Chapter 12
Entrepreneurial Orientation and Innovation in a Context of Crisis: Some Relevant Factors in the Case of Family Firms

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Abstract This article analyses how some internal factors inherent to family firms influence the entrepreneurial orientation (EO) of small-and-medium (SME) family businesses, which are the most successful type of firms in maintaining jobs in a crisis like the present. In this sense, we predict that a family firm's image, its willingness to change, and the strategic involvement of its board of directors may positively influence its EO, which is one of the most used strategies among firms against crisis. We test these hypotheses by surveying the CEOs of 232 Spanish SMEs. The results of a structural equation model corroborate our hypotheses.

12.1   Introduction

Family businesses, which account for over 70 % of companies worldwide, have shown a greater ability to preserve jobs in times of crisis. In this sense, one of the key factors for this is the corporate entrepreneurship. Despite the fact that corporate entrepreneurship's potential and power to sustain family firms across generations, little research has investigated this strategic focus in family firms (Nordqvist 2005; Rogoff and Heck 2003). Thus, one of the major tasks for the relevant literature is studying entrepreneurial orientation (EO), whose one of the main factors is the innovativeness, in family firms.

One issue that requires attention is the question of which family firm variables affect the EO construct and how. We begin by inquiring how the effort to preserve the good image of a family firm may affect its EO. Second, we consider the possibility that a firm's willingness to change may affect its EO attitude. Finally, as we assume that

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advisors can increase a family firm's corporate entrepreneurship by complementing their tacit knowledge (Eddleston et al. 2008), we measure the direct effect of the strategic involvement of the board of directors (SIBD) on family firms' EO.

We thus contribute to the literature in two ways. First, we have developed a model through which we seek to demonstrate the causal relationship between the internal family firm variables indicated below and firm EO, thereby demonstrating the direct influence of these factors, yet unanalysed, on the EO of family firms. Second, our use of structural equation modelling (SEM) represents progress towards more robust techniques than those used in this field to date.

The rest of this paper is structured as follows. In the next section, we develop a model through which we demonstrate how some key internal family business variables affect family firms' EO and hypothesise the causality of each one. We then describe our method, the study's data collection approach, and the measurement of the variables. The next section presents the results of the study. Finally, we discuss those results, highlighting our major conclusions as well as the study's limitations and implications.

12.2 Literature Review and Theoretical Development

12.2.1 Family Firm Image and EO

According to the organisational identity theory, family firm image embodies how firm members suppose others see their organisation and how the firm leader would like the organisation to be perceived (Gioia and Thomas 1996).

Maintaining a positive family business image fosters a connection between the family and the business (Zellweger and Sieger 2010) and reinforces employees' feeling of belonging to the firm. The mission of maintaining the good name and, by extension, the good image of the family firm and its brand tends to keep family firm members working together (Dyer and Whetten 2006) and taking risky entrepreneurial initiatives (Memili et al. 2010). We thus hypothesise that family firm image directly and positively affects a family firm's EO:

> H1: In a crisis like the present, family firm image will enhance the entrepreneurial orientation of the family firm.

12.2.2 Willingness to Change and EO

Given today's global competition, diverse workforce, short business cycles, and rapidly changing environment, an attitude against change can have very negative consequences. Indeed, the lack of environmental adaptation strategies and rigid behaviour can ruin a formerly successful company, more in times of crisis. The

culture of a family firm is a significant aspect of the firm's ability to rapidly and effectively adapt to the changing demands of today's environment. This adaptation will be quicker and easier if the family firms' willingness to change is higher. Furthermore, as adapting to changing environmental demands requires the pursuit of entrepreneurial activities (Zahra et al. 2004) and as a willingness to change can accelerate this adaptation, we can conclude that a willingness to change will promote a family firm's EO. We thus propose a relationship between willingness to change and entrepreneurial orientation:

> H2: In a crisis like the present, willingness to change will enhance the entrepreneurial orientation of a family firm.

12.2.3   The Strategic Involvement of the Board of Directors and EO

In fact, boards of directors may assist firms' strategic planning through their influence on the owners. Its main activities are shaping the firm's mission, vision and values, identifying important strategic activities, and scanning the environment for new trends and opportunities, all of which comprise strategic involvement (Machold et al. 2011). The more SIBD, the more important activities will be identified, and the wider will be board's environmental scanning; the company will then engage in more entrepreneurial initiatives, projects, and activities, thus increasing its EO. We can thus conclude that a higher strategic involvement from the board of directors will enhance a family firm's EO:

> H3: In a crisis like the present, a high strategic involvement of the board of directors will enhance the entrepreneurial orientation of a family firm.

12.3   Methodology

12.3.1   Context of Study and Characteristics of Sample

This study focuses on Spanish family SMEs included in the SABI (Iberian Balance Sheet Analysis System) database for May 2013. Although many criteria can be used to delimit the 'family firm' concept, two were selected for this study (Astrachan et al. 2002): whether one family or more (a) had ownership control of the firm and (b) actively participated in its management. We considered 50 % as the minimum percentage of firm equity necessary for firm control (Arosa et al. 2010). At this point, the population under study included 1953 non-listed Spanish family firms. We obtained 232 responses (11.9 % of the sample). Interviewees were CEOs in 68.1 % of the cases and persons responsible for departmental management in the

rest of the cases due to their global vision. Techniques for reducing the potential for response bias were used successfully.

12.3.2 Measures and Questionnaire Construction

All items used to assess the dependent and independent variables were drawn from works published in well-known journals.

Entrepreneurial orientation. Firm-level EO, a multidimensional construct consisting of three first-order dimensions (innovativeness, proactiveness, and risk taking), was measured using the nine-item, eleven-point scale proposed by Covin and Slevin (1989).

The family firm image. This scale comprises five items on the eleven-point scale created and inspired by Dyer and Whetten (2006).

The willingness to change. This variable was measured on the four-item, eleven-point scale used by Kellermanns and Eddleston (2006).

The strategic involvement of the board of directors. This is a four-item, eleven-point scale used by Machold et al. (2011).

Control variables. We introduced several firm-level variables, such as firm size (measured as a log of the number of full-time employees), firm age (measured as the log of the number of years since the firm's founding), and sector (classifying firms as either 'service' or 'manufacturing', according to their activity type).

12.3.3 Data Analysis

We selected SEM because, unlike other multivariate statistical techniques, it provides a simultaneous overview of all phenomena under study, allowing an analysis of models that attends to unseen variables, also called 'factors' or 'constructs'. Thus, the model was performed in two steps: first, we analysed the measurement model through a confirmatory factor analysis (CFA) to give construct validity to the instruments and evaluate the psychometric properties of the scales. Second, we tested the hypothesis in the structural model (Kellermanns and Eddleston 2006; Memili et al. 2010) to evaluate the assumptions about the relationships and effects between the model's independent variables and the dependent one. Both approaches to the model were carried out through the EQS statistical package, version 6.2 (Bentler 1995).

12.4 Results

12.4.1 Analysis of the Measurement Model

12.4.1.1 First-Order Constructs

After some of the fit indices of the first-order CFA led us to dispense with several construct scale items: the measurement model acquired the appropriate values as suggested by the literature ($\chi^2(83) = 141.10$, BBNFI = 0.924; BBNNFI = 0.945; CFI = 0.966; IFI = 0.967; MFI = 0.882; and RMSEA = 0.055). Thus, the CFA results suggest that the measurement model fits the data well.

According to the reliability of the measurement scales, the Cronbach's alpha coefficient, the composite reliability index, and the Average Variance Extracted (AVE) coefficient all exceed the recommended minimum levels, as shown in Table 12.1. Regarding validity, the results shown in Table 12.1 confirm the convergent validity of the measurement scales, which was demonstrated through factor loadings (>0.6). Discriminant validity was tested in two ways. First, we performed a chi-square test comparing this model to a model with freed correlation. In all cases, the chi-square difference was significant at the $p < 0.001$ level, further indicating discriminant validities among all pairs of constructs in every measurement model. Second, the confidence interval for each pairwise correlation estimate (i.e. ±two standard errors) should not include 1 (Anderson and Gerbing 1988). This condition was satisfied for all pairwise correlations in the three measurement models.

The multidimensional nature of the EO construct required us to perform a second-order CFA.

Table 12.1 Validation of the final measurement model-reliability and convergent validity

Source	Constructs	Items	Standardised loading	Robust t-value	CA	CR	AVE
Memili et al. (2010)	Family firm image				0.885	0.902	0.212
		FFI1	0.912	13.888			
		FFI2	0.873	11.857			
Kellermanns and Eddleston (2006)	Willingness to change				0.787	0.758	0.192
		WTC1	0.825	9.125			
		WTC2	0.792	9.900			
Machold et al. (2011)	Strategic involvement of board of directors				0.943	0.945	0.135
		SIBD1	0.968	15.222			
		SIBD2	0.877	14.612			
		SIBD3	0.883	12.977			

S-B χ^2 (83 df) = 141.1025 ($p = 0.00007$); BBNFI = 0.924; BBNNFI = 0.945; CFI = 0.966; IFI = 0.967; MFI = 0.882; RMSEA = 0.055; Cronbach = 0.800

Source: Own elaboration
CA Cronbach's alpha, *CR* Composite reliability, *AVE* Average variance extracted
***$p < 0.001$

Table 12.2 Validation of the final measurement model-reliability and convergent validity

Source	Second-order construct	Dimensions	Standardised loading	Robust t-value	CA	CR	AVE
Covin and Slevin (1989)	EO				0.800	0.946	0.027
		INN	0.739	1			
		PRO	0.917	5.961			
		RIS	0.601	5.133			

S-B χ^2 (95 df) = 153.2887 (p = 0.00007); BBNFI = 0.918; BBNNFI = 0.952; CFI = 0.966; IFI = 0.967; MFI = 0.882; RMSEA = 0.052; Cronbach = 0.800

Source: Own elaboration

CA Cronbach's alpha, *CR* Composite reliability, *AVE* Average variance extracted

***p < 0.001

12.4.1.2   Second-Order Construct

The second-order CFA examined whether the three EO subdimensions converge on a single latent factor. In this regard, the model fit indices are satisfactory (χ^2(95 df) = 153.2887; BBNFI = 0.918; BBNNFI = 0.952; CFI = 0.966; IFI = 0.967; MFI = 0.882; and RMSEA = 0.052), suggesting that the measurement model fit the data well. Convergent validity was demonstrated, as the standardised factor loading levels exceeded 0.4 and are 95 % significant in all cases. Furthermore, as Table 12.2 shows, the Cronbach's alpha values, the AVE, and the composite reliability are above 0.7, 0.6, and 0.5 respectively. Finally, discriminant validity was checked through the two ways mentioned in the first-order construct analysis, confirming its existence. These results suggest that the EO can be understood as a second-order reflective construct.

12.4.2   Testing the Hypothesised Structural Model

As in the CFA process, the hypotheses were examined using the EQS 6.2. The paths between constructs represent individual hypotheses, and each was assessed for the statistical significance of the path coefficient. The hypothesis relationships were tested one by one into a full model. Table 12.3 reports the results of the final structural model, showing the path coefficients, *t*-values, and construct relationships, supporting the three hypothesis: H1 ($\gamma 1 = 0.139$, $t = 2.087$), H2 ($\gamma 2 = 0.597$, $t = 5.794$), and H3 ($\gamma 6 = 0.167$, $t = 2.470$).

Table 12.3 Hypothesis testing

Hypothesis	Variables	Path coefficient	t-value	Result
H1	Family firm image is positively associated with the entrepreneurial orientation of the family firm	0.139	2.087	Supported
S-B χ^2 (100 df) = 196.2177 (p = 0.07); BBNFI = 0.894; BBNNFI = 0.924; CFI = 0.944; IFI = 0.945; MFI = 0.813; RMSEA = 0.065; Cronbach = 0.800				
H2	Willingness to change is positively associated with the entrepreneurial orientation of a family firm	0.597	5.794	Supported
S-B χ^2 (100 df) = 161.2821 (p = 0.10); BBNFI = 0.913; BBNNFI = 0.952; CFI = 0.964; IFI = 0.965; MFI = 0.876; RMSEA = 0.052; Cronbach = 0.800				
H3	Family firms with a great strategic involvement of the board of directors will have a higher entrepreneurial orientation of a family firm	0.167	2.470	Supported
S-B χ^2 (100 df) = 194.8630 (p = 0.08); BBNFI = 0.895; BBNNFI = 0.925; CFI = 0.945; IFI = 0.946; MFI = 0.815; RMSEA = 0.064; Cronbach = 0.800				

Source: Own elaboration

12.5   Discussion, Conclusions, and Implications

Taking the resource-based view, our study has tested the effect that several key internal family firm variables have on the EO of this type of firm. In times of crisis, it is more necessary than ever for companies to address entrepreneurial initiatives, on the one hand, for offering products and services with greater added value and, on the other hand, for gaining competitiveness against its competitors. In that sense, our empirical results support the three hypothesised relationships. The first one, which says that in a crisis like the present, the family firm image will enhance the entrepreneurial orientation of the family firm, reinforces the importance that image plays in a family firm's strategy. Indeed, recent research based on organisational identity theory and the resource-based view suggest that the family firm's brand and, by extension, its image are key sources of competitive advantage (Zellweger and Sieger 2010). This empirically supports the idea that family firm members tend to work together (Dyer and Whetten 2006), take risky entrepreneurial initiatives (Memili et al. 2010), and enhance the EO of the firm in order to maintain the good name and, by extension, the good image of the family firm and its brand, becoming more competitive firms in the times of crisis.

Concerning the hypothesis that in times of crisis like the present the willingness to change will enhance the entrepreneurial orientation of the family firm, the empirical data suggest that cultural factors may play an important role. Indeed, a firm's internal culture enables and catalyses rapid and effective adaptive responses to today's changing environment. In fact, the willingness to change derived from a family culture will allow quicker and easier adaptation, more in times of crisis. Thus,

given that entrepreneurial initiatives are key tools for adapting to a rapidly changing environment (Zahra et al. 2004), it seems logical to conclude that willingness to change will promote the EO of a family firm (Kellermanns and Eddleston 2006).

Third, the empirical test supports the hypothesis that in a crisis like the present, a high SIBD (Machold et al. 2011) will enhance the entrepreneurial orientation of the family firm. Given that boards shape their firms' mission, vision, and values, identify important strategic possibilities, and scan the environment for new trends and opportunities, it seems natural to conclude that the more SIBD, the more important activities will be identified, and the wider the board's environmental scanning will be. This would cause the company to engage in more entrepreneurial initiatives, projects, and activities, thus increasing the firm's EO. A higher SIBD will also serve as an important source of expertise and perspectives, facilitating new entrepreneurial initiatives. As it has been mentioned above, in times of crisis the EO of a family firm becomes one of the most important tools for competing with others.

From a social point of view, the enhancing effects that these three variables have in the EO of family firms will be crucial for the survival of this type of businesses in times of crisis. Specifically, the survival of these firms will permit the preservation of a high number of jobs in different countries of the global economy.

This work has several limitations. The main one is the research's basis on cross-sectional data, which makes it impossible to ensure that the causal relations identified in the results will not vary or lose their significance over time.

This study provides opportunities for future research. One possibility is replicating it in different geographical contexts and using different samples. Another possible future line of research is investigating the direct effects that internal family firm variables may have in the performance of the family firm, without considering the mediating effect of the EO.

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