational effect and create interaction plots, we followed Dawson and Richter's (2006) procedures.

There were three outcomes in the main effect model (see Model 2, Table 3) that merit comment, the first being that Taiwanese firms reported performance as significantly lower than did their US counterparts. While there are some possible explanations for this result, it may be simply yet another manifestation of tendency of socially supportive cultures to downplay individual performance. Second, as expected, we did not find a significant main effect of autonomy on performance, though the sign was positive. However, this is in line with previous findings (Table 1, five out of eight studies do not have direct effect), for instance, in Hughes and Morgan (2007) and Short et al. (2010). Finally, our results suggest environmental dynamism had no effect on the performance of the firms in our sample, which is somewhat surprising as other research (Baum and Wally, 2003; Garg et al., 2003) would suggest a negative relationship.

The contingency and configuration models tested our hypotheses. Contrary to Hypotheses 1 (Autonomy × Dynamism) and 2 (Autonomy × Culture), the two-way interaction terms did not have any statistically significant result, thus rejecting both hypotheses. Consistent with the lack of a direct relationship between the main effect variables and performance, it may simply be that the effect size is small and/or needs multiple contingencies. Hypothesis 3 posited a configurational approach (Autonomy × Culture × Dynamism), where US firms with increasing levels of autonomy would outperform similar autonomous Taiwanese firms in highly dynamic environments. This configurational model significantly increased the amount of variance explained from 5% to 20% over the main effect model and 15% to 20% from the contingency model. The three-way interaction ($\beta = -.35$) is statistically significant ($p < .05$) in the hypothesised direction, indicating that the relationship between autonomy and performance is more negative in Taiwan (coded 1) than in the United States (coded 0) in a highly changing environment. Hence, Hypothesis 3 is supported.

Table 3. Results of moderated multiple regression.

Variables	Model 1	Model 2	Model 3	Model 4
Controls				
Size	.09	.07	.07	.06
Retail/transportation	–.06	–.06	–.06	–.06
Manufacturing	.02	.01	.02	.02
Control	.07	.04	.05	.03
Formalisation	.09	.02	.02	–.02
EO	.01	.03	.02	.01
Main effect model				
Autonomy		.14	.12	.21*
Dynamism		.04	.04	.08
Culture (Taiwan = 1, the United States = 0)		–.24***	–.21***	–.27***
Contingency model				
Autonomy × Dynamism			–.04	.02
Autonomy × Culture			.03	–.04
Culture × Dynamism			.11	.06
Configurational model				
Autonomy × Culture × Dynamism				–.35*
R^2	.05	.14	.15	.20
F	1.05	2.20*	1.72	2.18*

EO: entrepreneurial orientation.
Following Dawson and Richter's (2006) suggestion, we standardised all the variables. In these models, the total, combined sample size was $n = 130$ (53 US firms and 77 Taiwanese firms; after list-wise deletion). In the industry controls (retail/transportation, service and manufacturing), service was not shown here because it was the reference group. EO is reflected by proactiveness, innovativeness and risk taking. Regression coefficients are unstandardised.
*$p < .05$; ***$p < .001$.

To ensure our findings are unique in this family business sample, we retested the three hypotheses using the firms initially dropped from the sample as 'non-family' firms. However, we did not detect any significant result from any of the main, contingency or configuration models. Hence, these post hoc tests provide evidence as to the unique nature of family firms.

Following similar procedures in Dawson and Richter (2006), we further examined the interaction effect of autonomy, national culture and environmental dynamism on family business performance by the slope difference test (i.e. a test to probe whether the significant three-way interaction effect comes from any two pairs of the slopes) to further verify our significant configurational hypothesis. In the test, we found that three pairs of slopes were statistically and significantly different. We then plotted the relationship between autonomy and performance in conditions of high/low dynamism and each culture in Figure 1 to aid in interpretation of the result.

The first pair was Lines 1 and 2 ($t = –2.04$, $p < .05$) as we predicted in Hypothesis 3. Line 1 represents high dynamism and Taiwan; Line 2 indicates high dynamism and United States. Results showed increasing autonomy in the situations of high dynamism within the United States yields an incremental, positive performance outcome. Conversely, increasing autonomy may be detrimental to Taiwanese firms in dynamic conditions. The comparison further confirmed Hypothesis 3.

The second pair of significance ($t = 2.26$, $p < .05$) was from Line 3 (low dynamism and Taiwan) and Line 4 (low dynamism and the United States). As noted earlier, the Taiwanese family firms in the study rated their overall performance generally lower than US family firms. Even so, Lines 3

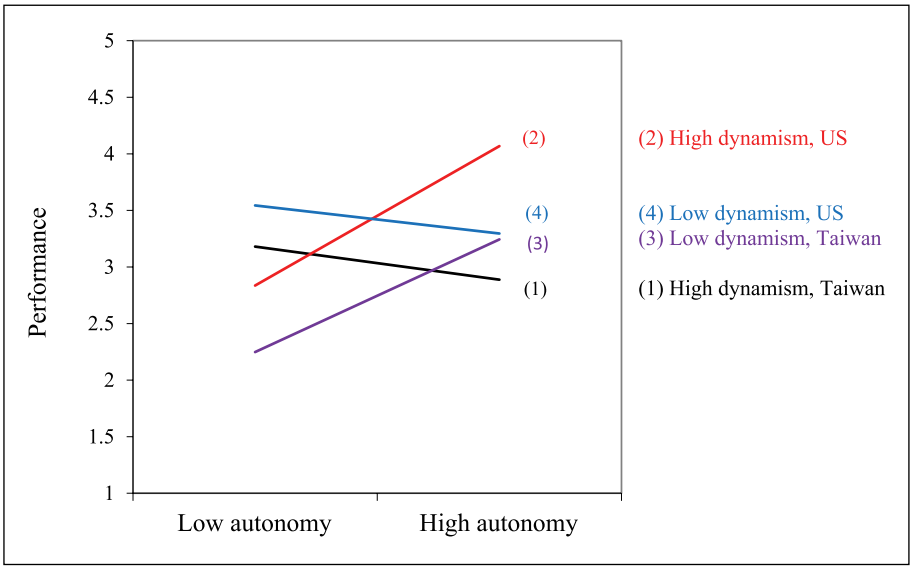

Figure 1. Interaction effects of autonomy with environmental dynamism on family firm performance in Taiwan and the United States.

and 4 depict an unexpected trend related to the low environmental dynamism condition – as autonomy increases, US firm performance drops but Taiwanese firm performance increases to the point where the performance of the two types of family firms is nearly equal. Even though we did not hypothesise this configuration, this is an interesting finding. It implies that the Taiwanese firms can make better use of autonomy than US firms under some conditions. A plausible explanation may be that in a socially supportive society like Taiwan, stable environments give employees more time to harmonise relationships and synthesise diverse information generated through autonomous behaviour, thus enabling incremental solutions and innovations. However, in more performance-based cultures, a less dynamic environment may not have sufficient 'disequilibrium' opportunities to offset the emotional conflict, personal overconfidence and lack of coordination, which hamper performance.

The last pair with significant difference ($t = -2.00$, $p < .05$) was between Line 1 (high dynamism in Taiwan) and Line 3 (low dynamism in Taiwan). Although we did not predict this configuration, this evidence suggests that among the Taiwanese family firms in this study, in a highly dynamic environment, performance is higher when low autonomy is used, compared to a less dynamic environment. However, a high autonomy strategy is more useful to boost performance in a static market situation rather than in a fast-changing environment. We suspect that within socially supportive societies, a slowly changing market allows sufficient time to break the status quo and access concerns and autonomous ideas of employees to generate comprehensive views. Conversely, in a highly changing environment, the collective decision process may be too time-consuming and break down due to uncertainty.

Discussion

Prior research suggests that autonomy is an important dimension of EO (e.g. Lumpkin et al., 2009), and our analysis suggests autonomy is especially salient for understanding differences in

the performance of family firms. In this article, we posited and investigated the extent to which environmental dynamism and national culture affected the autonomy–performance relationship of family firms. The simplest conclusion is that contexts matter significantly and the joint consideration of the two contexts is essential to understand autonomy–performance relationship. Overall, our findings verified the view that in dynamic environments, the presence of national cultural differences affects the economic outcomes in family businesses. This outcome highlights the relevance of family firm heterogeneity and underscores the complexity of linking firm performance with autonomy in family firms.

Our findings suggest that contingency hypotheses may be insufficient to adequately explain complex phenomena. Such results imply that both environment and national culture are important for more precisely understanding the autonomy–performance relationship. Although there is much about entrepreneurship that is common across cultures (Marino et al., 2002), our results add to the literature on culture and entrepreneurship (e.g. Mueller and Thomas, 2001; Newman and Nollen, 1996; Rauch et al., 2000) by demonstrating that national culture, when combined with environmental dynamism and autonomy, significantly impacts entrepreneurial outcomes, both positively and negatively. More generally, a growing body of research in the entrepreneurship field indicates that configurational approaches are often needed to understand complex phenomena (e.g. Dess et al., 1997; Short et al., 2008; Wiklund and Shepherd, 2005) and have direct implications for managerial practices.

Unexpectedly, in the slope difference test, we detected that under conditions of low dynamism, Taiwanese firms significantly improved their performance in the presence of elevating levels of autonomy. A possible explanation is that low dynamism allows time for more comprehensive inputs of ideas from autonomous behaviour to create synergies within a socially supportive culture. Perhaps the low dynamism enables socially supportive family firms to take advantage of their social capital to get stronger ideas to make better decisions. This stands in contrast to the effect of autonomy in performance-based cultures that stress personal uniqueness and looser ties in personal networks. Finally, with the same test, we also identified that small family firms with higher levels of autonomy in Taiwan perform better in less dynamic environments. This suggests that autonomous behaviour in Taiwan may be a salient means for a small family firm to create differentiation (i.e. disequilibrium) in a stable environment or industry (Wiklund and Shepherd, 2005). This finding may stimulate further research questions to inform family business practice. For example, in large or public family firms in such societies, what is the role of autonomy in dynamic and static environments? How does the governance structure or organisational structure of family firms influence the autonomy–performance relationship in performance-based and socially supportive cultures? Would human resource practices such as incentive systems or professionalisation play a key role in improving the autonomy–performance relationship in different cultures? These complex relationships may only become evident through a configurational approach.

Our configurational findings highlight a common assumption in EO research, namely, that the relationship between the dimensions of EO and performance is positive and linear. This would imply that progressively stronger autonomy is associated with increasingly higher performance, but our findings indicate this is not always the case: US family firms in our study were able to leverage autonomy for business success in dynamic environments, but the converse was true for Taiwanese family firms. These results suggest a more nuanced understanding of the EO–performance relationship as suggested by configuration theory. In dynamic environments in the United States, higher levels of autonomy can be beneficial because it is aligned with the culture, but in Taiwan, where it is not as highly valued, autonomy is ineffective when the environment is

dynamic. This suggests that, to the extent that family firms can consider a favourable fit between environmental and cultural forces and organisational arrangements such as autonomy, they may be able to improve performance outcomes.

Implications

Understanding the alignment of autonomy, environments and culture is important for small US and Taiwanese family businesses that seek to improve their business performance (Newman and Nollen, 1996). For US family businesses located in a more performance-based society, owner-managers may make good use of 'bottom-up' autonomy, such as by listening to employees, encouraging creativeness and open discussion, pursuing new opportunities through independent thinking and empowering employees to act to cope with fast-changing environments. Increased autonomy, a trait that is compatible with prevailing cultural norms, may not only improve performance but also address the often challenging issue of succession. Increased autonomy gives subordinate workers the opportunity to build managerial skills by making more decisions, which prepares both the current leader and subordinates for succession. For the leader, delegating some decision making reduces the leader's centrality, which may make it easier for the leader to eventually hand over the reins. Subordinates have opportunities to grow as leaders and demonstrate competence, which again should aid succession.

The implications for Taiwanese firms are quite different. Our results suggest increased autonomy may be detrimental for performance in more fast-changing, unpredictable environments. Nevertheless, it is too simplistic to suggest that Taiwanese family firms avoid dynamic environments. Smaller family firms do tend to rely heavily on single decision makers (Feltham et al., 2005), and our results suggest this may be especially true and appropriate for Taiwanese family businesses because this society gives a leader more power to act. This puts a special burden on that single decision maker, requiring them to be extremely proficient in scanning the external environments, interpreting the information and choosing a course of action (Garg et al., 2003), so the autonomy approach may be more 'top-down' oriented.

Even in socially supportive cultures and dynamic environments, however, there may be structural solutions to reap some of the autonomy's benefits. Such family firms might establish more formalised systems, such as outside board members and professional advisors, prescribing behaviour and building mechanisms to reconcile disagreements. Thus, even in dynamic environments with uncertainty, the family has a structured approach for interaction that is consistent with norms emphasising cooperation. Furthermore, mechanisms often associated with management in larger firms (e.g. mission/vision documents, strategic planning and specified roles) may better equip these family firms to cope with dynamic environments, as some formalisation does not necessarily slow the decision-making process (Davis et al., 2009).

Limitations and future research

Several aspects of our cross-cultural study affect the generalisation of our results and yet could be opportunities for other researchers to advance these insights. Theoretically, autonomy may have a positive, direct effect on business performance, but we found no statistical significance in our sample. One reason may be from the autonomy measure adopted in this study. Although the scale reliability ($\alpha = .65$) is acceptable, the items were originally developed in family business context (Sorenson, 1999, 2000) to argue for family business autonomy as a heterogeneous resource effect. Prospective studies may improve the scale or adapt the autonomy scale

developed by Lumpkin et al. (2009). A second reason for the lack of significant main and contingency effects may be due to the small effect size of autonomy (see Table 1). Although our sample size has enough statistical power at the value of .975, a much larger sample would still be beneficial. As mentioned, family business data are not easily collected because of privacy concerns (Winter et al., 1998). In addition, we separated the predictors and criterion variables to reduce common method bias (Podsakoff et al., 2003), which required two respondents per firm and limited our sample size. Future research may aim at longitudinal data or a random sampling strategy that would also yield larger sample sizes to verify the autonomy–performance relationship with contextual variables. For example, Aiken and West (1991) recommended 400 cases to detect interactions.

Another possible reason is that there may be other contextual issues which have a greater effect on the autonomy–performance relationship. Future researchers might benefit from investigating other organisational and environmental contingencies or boundaries related to autonomy and family firm performance, such as large-sized or public family firms and social institutions (e.g. political/legal regulations or policies, economy types, levels of industrialisation and religion) as well as information technology industries. Our data set focused on a particular type of family business – relatively small in size and fully family-owned. The smallness of family firms with full control may not give much autonomy for employees to respond to changes or opportunities quickly. Also, these types of firms tend to employ simple structure and may have been a particularly challenging arena for studying autonomy. While this type of business is numerically the most common, care should be used in extending our findings to larger or more complex family firm structures. We also acknowledge that the nature of this autonomy study is more exploratory in family firms. We suggest further research be needed with firms of different sizes and ownership structures.

For environmental contingencies, Tan (2002) suggested that when data are collected from two countries, the results include not only the cultural differences but also country differences. Hence, further research involving cultural differences may seek samples from different cultural groups operating family firms in the same country. Also, future researchers may consider employing developed cultural scales rather than using proxy variables to measure specific dimensions of national culture (e.g. Schwartz, 1994) to reduce the possibility of confounding effects at different levels of analysis. Our current study is meant to compare the two groups (performance-based and socially supportive cultures), not a multilevel study to test nested data. Moreover, the external validity of our findings could be limited because it is difficult to pin down explanations for differences when comparing populations from just two countries. With our additional findings (i.e. Lines 1 and 3; Lines 3 and 4 in Figure 1), these results could be further validated or extended with a sample of three or more countries.

Finally, we also note that while the United States and Taiwan fit within the performance-based versus socially supportive cultures, they do not fit all aspects of these cultural typologies. In fact, our use of dummy variables to represent these national culture types is counter to the approach of both Laskovaia et al. (2017) and Stephan and Uhlaner (2010) who used the actual factor loadings from their second-order factor analyses to construct their measures. But we believe our approach provides a parsimonious way of examining cultural differences and is generalisable to countries representing these cultural types. Nevertheless, we hope that future research will examine similar research questions across a larger number of countries to more adequately represent the ranges of performance-based and socially supportive cultures. Indeed, we suggest considering these cultural contextual factors, both in study design and results interpretation, may advance our understanding of the relationship between culture and EO.

Conclusion

Our study suggests that culture and environment matter when considering autonomy and its impact on performance. Although it seems intuitive that autonomy is a universally positive attribute, our study indicates there are limitations on when autonomy is likely to improve performance. In a more socially supportive culture, autonomy seems to have a negative association with performance under conditions of high environmental dynamism; in a more performance-based culture, autonomy is positively associated with performance in dynamic conditions. Not only does this have definite implications for the management of family firms in different cultures, but it also suggests that profitable future research lies ahead in understanding the role of contexts on the autonomy–performance relationship.

Acknowledgements

We are so grateful to Dexi Zheng and Jianan Chen for their assistance to organize data. We also thank Editors William J Wales, Vishal K Gupta, Luo Marino, Galina Shirokova and the three anonymous reviewers for their guidance, support, and insightful comments. Previous drafts were presented at 2012 United States Association for Small Business and Entrepreneurship (USASBE) conference and 2017 International Family Enterprise Research Academy (IFERA) Global Conference.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

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Appendix 1. Variables, items and scales.

Dependent variable	
Business performance	To the best of your knowledge, what has been the growth or decline of the industry in which your business operated in the last three years?[a]
	Compared to the major competitor in your industry in the last three years, how has your business performed financially?[b]
	If on average your business earned profits the last five years, how would you characterise the profits?[c]
	How would you characterise the growth of your business over the last five years?[d]
	How would you characterise your market share over the last five years?[e]
Independent variable	
Autonomy[f]	Empowerment of employees to act.
	Participation, open discussion.
	Assessing employee concerns and ideas.
Moderator variable	
Environmental dynamism[g]	Our firm must rarely change its marketing practices to keep up with the market and competitors (vs) Our firm must change its marketing practices extremely frequently (e.g. semi-annually).
	The rate at which products/services are getting obsolete in the industry is very slow (e.g. basic metal like copper) (vs) The rate of obsolescence is very high (as in some fashion goods and semi-conductors).
	Actions of competitors are quite easy to predict (as in some primary industries) (vs) Actions of competitors are unpredictable.
	Demand and consumer tastes are fairly easy to forecast (e.g. for milk companies) (vs) Demand and tastes are almost unpredictable (e.g. high fashion goods).
	The production/service technology is not subject to very much change and is well established (e.g. in steel production) (vs) The modes of production service change often and in major way (e.g. advanced electronic components).
National culture	Dummy: Coding Taiwanese family firms to 1; US family firms to 0.
Control variable	
Firm size	Including yourself, how many full-time employees are in your business now?
Industry	Please select one of the following industrial classification groupings, which best describe your firm.
Control	Control, centralisation.[f]
Formalisation	Routinisation, formalisation, structure.[f]
Entrepreneurial orientation[g]	In general, the top managers of my firm favour …
	A strong emphasis on the marketing of tried and true products or services (vs) A strong emphasis on R&D, technological leadership and innovations.
	Low-risk projects with normal and certain rates of return (vs) High-risk projects with chances of very high return.
	A cautious, 'wait and see' posture in order to minimise the probability of making costly decisions when faced with uncertainty (vs) A bold, aggressive posture in order to maximise the probability of exploiting potential when faced with uncertainty.
	How many new lines of products or services has your business unit marketed in the past five years?

(Continued)

Appendix 1. (Continued)

	No new lines of products or services (vs) Many new lines of products or services.
	Changes in product or service lines have been mostly of a minor nature (vs) Changes in product or service lines have usually been quite dramatic.
In dealing with its competitors, my firm …	
	Typically responds to actions which competitors initiate (vs) Typically initiates actions to which competitors then respond.
	Is very seldom the first firm to introduce new products/services, operating technologies, etc. (vs) Is very often the first firm to introduce new products/services, operating technologies, etc.
	Typically seeks to avoid competitive clashes, preferring a 'live-and-let-live' posture (vs) Typically adopts a very competitive, 'undo-the-competitors' posture.
In general, the top managers of my business unit believe that …	
	Owing to the nature of the environment, it is best to explore gradually via cautious behaviour (vs) Owing to the nature of the environment, bold, wide-ranging acts are necessary to achieve the firm's objectives.

[a]Scale used for this item was 1 (decline more than 10%) through 5 (growth more than 10%).
[b]Scale used for this item was 1 (much worse) through 5 (much better).
[c]Scale used for this item was 1 (declined significantly) through 5 (increased significantly).
[d]Scale used for this item was 1 (size of business (employees) has decreased significantly) through 5 (size of business (employees) has increased significantly).
[e]Scale used for this item was 1 (market share has decreased significantly) through 5 (market share has increased significantly).
[f]Scale used for items was 1 (minimally valued and used) through 5 (extensively valued and used).
[g]These items were assessed by a seven-point Semantic Differential Scale.

Appendix 2. Variables, items and scales (Chinese).

依變數	
營運績效	就您所知，貴公司主要所處的這一個「產業」在最近3年中是成長還是衰退？[a]
	跟主要競爭對手相比，在最近3年中，貴公司的「財務表現」是？[b]
	平均說來，您會如何描述貴公司在近5年來的「利潤」表現？[c]
	下列何者最能適當描述貴公司於近5年來在「規模 成長」上的表現？[d]
	下列何者最能適當描述貴公司在近5年裡於「市場佔有率」上的表現？[e]
自變數	
自主性[f]	放手讓下屬處理
	參與，開放式討論
	評估員工所關心的事與點子
情境變數	
環境動態性[g]	面對市場變化我們不需改變行銷作法…需時常改變行銷作法（如，半年一次）
	產業中的產品或服務汰換速度相當慢…事實上，汰換速度相當快
	我們很容易料到競爭者的行動…其實很難猜測得到
	消費者的需求與品味相當容易預測…幾乎無法預測
	產業的服務與生產技術已成熟且固定…事實上，變化相當頻繁且幅度也大
國家文化	虛擬變數：台灣家族企業1；美國家族企業0
控制變數	
公司規模	迄今公司全職員工共有多少人（包含自己）？
產業	您的公司是屬於那個產業?
控制	控制，中央集權[f]

Appendix 2. (Continued)

依變數	
正式化	正式化（如，定期會議）與組織結構[f]
創業導向[g]	一般而言，我（或公司的主管）喜歡…
	嘗試行銷新的產品或服務…強調研發，技術領先與創新
	低風險案子但有一般且固定的收入…高風險案子卻有高報酬的機會
	採取謹慎觀望態度以減少失策機會…採大膽積極姿態以增加可能成功機會
	在過去5年中，我們公司共推出多少新產品或服務？
	沒有…非常多
	新產品（服務）的改變並不大…新產品（服務）的改變非常大
	在面對競爭者方面，我們公司…
	採被動的反應…主動出擊，對方被動反應
	很少率先引進新產品/服務，營運技術…經常率先引進新產品/服務，營運技術
	避免毀滅性競爭，尋求共同生存…採取非常競爭姿態，消滅敵手的作法
	一般而言，我（或公司的主管）相信…
	因環境特性最好採漸進跟謹慎行為…須採取大膽廣泛的行動才能達到目標

[a]量尺：(1)衰退，超過10%…(5)成長，超過10%
[b]量尺：(1)很不好…(5)非常好
[c]量尺：(1)顯著地下滑…(5)顯著地增加
[d]量尺：(1)規模（全職員工數）顯著地減少...(5)規模（全職員工數）顯著地增加
[e]量尺：(1)顯著地下降…(5)顯著地成長
[f]量尺：(1)「完全沒有這樣做」或「非常不重視」…(5)「完全這樣做」或「非常重視」
[g]7點尺語意差異量表