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SPECIAL ISSUE: Social responsibility and continuity in Family Firms

Guest editors: Julio Diéguez Soto and Ángela Callejón Gil

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SPECIAL ISSUE – SOCIAL RESPONSIBILITY AND CONTINUITY IN FAMILY FIRMS

Guest Editors Introduction to the Special Issue

Julio Diéguez Soto and Ángela Callejón-Gil

Cátedra de Viabilidad Empresarial de la Universidad de Málaga

This Special Issue provides a collection of 6 papers, some of them presented at the 26th European Business Ethics Network (EBEN) National Conference, held in Málaga, Spain on the 31st of May and 1st of June, 2018. The title given to the 26th annual EBEN National Conference, hosted by the University of Málaga, was "The Work in the Role and Social responsibility of the Firm " and there was a specific track on "Ethic and Family Firms".

Some manuscripts presented to the National EBEN Conference, where were discussed, were selected as candidates to be published in the EJFB. Based on an editorial review, authors were invited to develop full manuscripts and present them at EJFB evaluation process. All received manuscript went through a double-blind review process.

In this issue, some articles addressed the role of motivation and opportunities of the employees in family firms, a specific subarea of firm`s social responsibility.

In the first article, Pimentel (2018) explores differences between non-family employees of family firms and employees of non-family firms regarding their levels of job satisfaction and assess the impact of non-family employees' perceptions of organizational justice on their levels of job satisfaction. This article reveals that in family firms, there is a positive influence of the perceptions of organizational justice on the job satisfaction levels, in particular regarding to the satisfaction with the benefits and with the supervision.

Likewise, an important contribution on career motivation and barriers in family business from daugthers' perspective is proposed by Akhmedova, Cavallotti and Marimon (2018), who found that daughters' motivation to act ethically is positively associated with high positions and that barriers "specific to family business" are negatively related to high positions.

On the other hand, in order to survive, family businesses should generate strategies to achieve firm continuity. In this issue, some articles are focused in competitive factors such as leadership, organizational culture, or labour factor. Likewise, the sixth article analysed the family business behaviour when addressing the protocol, which may increase the survival rate of family firms. Thus, Corrales, Ochoa and Jacobo (2018) confirmed that different types of leadership (expert, referential, laissez faire, participatory or autocratic) are present during distinct generations to pursue firm continuity. Vázquez Torres, Flores López and Ochoa Jiménez (2018) found that organizational culture influences positively innovation contributing to the survival of family firms. Likewise, Galego, Mira and Vidigal (2018) concluded that labour seems to be the main determinant of family firms' productivity, which is especially evident for firms in the mature stage. Finally, Rodríguez-Zapatero, Pérez, Rodríguez-Jiménez and Ramírez (2018) aim to explain the paradigm in which the intentionality to start the process towards the protocol on generational replacement and future distribution of the ownership is conducted by its feasibility – and this is partially marked by the willingness to reach the agreement and its utility.

We are hopeful that the works in this specific issue will help to enhance the understanding of social responsibility and firm continuity in family firms

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Non-family employees: levels of job satisfaction and organizational justice in small and medium-sized family and non-family firms

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Family business; Job satisfaction; Organizational justice

Abstract The purpose of this paper is to explore differences between non-family employees of family firms and employees of non-family firms regarding their levels of job satisfaction. Moreover, focusing on family firms, we assess the impact of non-family employees' perceptions of organizational justice on their levels of job satisfaction; we also seek to understand which dimensions of job satisfaction are most affected by the employees' perceptions of organizational justice. The empirical evidence is provided by a sample of 205 Portuguese employees (98 non-family employees of family firms and 107 employees of non-family firms), working in small and medium-sized privately-owned enterprises. The findings reveal that non-family employees of family firms do not differ from employees of non-family firms regarding their levels of job satisfaction. Furthermore, it was found that, in family firms, there is a positive influence of the perceptions of organizational justice on job satisfaction levels, in particular regarding satisfaction with benefits and supervision.

CÓDIGOS JEL
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PALABRAS CLAVE
Empresas familiares; Satisfacción laboral; Justicia organizacional

Empleados no familiares: niveles de satisfacción laboral y justicia organizacional en pequeñas y medianas empresas familiares y no familiares

Resumen El objetivo de la presente investigación es explorar las diferencias entre empresas familiares y no familiares respecto a los niveles de satisfacción laboral de sus trabajadores. Por otra parte, se evalúa, dentro de las empresas familiares, el impacto que tiene las percepciones de justicia organizacional de los empleados que no pertenecen a la familia, en los niveles de satisfacción laboral; y además, se busca entender cuáles son las dimensiones de satisfacción laboral que se ven más afectadas por las percepciones de justicia organizacional por parte de los trabajadores. Se cuenta con una muestra de 205 trabajadores portugueses (98 de ellos pertenecientes a empresas familiares y 107 pertenecientes a empresas no familiares). Todos los participantes incluidos en la muestra trabajan en pequeñas y medianas empresas privadas. Los hallazgos revelan que aquellos empleados que trabajan en empresas familiares pero que no pertenecen a la familia no difieren en sus niveles de satisfacción laboral de los empleados que trabajan en empresas no familiares. Más aún, se encuentra que, en las empresas familiares, hay una influencia positiva de las percepciones de justicia organizacional en los niveles de satisfacción laboral, en particular, respecto a la satisfacción con los beneficios y con la supervisión.

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Introduction

Family firms are responsible for over 70% of the global annual GDP and account for 70%-80% of jobs created in the majority of countries worldwide (European Family Businesses, 2012), representing two thirds of the world's private-held companies (Family Firm Institute, 2015; Gersick, Davis, Hampton, & Lansberg, 1997). Given their social and economic impact, family firms have received growing/ increasing attention from the scientific community over the last decades (Poutziouris, 2006; Sharma, 2004).

So far researchers have been dedicated to the identification and clarification of processes and behaviors that differ between family and non-family businesses, e.g., corporate governance (Lien, Teng, & Li, 2015), ownership (Villalonga & Amit, 2006), management (Morck & Yeung; 2003; Zellweger & Astrachan, 2008), returns (Chua, Chrisman, & Bergiel, 2009), leadership (Pérez-González, 2006), careers (Schröder, 2011) succession (Meier & Schier, 2016), reputation (Deephouse & Jaskiewicz, 2013), innovation (Classen, Carree, Van Gils, & Peters, 2013), entrepreneurial orientation (Boling, Pieper, & Covin, 2015; Pimentel, Couto, & Scholten, 2017) and decision-making styles (Pimentel, Scholten & Couto, 2018).

However, some of the most important organizational aspects, such as employees' satisfaction (Heller & Watson, 2005), are yet to be explored in the comparison between these two organizational forms. According to Spector (1997), there are important reasons that lead to the need to explore and address the individuals' satisfaction with their job across different organizational settings. On the one hand, from a more "humanistic" view, people deserve to be treated with respect and justice, with satisfaction being a reflection of this treatment. On the other hand, from a more "utilitarian" view, satisfaction results in attitudes and behaviors that affect the functioning and effectiveness of the organization.

Therefore, in order to address this gap in the family business literature, the purpose of this study is threefold / there are three purposes for this study. First, to explore the differences between non-family employees of family firms and employees of non-family firms regarding their levels of job satisfaction. Second, focusing on family firms alone, to assess the impact of non-family employees' perceptions of organizational justice on their levels of job satisfaction - it has since been proposed as one of one of the most important sources of employees' positive organizational attitudes (Spector, 1997). Third, to understand which dimensions of job satisfaction (intrinsic satisfaction, satisfaction with benefits, satisfaction with physical working conditions, satisfaction with supervision, and satisfaction with participation) are most affected by the perceptions of organizational justice of non-family employees of family firms, given that each dimension is related to different consequences on the behavior of the employees (Spector, 1997).

This paper is structured as follows. First, we introduce the theoretical foundations of the main concepts of this study and theoretically derive our research questions and hypothesis. Second, we present the sample as well as the methods used. Third, we present the empirical findings. Fourth, we enter into a discussion of the results. Fifth, we discuss the limitations of the study and suggest avenues for future research. We then present our final conclusions.

Theoretical foundations, research questions and hypothesis

Job Satisfaction

Job satisfaction has been considered as one of the most important and complex organizational variables (Heller & Watson, 2005; Ilies, Fulmer, Spitzmuller, & Johnson, 2009). Therefore, it is no surprise that over the years it has been an object of study by several authors (e.g., Bateman & Organ, 1983; Brayfield & Rothe, 1951; Faragher, Cass, & Cooper, 2013; Harari, Thompson, & Viswesvaran, 2018; Judge & Bono, 2001; Locke, 1969; Porter, Steers, Mowday, & Boulian, 1974; Spector 1997; Wanous, Reichers, & Hudy, 1997). These authors have found evidence pointing to the strong influence it has both on individuals and the organization. Thus, organizations are continuously concerned about keeping their employees satisfied, which is critical for an organization to be effective and efficient (Van Saane, Sluiter, Verbeek, & Frings-Dresen, 2003).

Due to the importance and popularity of job satisfaction within the organizational field, various researchers and practitioners have provided their own definitions of job satisfaction (e.g., Arnold, Robertson & Cooper, 1991; Beer, 1964; Locke, 1969; Spector, 1997). Despite the multiplicity of ways to define this construct, it is possible to find a common ground since most theoretical definitions cover the affective feeling employees have towards their jobs (Lu, While, & Barriball, 2005). This could be towards the job in general or specific aspects of it, such as salary, colleagues, or working conditions. Thus, one of the most commonly accepted and used definition of job satisfaction is the one proposed by Spector (1997, p. 2), where it simply refers to "the extent to which people like (satisfaction) or dislike (dissatisfaction) their jobs".

Regardless of its definition, job satisfaction can be seen as a unidimensional or multidimensional construct. In the first perspective, it is suggested that job satisfaction results from a global attitude towards work (e.g., Peiró & Prieto, 1996). In turn, the multidimensional approach posits that job satisfaction has to do with several work-related factors, which are taken into account separately (e.g., Cook, Hepworth, Wall, & Warr, 1981).

More recently, and in order to reconcile the different perspectives, job satisfaction has been considered as an overall constellation of attitudes about various aspects of the job (Lu et al., 2005). Therefore, as proposed by Mélia and Peiró (1989), in this study we operationalize the construct as an overall feeling about the job that results from five interrelated dimensions (i.e., intrinsic satisfaction, satisfaction with benefits, satisfaction with physical working conditions, satisfaction with supervision and satisfaction with participation)

According to Mélia and Peiró (1989), intrinsic satisfaction regards the satisfaction that the job offers for itself, the opportunities offered by the job to do what one likes, as well as challenges (to surpass) and goals to be achieved. Satisfaction with the supervision encompasses the proximity and frequency of supervision, support received from superiors, personal relationships with superiors, and equality and fair treatment received from the managers and from the company.

Satisfaction with the physical environment refers to the satisfaction with physical working conditions in the workplace (i.e., cleanliness, hygiene and sanitation, temperature, ventilation and lighting). Satisfaction with the benefits relates to the degree to which the company complies with the agreements, salary, promotions and development and training opportunities. Finally, satisfaction with the participation refers to satisfaction regarding the effective participation in the decisions of the team, of the company or simply in the decisions related to the performed tasks.

Despite the fact that these five dimensions are differently defined, all five are strongly correlated and it is only possible to credibly assess an employee level of job satisfaction when considered together.

Organizational Justice

Justice is a fundamental element in organizations, as it is essential for its effective functioning and strongly affects the satisfaction and performance of those working in them (Greenberg, 1990).

In the organizational context, when one speaks of justice, there is a tendency to associate the term with outcomes such as salary or the result of a performance review. However, employees also react to the processes by which those outcomes are determined and the way they are treated by their superiors (Colquitt, Conlon, Wesson, Porter, & Ng, 2001). Thus, the organizational justice construct has been developed in a multidimensional perspective that consists of four dimensions: (1) distributive, (2) procedural, (3) interactional interpersonal and (4) interactional informational justice.

Distributive justice is defined as the fairness associated with decisions related to the distribution of outcomes within the organization (Colquitt, 2001). Typical examples of organizational outcomes are salaries, benefits or promotions. The concept of distributive justice arises from the Theory of Equity (Adams, 1963) which considers justice as the result of the transaction that employees establish between the contributions they give to the organization (inputs), such as the level of effort, and what the organization gives them in return (outputs), such as salary. Additionally, distributive justice encompasses the result of the transaction between the contributions that other employees with similar roles give and what they receive in return.

Procedural justice refers to the employees' perception regarding the fairness of the management policies and procedures that regulate a process leading to decision outcomes (Coloquitt, 2001). It focuses on the process, i.e., the steps taken by the management to reach a just decision (Yean & Yusof, 2016). If the managerial processes and procedures are perceived to be fair, then employees will be more satisfied and likely to form a positive attitude towards management's decisions, which can indirectly lead to lower levels of conflict between employees and employer (Yean & Yusof, 2016).

However, employees react not only to the fairness regarding the distributed outcomes and procedures (i.e., distributive and procedural justice) but also to the fairness of interactions with the organizational identities. Thus, interactional dimension of justice, which focuses on the social aspects of the employee's relationship with the organization and management, plays a key role in the organizational fairness system (Yean & Yusof, 2016). Employees develop perceptions of interactional justice based on criteria, such as the explanations that the management gives about the decisions they make and the respect shown towards workers (Colquitt, 2001). Therefore, Colquitt (2001) refers / states that

interactional justice consists of two elements of justice: interpersonal and informational justice.
Interpersonal justice refers to the perception in one's treatment, i.e., employees are treated with dignity, respect, sensitivity and courtesy (Colquitt, 2001). While, informational justice is related to how decision-makers openly, honestly, and thoroughly explain the rationale for their decisions, i.e., the management is willing to share relevant information with employees.
Although these four types of organizational justice are defined is different ways, all four are interrelated and constitute the overall organizational fairness system (Ambrose & Schminke, 2007). According to Yean and Yusof (2016) if one of them is not present, it will be difficult to develop effective organizational justice. In this study we adopt Colquitt's (2001) model of organizational justice, since it has been considered the most suitable theoretical framework for the Portuguese context (Rego & Souto, 2004).

Research questions and hypothesis

Despite the growing interest in exploring differences and similarities between family and non-family firms and understanding and framing the particular dynamics and behaviors of family firms, there is still little research comparing key organizational aspects such as job satisfaction. Although numerous studies address this topic in family (e.g., Boles, 1996; Ruizalba, Soares, Arán, & Porras, 2016; Barnett & Kellermans, 2006; Khanin, Turel, & Mahto, 2012) and non-family firms (e.g., Alegre, Mas-Machuca, & Berbegal-Mirabent, 2016; Mobley, 1977; Khamisa, Oldenburg, Peltzer & Ilic, 2015; Lu, Lu, Gursoy, & Neale, 2016), none seems to explore whether the satisfaction levels differ between the employees in these two types of organization.
Thus, as a first attempt to assess differences in the levels of job satisfaction between non-family employees working in family and non-family firms', we propose the following research question:

RQ1. Do non-family employees of family firms and non-family firms' employees show differences in their levels of job satisfaction?
Existing research has demonstrated a positive relation between perceptions of organizational justice and employees' levels of job satisfaction across several organizational contexts (e.g., Colquitt *et al.*, 2001; Dundar & Tabancali, 2012; Masterson, Lewis, Goldman, & Taylor, 2000; Sy, Tram, & O'Hara, 2006). However, this relation has not yet been duly assessed in the family business context. Thus, the following hypothesis is posited:

H1. The perceptions of organizational justice positively affect the job satisfaction levels of non-family employees of family firms.
As previously mention, there is a gap in the family business literature regarding the impact of non-family employees' perceptions of organizational justice on their levels of job satisfaction. Expectedly, each of the dimensions of job satisfaction has different implications on the behavior of the employee (Spector, 1997. Therefore, we intend to explore which dimensions of job satisfaction (i.e., intrinsic satisfaction, satisfaction with the benefits, satisfaction with the physical working conditions, satisfaction with the supervision and satisfaction with the participation) are most affected by the perceptions of organizational justice of non-family employees of family firms.
Thus, and since empirical evidence in this context is lacking, our second research question was formulated:
RQ2. In family firms which dimensions of non-family employees' job satisfaction (i.e., intrinsic satisfaction, satisfaction with the benefits, satisfaction with the physical working conditions, satisfaction with the supervision and satisfaction with the participation) are most affected by their perceptions organizational justice?

Research methods

Sample and data collection

In the family business literature, there is a wide assortment of proxies that have been used to operationally define family firms (e.g., Gómez Mejía, Cruz, Berrone, & De Castro, 2011; Rutherford, Kuratko, & Holt, 2008). In this paper, the criterion of ownership and management control (Chua, Chrisman, & Sharma, 1999) was adapted to arrive at an operational definition. Therefore, a firm is classified as a family firm if at least 75 percent of the shares are owned by the family, and the family is the sole entity responsible for the management of the company. This guarantees that the family is, *de facto*, responsible for the governance, control and management of the firm.
In order to collect data on the perceptions of organizational justice and job satisfaction levels, employees were asked to complete an online survey consisting of the Organizational Justice Questionnaire developed by Rego (2000), followed by the Portuguese version (Ferreira, Fernandes, Santos, & Peiró, 2010) of *Cuestionario de Satisfaccion Laboral S20/23* developed by Meliá and Peiró (1989).
Data from family firms' employees were collected with the invaluable help of the Portuguese Family Business Association, who kindly shared the survey link via e-mail as well as

in their institutional website. As to the data collected from non-family firms' employees, the survey link was shared through e-mail using a publicly available mailing list. The data was collected between January and April 2018.

The final sample consisted of the responses of 205 employees from companies based in Portugal. Out of the 205 employees who participated in the study, 98 were non-family employees of family firms and 107 non-family firms' employees, 59.5% of them were females, with an average age of 41 years and an average tenure of 9.67 years. Most participants had completed a bachelor's degree (44.9%), followed by the ones with a master's degree (24.5%), 19.4% had a high school diploma, while 11.2% had completed middle school. Regarding the type of work contract, 149 had a permanent contract, 41 a fixed term contract, 9 were on temporary contracts, and 6 were on internships. All of the 205 respondents were employees of privately-owned small and medium-sizes enterprise with no management responsibilities in the organization.

Out of the 98 non-family employees of family firms, most were female (52%), with an average of 41 years and working in the company for 8.91 years. Regarding the 107 non-family firms employees, these were predominantly females (66.4%), with an average age of 40 years, working in the company for 10.44 years.

Instruments

Job Satisfaction

The employees' job satisfaction levels were assessed using the Portuguese version (Ferreira *et al.*, 2010) of *Cuestionario de Satisfaccion Laboral S20/23* developed by Meliá and Peiró (1989).

The instrument used is composed of 23 items distributed in 5 dimensions: 1) Intrinsic Satisfaction; 2) Satisfaction with the Physical Environment; 3) Satisfaction with Benefits; 4) Satisfaction with Supervision; 5) Satisfaction with the Participation.

The intrinsic satisfaction dimension is assessed by 4 items, (e.g., "Satisfaction that your work produces by itself."), the satisfaction with the physical environment gathers 5 items, (e.g., "The cleanliness, hygiene and healthiness of your workplace."), and the satisfaction with benefits dimension brings together 5 items (e.g., "The salary you receive."). As for the dimension that evaluates satisfaction with the supervision, it consists of 6 items, (e.g., "The personal relationships with your superiors.") and, finally, the satisfaction with participation measured by 3 items (e.g., " Your participation in the decisions of your team."). The 23 items were rated on a 7-point rating scale, ranging from 1 "Extremely Unsatisfied" to 7 "Extremely Satisfied". Cronbach's Alpha was computed for reliability and its value was found to be 0.948.

Organizational Justice

In order to measure the perceptions of organizational justice, the Organizational Justice Questionnaire developed by Rego (2000) was used. The instrument is composed by 14 items distributed considering 4 dimensions: 1) Distributive Justice, 2) Procedural Justice, 3) Interactional Interpersonal Justice and 4) Interactional Informational Justice.

The subscale of distributive justice consists of 4 items (e.g., "In general the rewards I receive are fair."), the procedural justice dimension brings together 3 items (e.g., "My organization has mechanisms that allow employees to appeal decisions."), the interactional interpersonal justice dimension is assessed by 3 items (e.g., "My superior is completely sincere and honest with me."), finally, the interactional informational justice subscale is composed of 4 items (e.g., "My superior offers adequate justification for decisions regarding my work.").

The 14 items were rated on a six-point rating scale ranging from 1 "Completely False" to 6 "Completely True". Cronbach's Alpha was computed for reliability and its value was found to be 0.953.

Results

Means comparison and t-test were used in order to answer our first research question, concerning the differences between family and non-family firms in terms of the employees' levels of satisfaction. The t-test analysis for independent groups (see Table I) shows that there are no differences regarding the levels of job satisfaction between family (M = 4.61 SD = 1.16) and non-family firms' employees (M = 4.48, SD = 1.22), t (203) = .795, p = .428, d = .11.

Table 1 Means comparison and t-test results – job satisfaction in family and non-family firms.

Variable	t	p	df	Family Firms		Non-family Firms	
				M	SD	M	SD
Job Satisfaction	.795	.428	203	4.61	1.16	4.48	1.22

N = 205

We then addressed hypothesis 1 that suggested that the satisfaction levels of non-family employees' of family firms was positively affected by their perceptions of organizational justice. Simple regression analysis (see Table II) confirms that the perceptions of organizational justice have a strong positive impact on the levels of job satisfaction of non-family employees of family firms (t = 14.774, $ß$ = .835, R^2 = .697, p < .001). Thus, the hypothesis was confirmed.

Table 2 Regression results - organizational justice and job satisfaction in family firms.

Independent Variable	Dependent Variable	R²	F	ß	t	p
Organizational Justice	Job Satisfaction	.697	218.259	.835	14.774	<.001

N = 98

Table 3 Regression results - organizational justice and job satisfaction in family firms.

Independent Variable	Dependent Variable	R²	F	ß	t	p
Organizational Justice	Intrinsic Satisfaction	.302	50.802	.618	7.668	<.001
	Benefits Satisfaction	.640	169.013	.800	13.001	<.001
	Physical Environment Satisfaction	.164	18.676	.405	4.322	<.001
	Supervision Satisfaction	.609	148.046	.780	12.167	<.001
	Participation Satisfaction	.241	41.788	.535	5.573	<.001

N = 98

As to the second research question, regarding which dimension of job satisfaction is most affected by the perceptions of organizational justice in family firms. Results (see Table III) show that the perceptions of organizational justice have a significant impact on all job satisfaction dimensions. However, satisfaction with benefits is the dimension most affected by the perceptions of organizational justice of non-family employees in family firms (t = 13.001, $ß$ = .800, R^2 = .640, p < .001). Results show that the satisfaction with the supervision is also affected by the perceptions of organizational justice, however to a lesser extent (t = 12.167, $ß$ = .780, R^2 = .609, p < .001).

Discussion

The objective of this study was firstly to explore whether there were differences between family and non-family firms regarding the employees' levels of job satisfaction and, secondly, to understand the influence of organizational justice perceptions on the satisfaction of non-family employees within family businesses.

Regarding the first research question, results show that there are no significant differences between non-family employees of family firms and non-family firms' employees regarding their levels of job satisfaction. Although no significant differences were found, it is important to note that the overall level of job satisfaction of non-family employees of family firms is higher than the non-family firms' employees. This can be explained by the fact that in small and medium-sized family firms, non-family members tend to form attachments and bonds to the business (i.e., psychological ownership of the company (Sieger, Zellweger, Nason, & Clinton, 2011)) and to other employees which makes them genuinely feel as part of the family (Azoury, Daou, & Sleiaty, 2013). According to de Vries (1993) this facilitates access to senior management, as it becomes easier for non-family employees to ask questions and participate in decisions, making these firms often less bureaucratic than non-family firms, thus translating into higher levels of satisfaction.

Furthermore, given their value-centered nature inward orientation and sharing environment, family businesses, (Alderson, 2011) tend to care more about their employees' well-being compared to non-family firms, and this friendliness promotes job satisfaction (Azoury *et al.*, 2013). Therefore, keeping in mind that in our sample all employees worked in small and medium-sized enterprises it is possible to understand that this may support our findings.

As to our first hypothesis, results show that the perceptions of organizational justice positively influence the job satisfaction levels of non-family employees of family firms. As expected, our findings are largely the same as those established in broader research on non-family firms, corroborating the existing literature that establishes this same positive relation across multiple organizational contexts (e.g. Leung, Smith, Wang & Sun, 1996; López-Cabarcos, Pinho & Rodríguez, 2015; Nadiri & Tanova, 2010; Sia & Tan, 2016).

In general, these results are in line with the classic literature on job satisfaction. According to Vroom (1964) job satisfaction has its origin in the set of affective orientations that employees have in relation to their role and, consequently, translates into attitudes that reflect satisfaction or dissatisfaction with the work. In this sequence/ situation, when employees perceive their companies as fair, there is a greater satisfaction, identification and involvement of employees in work activities, which leads to an increase in the quality of work and consequently in the success of the company (Kristensen & Westergaard-Nielsen, 2006).

Moreover, focusing on the family business context, Barnett and Kellermans (2006) suggest that, while all employees, both family members and non-family members, form perceptions about the fairness with which they are treated within the organization, the particular nature of family firms may have unique effects on what non-family employees perceive as fair for certain organizational policies (e.g., human resources management practices). This becomes even more important as perceptions of organizational justice are positively related to aspects that are core for the survival of any organization, such as job satisfaction and organizational commitment (e.g., Mathieu & Zajac 1990; Cohen-Carash & Spector, 2001).

Regarding our second research question, it was found that perceptions of organizational justice predict each of the five job satisfaction dimensions, but more strongly linked to satisfaction with the benefits and supervision. This means that the perceptions of organizational justice of non-family employees of family firms can strongly predict the satisfaction of individuals with aspects such as salary, development and training opportunities, support received from superiors, personal relationships with superiors and fair treatment from the managers (Mélia & Peiró, 1989). These aspects (e.g., salary, development opportunities or fair treatment from the managers) are often intrinsically related with the perceptions of organizational justice (Colquitt, Lepine, Wesson, & Gellatly, 2011). Therefore, the strong relation found between the perceptions of organizational justice and the satisfaction with the benefits (e.g., salary) and with the managers (e.g., relationship with the supervisors) becomes sound/ is confirmed, which is once again related to the notion that in small and medium-sized family firms non-family members tend to feel and to be treated as part of the family (Azoury *et al.*, 2013; Pimentel, Scholten, & Couto, 2017). Moreover, these results are in line with the theory of social exchange (Blau, 1964), which postulates that when an individual is treated fairly, social exchanges are generated. Thus, employees who perceive their firm's organizational practices and the way they are treated as fair, will respond with higher levels of job satisfaction (Colquitt *et al.*, 2011).

Limitations and future research

This study, as any empirical work, comes along with several limitations that constitute opportunities for future research.

First, none of the employees who participated in this study have a management position in the organization, which does not allow us to provide a global picture of the organizational reality. Future research could benefit from further exploring differences in the employees´ levels of satisfaction at a multi-hierarchical level, in particular focusing on non-family employees working at the higher hierarchical levels of family firms.

Second, employees responded to the questionnaire in a single moment, through the internet, so apart from the answers being subjected to the momentary feelings and interpretations of the individuals, it was not possible to control a number of external variables that could bias the results.

Third, employees who participated in this study were all working in small and medium-sized companies based in Portugal, therefore limiting the generalizability and extrapolation of the findings. For this reason, it would be pertinent to replicate the study by increasing the sample size and sampling across companies with different sizes as well as in other countries and socioeconomic contexts.

Conclusions

This study contributes to the family business research by: (1) providing further knowledge on the comparison between family and non-family firms, in particular regarding the employees' levels of job satisfaction (2) improving our understanding on the relation between the perceptions of organizational justice and the levels of job satisfaction of non-family employees working in small and medium-sized family-owned enterprises.

Our findings reveal that family firms' non-family employees do not differ from non-family firms' employees regarding their job satisfaction levels. Furthermore, it was found that, in family firms, there is a strong positive influence of the

perceptions of organizational justice on the satisfaction levels of non-family employees of family firms, especially in respect to the satisfaction with the benefits and with the supervision.
These findings provide meaningful insights that translate into valuable additions to family business research both to literature and to practice.

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Barriers or motivation? Career progress in the family firm: daughters' perspective

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Abstract Women are under-represented in high-level management and administrative positions in family businesses. To date, the research on career motivation remains in the shadows of research on gender barriers. By acknowledging the relation between the two, it is proposed to look holistically at the problem and to empirically examine the relation between motivation, barriers, and position of daughters in family business in the family firm. By conducting SEM analysis, it was found that motivation to act ethically is positively associated with high positions and that barriers “specific to family business” are negatively related to high positions. This article validates two scales and makes methodological contributions to the stream of research on daughters in family business that to date relies mainly on qualitative studies.

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PALABRAS CLAVE
Empresa familiar; género; motivación; barreras; posición; ética

¿Barreras o motivación? Progreso de la carrera en la empresa familiar: la perspectiva de las hijas

Resumen Las mujeres están subrepresentadas en los puestos directivos y de gestión de alto nivel en las empresas familiares.
Hasta la fecha, la investigación sobre la motivación para la carrera permanece en las sombras de la investigación sobre barreras de género.
Al reconocer la relación entre los dos, se propone mirar holisticamente al problema y examinar empíricamente la relación entre la motivación, las barreras, y la posición de las hijas en la empresa familiar.
Al realizar el análisis SEM, se encontró que la motivación para actuar éticamente está asociada positivamente con posiciones altas y que las barreras “específicas para las empresas familiares” están relacionadas negativamente con las altas posiciones. Este artículo valida dos escalas y realiza contribuciones metodológicas a la corriente de investigación sobre hijas en empresas familiares que hasta la fecha se basan principalmente en estudios cualitativos.

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Introduction

Women play important implicit and explicit roles in family businesses. However, most of the academic literature and business reports suggest that women are under-represented in high-level management and administrative positions in family businesses (Englisch et al., 2015; Casillas Bueno et al., 2015; Steinbrecher et al., 2016). The under-representation was traditionally explained by the fact that male successors are preferred over female successors due to primogeniture (Dumas 1989; Hollander and Bukowitz, 1990); invisibility (Hollander and Bukowitz, 1990); and role incongruity between a leader role, family role and gender role (Hollander and Bukowitz, 1990; Salganicoff, 1990).

However, recent research indicates that incidents of discriminative practices cannot statistically explain the huge gap between female and male presence in high-level positions in family firms (e.g. Pascual Garcia, 2013; Steinbrecher et al., 2016). With the increased inclusion of women in management roles, daughters in family business might have career aspirations that are not related to the family firm. As Schröder, Schmitt-Rodermund, and Arnaud (2011) suggest, having entrepreneurial parents may foster daughters' interest in doing business in general, but the specific family business may not be attractive to them. Additionally, some authors suggest that daughters in family businesses are "excluding themselves" from being potential successors by not showing interest (Curimbaba, 2002; Otten-Papas, 2013). Thus, family businesses might be losing important human capital in the case of daughters in family business and their descendants not only due to the presence of gender barriers but also due to the lack of motivation. Therefore, family business incumbents might increase the available stock of human capital by fostering motivation of daughters. This study attempts to revise and update existing knowledge about antecedents of the gender gap in high management positions from an academic point of view.

To address this complexity, it is suggested to look holistically at the problem and to explore both: the role of barriers and the role of motivation. Thus, the goal of this paper is to develop a tool to measure motivation and barriers that daughters in family business face and to empirically examine the relation of different types of motivation and barriers with daughters' positions in family firms. Results of this study might induce further quantitative investigation of the interrelation between motivation and barriers.

Motivation and barriers of daughters in family business

To date, research on the motivation of daughters in family business remains unsystematic and underexplored. A meta-study by Akhmedova, Cavallotti, and Marimon (2015) that examined articles on the motivation of daughters in family business suggested that career motivation seemed to be guided by a combination of (1) extrinsic motivation such as better remuneration, flexibility of hours, job security, and comfortable lifestyle; (2) intrinsic motivation like autonomy / independence in choosing responsibilities as well as interesting, challenging, and satisfying work; and (3) pro social or transcendent/non-material motivation, for example helping family and giving back to the family. Of special interest was the finding that females reported somewhat more transcendent / non-material motivation (motivation to act ethically towards different stakeholders of the firm) than men.

Following this stream, the article also draws on the anthropological theory (Perez López, 1991, 1993, 1997). This theory is used because it is based on three types of motivation that fit with the description of motivation shown by daughters in family business. The anthropological theory is based on the idea of rational interaction and learning. Positive learning happens when agents consistently react as expected: the climate of trust among organization members improves (Perez Lopez, 1991). Negative learning is also possible, when one feels betrayed by another. As a result, responsible behaviour is always required, since any business decision would affect many people. Thus, leaders who act not only out of extrinsic and intrinsic motives, but also out of ethical considerations (transcendent / non-material motivation), obtain, in the long run, greater recognition by their colleagues and subordinates. Leaders who demonstrate non-selfish motivation will unite subordinates to develop a genuine interest in their business, resulting in more effective and efficient solutions. It can be hypothesized that daughters in family business who act not only out of extrinsic and intrinsic motivation but also out of ethical considerations (transcendent motivation) tend to be promoted to higher leadership positions. This proposition will be discussed and tested further.

Daughter barriers to leadership

Barriers to leadership in family businesses have been discussed during the last several decades as the main factor impeding progress of daughters in family business. Cognitive theories of motivation relate perception of success to motivation (i.e. Bandura, 1997). Therefore, when considering motivation, it is important to take the perception of barriers into account. The review of literature on the next generation in family firms yielded the following types of barriers: (1) barriers specific to family businesses and (2) general gender barriers.

There are several facets under the rubric of gender barriers specific to family businesses: primogeniture, invisibility, role incongruity, and lack of mentoring (Gupta and Levenburg, 2013). First, primogeniture, or "the transfer of leadership from father to the first-born son" (Cole, 1997), was widely discussed in the family business literature, and many authors confirmed that gender can be the main factor when determining a successor, with males being preferred (Keating and Little, 1997) and women being "rarely considered serious candidates" (Martínez Jimenez, 2009, p. 56) and "overlooked as potential successors unless a family crisis creates the opportunity for them" (Dumas, 1989). Still, some owners even "prefer to sell the business rather than putting the daughter in a leadership role" (Dumas, 1992). Conventionally, daughters from families with more brothers are less likely to become successors (Curimbaba, 2002; Haberman and Danes, 2007; Ahrens, Landmann and Woywode, 2015).

Related to primogeniture, daughter invisibility is the next most important issue discussed in family business literature. Being invisible in the family business means being "viewed by others, whether within or outside the business, not similarly as the male members" (Hollander and Bukowitz, 1990; Cole, 1997). Cole (1997) provides a good illustration for this concept, given by one of the daughters in family business in her study: "well, even when customers come here, I think they prefer to deal with my husband. Sometimes I feel like I get the brush off."

Role incongruity or role conflict refers to the two incompatible roles (family and business) contained in family business relationships (Salganicoff, 1990; Cole, 1997). The father-daughter relationship can be especially vulnerable to the role conflict (Glover, 2014; Deng, 2015). A father might fail to define the daughter's role in the company and expect her to behave as a businesswoman, while at the same time seeing her as "daddy's little girl" (Dumas, 1989), making it difficult for her to establish her own sense of identity (Deng, 2015; Hytti, Alsos, Heinonen, Ljunggren, 2017).

This role conflict is exacerbated by the "traditional" conflict between leader and gender roles, consisting in an unfavourable double discrepancy (Eagly and Karau, 2002; Koening et al. 2011; Ely, Ibarra, and Kolb 2011). On the one hand, women are less favourably evaluated because leadership ability is more stereotypical of men than of women. On the other hand, they are less favourably evaluated because agentic behaviour is less desirable in women than in men.

Finally, the lack of mentoring and family support links to the problem of unequal treatment of daughters and sons. Rosenblatt (1985) argued that daughters in family business were not encouraged and supported in the same way as sons. And while identifying key differences between daughters and sons, Iannarelli (1992) points out that "daughters spend less time in business, develop fewer skills and are less frequently encouraged professionally than their male siblings".

On the other hand, daughters in family business are not exempt from traditional or general gender barriers that are mentioned in the literature on gender leadership, brought on by either (1) macro factors: "old boys network", lack of role models, work-family balance, hierarchy dominated by males or (2) micro factors: low self-esteem and the perception of a lack of leadership qualities.

The interplay of macro (societal and cultural attitudes) and micro (individual and family-related) factors is not always straightforward (Wang, 2010). Taking the example of the work-life balance, one of the widely discussed topics, this issue will be explained. While some authors believe that family conflict for daughters in family business is less stiff / serious (e.g. Salganicoff, 1990), others come to the opposite conclusion (e.g. Vera and Dean, 2005). Family conflict, when experienced, results in that daughters "advance as fast as men, but not always want to advance" (Cole, 1997). Cole (1997) suggests that the glass ceiling should be better called "mirrored ceiling" - giving women opportunity to reflect on why they want to reach upper management positions, and if needed, return to lesser positions. On the other hand, some authors argue that daughters are often "blind to their opportunities in family business" (Overbeke et al., 2013) due to activation of "automatic processes prescribed by gender roles", reflecting role congruity theory (Eagly and Karau, 2002) and gender schemas (Bem, 1993). Thus, the division between micro and macro factors is not always clear from the literature.

Self-confidence is a subjective estimation of one's ability to perform a task - estimation based on previous successes or failures as well as on skills, knowledge, and access to resources (financial, social, etc.). Women's confidence, in both the belief in their own abilities as well as the capability of communicating confidence, tends to be lower than that of men. As an example, research amongst MBA women shows that while women consider themselves equally capable as their co-workers most men consider themselves more capable than their co-workers (Eagly, 2003).

Women who experience barriers - whether family-related (primogeniture, role incongruity, lack of support), social ("old boys network", male-dominated organizational hierarchy (McDonald, 2011), or internal (low self-esteem, low

confidence) – will face more difficulties in career progression. It is probable that high barriers will lower their career aspirations and demotivate them from taking on challenging tasks.
Hypothesis 1: Perceived barriers have a negative relationship with position.

Extrinsic motivation

In terms of the anthropological theory (Perez López, 1991), extrinsic motivation might be defined as motivation for an activity that is done for an isolated result of an acting person (not inherent satisfaction). This result may be economic and come from the organization directly (a salary or bonus) but may also be non-economic and come from other sources (prestige and social status, which is a recognition from family, friends, or other people). The review of literature on the next generation in family firms yielded the following areas of extrinsic motivation: (1) work–life balance, (2) monetary issues, and (3) easy career.
The work–life balance is the cornerstone of women's work motivation. According to Cole (1997) and Vera and Dean (2005), combining work with a caretaking role is one of the biggest preoccupations of working females. Salganicoff (1990) found that women in a family business perceive it as a more flexible environment for raising children. Other studies also cite flexible hours, quality of life, being their own boss, and a reasonable schedule as benefits that attract women to family businesses (Dumas et al., 1995; Vera and Dean, 2005).
The role of monetary compensation is important and cited throughout the literature. Although working for a family company does not automatically provide a better salary or warrant other economic benefits, some family business successors assume that a family business might be a good source of financial security and stability, even for an extended family, and provide wonderful quality of life (Dumas et al., 1995, Dumas, 1998). Further, a family business can offer the opportunity to enter the company without formal barriers and to be promoted faster for some daughters in family business. However, “grabbing this opportunity, especially when experiencing difficulties elsewhere” (Dumas, 1998, p. 226) might be a form of nepotism for those who are seeking an easy career.
Daughters' commitment to family businesses based solely or predominantly on extrinsic motivation is not infrequent, but it might be damaging to the business or at least not desirable for business development. For those of the previous generation who desire to see their company growing and developing after succession, it is natural to search for a successor who has relevant attributes such as skills, motivation and abilities to further develop the company (Sharma, 2004). Thus, daughters who see family businesses only as a good source of financial security and stability, that provide wonderful quality of life and easy career (Dumas et al., 1995, Dumas, 1998) might be facing higher leadership barriers imposed by the previous generation. Curimbaba (2002) states that a certain type of women – invisible heiresses , who view family businesses as a source of accumulated wealth - believe that the income balances out / compensates being invisible in the company. Thus, previous studies point to a seeming trade-off involving extrinsic motivation, barriers and position.
Hypothesis 2: Daughters' motivation based on extrinsic outcomes is positively associated with perceived leadership barriers.
Hypothesis 3: Daughters' motivation based on extrinsic outcomes is negatively associated with high positions in management.

Intrinsic motivation

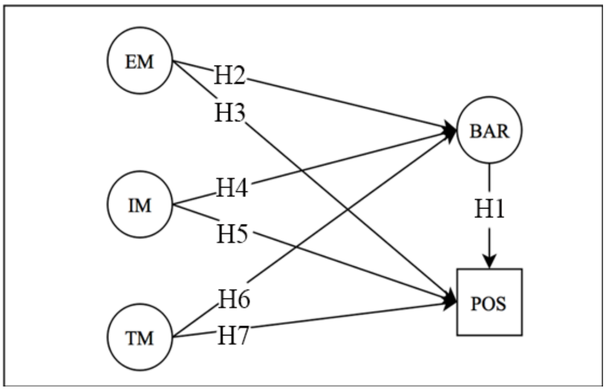
An intrinsically motivated activity is done for the inherent satisfaction of the person acting. It deals with the satisfaction that the person obtains from the work itself. The review of literature on the next generation in family firms yielded the following areas of intrinsic motivation: (1) professional learning, (2) interest, and (3) enjoyment.
Professional development is cited by many sources. Handler (1989) suggests that a successor's willingness to take over the firm increases if there is alignment with career needs. Dumas (1998) states that the decision to join a family business was partly guided by the expectation of connecting interests and educational training. A family business is also a place where daughters can receive personalized mentoring from their parents through socialization (Dumas, 1998).
Many authors have cited interest in work as a motivation to work in a family business (Handler, 1992; Dumas et al., 1995; Stavrou, 1998). These include the ability to control work tasks, being independent at work, and having interesting and challenging tasks (Dumas et al., 1995; Dumas, 1998).
Finally, working with family members can be enjoyable. Under certain assumptions, being family members means having similar tastes, reactions, sharing philosophy and values. There might be also other reasons, as noted by Constantinidis and Nelson (2009, p. 48): “Those with pull motivations enjoyed working in the family firm and wished to work with their parents.”
Daughters in family business who are intrinsically motivated spend more hours on work, are more proactive and eager to learn. Consequently, they will take on more responsibility as well as more difficult and challenging projects, and will learn more, both personally and professionally. Such an attitude will help them gain the respect of their colleagues. Thus, according to Mathew (2016)

strong willingness to leadership and growth orientation may increase daughters' likelihood of being selected as successor. This is confirmed by previous research. According to Dumas (1998) the individual characteristics of a daughter might affect her career dynamic. Cole (1997) suggested distinguishing between women who cannot advance due to barriers, and women who do not want to advance (p. 366-367). According to Dumas (1998), daughters with proactive or evolving vision of business have better chances of being recognized, promoted and supported by their family, than daughters with reactive vision. There is a big/ substantial amount of literature that supports the relation between personal characteristics (such as proactivity and eagerness to learn) and improved career outcomes, both objective and subjective (Judge, Cable, Boudreau, Bretz, 1994; Seibert, Crant and Kraimer, 1999; Seibert, Kraimer, Crant, 2001). Although, this might be subjected to the family structure (Curimbaba, 2002), there is a greater likelihood that parents will feel more confident to gradually share leadership responsibilities with daughters who are more confident in their business skills (Overbeke et al., 2013) seeing them as viable successors (Sharma, 2004).

Hypothesis 4: Daughters' motivation based on intrinsic outcomes is negatively associated with perceived barriers to leadership.

Hypothesis 5: Daughters' motivation based on intrinsic outcomes is positively associated with high positions in management.

Figure 1 Hypotheses.



EM - Extrinsic motivation, IM – Intrinsic motivation, TM – Ethical motivation, BAR – Barriers, POS – Position

Ethical motivation

The anthropological theory denominates ethical motivation as "transcendent". This motivation starts and sustains an activity that is done anticipating the reaction of another person, who is related to the company directly or indirectly; and, therefore is an ethical motivation. The review of literature on the next generation in family firms yielded the following areas of ethical motivation: (1) business contribution, (2) family contribution, and (3) social contribution.

Several aspects are included in business contribution. First, employee well-being might seem to be a socially desirable result for a company that has nothing to do with career choice. However, family businesses are often long-term oriented (Ward, 2016, p. 186); investing in employees and treating them as family members is logical. Thus, comparing a family firm to other companies, the next generation might prefer working, for instance, for a smaller but more responsible family company. In a similar vein, relationships with partners and customers are arguably the result of managerial "consistency" in interactions, and good relationships might be an attractive issue to consider. Finally, the ability to improve upon and contribute to the common goal: "family pride", the product or service, perpetuation of the business in general, – can be motivation enough to enter the family firm (Sharma and Irwing, 2005; Dumas et al., 1995).

Contribution to family is an important issue in family business literature, especially because daughters in family business are often drawn to the business by a desire to help the family (Daspit, Holt, Christman and Long, 2016; Peters, Raich, Märk and Pichler, 2012), continue the family tradition, give back to the family, live the family dream, take care of parents, or create something to pass on to children (Salganicoff, 1990; Dumas, 1998; Vera and Dean, 2005, Murphy and Lambrechts, 2015), with salary being a secondary issue (Overbeke et al., 2013).

Finally, social contribution was rather hypothesized based on the literature about social emotional wealth (SEW) (Berrone, Cruz, Gomez-Mejia, 2012). According to this approach, in order to preserve their stock of socioemotional wealth, family business members often increasingly participate in different forms of corporate social responsibility, and in general, take a proactive stand towards external stakeholders of the firm.

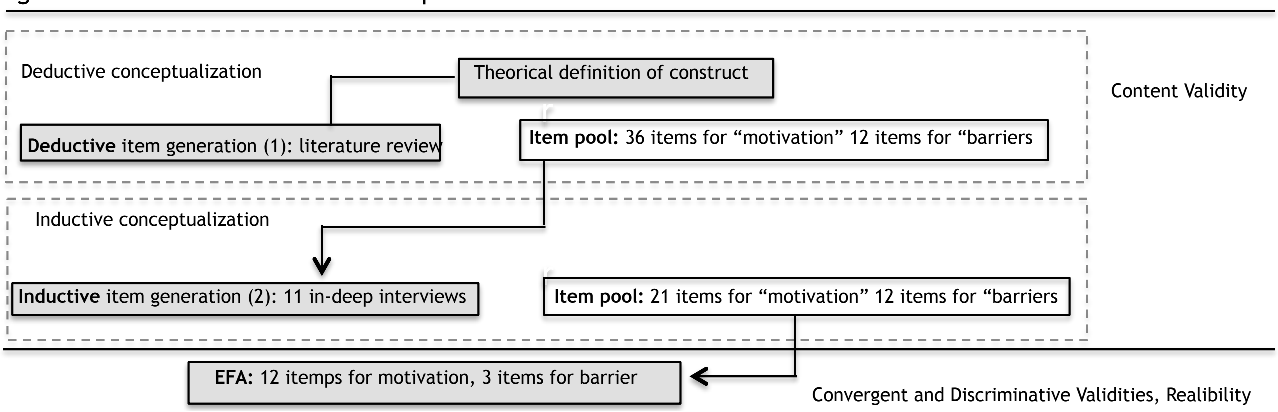
Given that the high standards of daughters match that of the family, daughters in family business who are motivated ethically (or transcendently) may come to play a more indispensable role in the company by balancing the interests of the company, employees, clients, and partners. Having internalized family values, they are more likely to be examples of integral leaders, enjoying the respect of family and non-family employees, and so/ thus there is a higher possibility that parents would not impose barriers to leadership and that they will occupy higher positions.

Hypothesis 6: Daughters' motivation based on ethical motivation is negatively associated with high barriers to leadership.
Hypothesis 7: Daughters' motivation based on ethical motivation is positively associated with high positions in management.
The hypotheses are presented in figure 1.

Scale development: motivation and barriers

Existing scales of work motivation, such as the motivation at work scale (MAWS, Gagne et al. 2010), the work extrinsic and intrinsic motivation scale (WEIMS, Tremblay, 2009), and the situational motivation scale (SIMS, Guay, Vallerand, and Blanchard, 2000), are based on the self-determination theory (Deci and Ryan, 2010) and therefore do not include ethical (transcendent) or pro social motivation. Neither of these scales is adapted for use within the family business context, which is a rather specific career path.
To be able to proceed, it was necessary to develop and validate measurement tools for motivation and barriers. Content validity (face validity) refers to the extent to which the meanings of a concept are captured by measures (e.g. Haynes, Richard, and Kubany, 1995). There are two basic approaches to item development: (1) using classification prior to data collection and (2) identifying constructs based on individual responses (Hinkin 1995, p. 969). Normally, only one approach is used to develop an item pool. In this research, in order to increase content validity, a two-fold approach was undertaken.
In the first step, the deductive or "classification from above" (Hinkin, 1995) approach was taken by developing theoretical conceptualization based on a literature review of motivational theories and academic literature on the next-generation perspective in family firms. As recommended by acceptable scale development practices (e.g. Churchill, 1979; DeVellis, 1991), an extensive item pool was created, consisting of 36 items for measuring motivation and 12 items for measuring barriers (Appendix 1 and 2). The items and sources are presented in Appendices A and B.
After that, an inductive approach, or "classification from below" (Hunt, 1991), was implemented by refining theoretical conceptualization through a series of in-depth interviews with a heterogeneous sample of daughters in family business. A purposefully formed sample consisting of 11 daughters in family business was used in order to refine, reduce, and transform the items. The sample was heterogeneous and comprised three types of females: (1) daughters in family business who succeeded their fathers as leaders and were actually in charge of the entire business, (2) daughters in family business who were in charge of a department (with the succession already in place or not), and (3) daughters in family business who left the family firm. Semi-structured interviews were conducted. The areas of interest included (1) motivation for and antecedents of/ reasons for entering the family firm, (2) motivation to continue working in the family firm, (3) motivation to take over the family firm (where applicable), and (4) motivation to leave the family firm (where applicable). The preliminary list of items was taken to each interview to monitor which types of motivation were covered by the interviewee. The interviewee was then asked about the items that she had not mentioned. Special attention was paid to how the interviewee formulated her motivation. As a result, it was possible to reduce the number of items measuring motivation from 36 to 21. The number of items measuring barriers remained the same.
Finally, data was collected from a self-selected sample and simplified by means of exploratory factor analysis (EFA) and confirmatory factor analysis (CFA). Figure 2 shows the logic of procedures for scale development.

Figure 2: Procedures for scale development and validation



Data collection

The non-probability sampling, formed as a convenience sample with the SABI database, was used. We followed prior literature to impose certain restrictions to reach a set that would serve the goals of the study and allow to generalize/ the generalisation of results the results (Arosa et al., 2010; Cabrera-Suárez et al., 2014; Diéguez-Soto et al., 2015; Vandemaele and Vancauteren, 2015). For the purposes of this research, the family firm in this study needed to be managed and owned by at least two generations of family (Astrachan and Shanker, 2003). The database was searched by "region" (Catalonia, Madrid), "year of creation" (before 1965), and "gender" (directors, shareholders, female), and the preliminary number of companies obtained from the database was 2172: 1142 from Catalonia and 1030 from Madrid.

Table 1 sample description – companies.

Question	Options	(N)	(%)
Turnover last year available (Euro)	**Less than 1.000.000**	**9**	**11 %**
	Between 1.000.000 and 5.000.000	**27**	**36 %**
	Between 5.000.000 and 20.000.000	**21**	**18 %**
	More than 40.000.000	**6**	**9 %**
	Mean	11,266,000	
	Median	3,992,000	
Number of employees	**Less than 10**	**14**	**21 %**
	Between 10 and 20	**13**	**20 %**
	Between 20 and 60	**21**	**31 %**
	Between 60 and 100	**9**	**14 %**
	Between 100 and 500	**9**	**14 %**
	Mean	57	
	Median	22	
Generations	**2**	**40**	**60 %**
	3	**19**	**29 %**
	4	**5**	**8 %**
	More than 5	**2**	**3 %**
	Total	**66**	**100 %**
Family members working in the company	**1 or 2**	**25**	**42 %**
	3 or 4	**21**	**28 %**
	Between 5 and 10	**19**	**28 %**
	More than 10	**1**	**2 %**
	Total	**66**	**100 %**
Education	**University grade**	**15**	**23%**
	Master	**28**	**42%**
	Master MBA	**18**	**27%**
	PhD	**2**	**3%**
	Total	**63**	**95%**
Years working in family firm	**Less than 5**	**4**	**6%**
	Between 5 and 10	**17**	**26%**
	Between 10 and 20	**32**	**48%**
	More than 20	**9**	**14%**
	Total	**62**	**94%**
Position	**Basic level, internship**	**0**	**0%**
	Professional	**8**	**12%**
	Head of Department	**33**	**50%**
	In charge of the whole company	**25**	**38%**
	Total	**66**	**100%**

The sample was screened several times in order to delete those in the process of liquidation, those too big (turnover more than 100 million Euro) or too small (turnover less than 200 thousand Euro), or those with a negative return on assets that was too large (less than -10). After adjusting to these criteria, a total number of 397 companies was approached by phone and asked to respond to the survey. During the telephone conversation the aim of the study was explained, so those who agreed to participate also identified themselves as a family business (Westhead and Cowling, 1998; Westhead et al., 2001; Astrachan, Klein, Smyrnios, 2002) and agreed with the fact that at least two generations are currently working in family business (Astrachan and Shanker, 2003).

The survey collected information about the number of generations, family members, and employees, position of the daughter, her level of education and work experience. It was mandatory to name the company. After two months, a total number of 66 responses were collected. (Table 1 and 2).

Questions related to position, barriers and motivation were mandatory, so there was no missing data. Questions were assessed on 1 to 5 Likert scale. All data was collected in one way, using Survey Monkey TM.

In order to validate the measurement tools, exploratory factor analysis (EFA) was implemented in SPSS. Data for motivation and for barriers was computed separately.

Table 2 sample description by motivation and barriers.

	Mean	St. Dev.	Median	Min	Max
Extrinsic Motivation	**2,90**	**0,80**	**2,71**	**1,57**	**5**
Intrinsic Motivation	**3,93**	**0,80**	**4,07**	**1,85**	**5**
Ethical Motivation	**4,01**	**0,75**	**3,42**	**2**	**5**
Barriers	**2,25**	**0,80**	**2,04**	**1,66**	**4,08**

All variables were measured on 1-5 Likert scale.

EFA Motivation

Method of extraction: principal components analysis, Varimax rotation with Kaiser. Both the Kaiser-Meyer-Olkin (KMO) index (0.760) and Bartlett's test (X2 272.422; gl. 210; Sig. 0.000) indicated that factor analysis was appropriate for this data (Hair et al., 1998). Analysis of principal components indicated that three factors explained the 69.5% of variation in the sample.

The first factor was labelled "intrinsic motivation" (Interest: do interesting tasks; do challenging tasks; professional development: align career interests; develop professionally; enjoyment: do the work that I enjoy), the second "ethical motivation" (family contribution: help family; work for family; social contribution: provide benefit for others; business contribution: mentor employees), and the third "extrinsic motivation" (easy career: enter without barriers; have a reasonable income; monetary: have competitive income).

For samples between 60 and 70, Hair (Hair et al., 1998; Hair, 2010) recommends retaining items with factor loadings over 0.70 to achieve statistically significant results. We used even stricter criteria: all items that loaded less than 0.80 (e.g. poor convergent validity) or loaded simultaneously on two or three components greater than 0.35 (e.g. had poor discriminant validity) were deleted. Table

3 shows the retained items for measuring motivation.

Table 3 Exploratory factor analysis of motivations for joining the family business.

Item code	Factors		
	IM	TM	EM
MI3	.915		
MI1	.904		
MI4	.884		
MI6	.877		
MI11	.820		
MI8	.681	.384	
MI2	.427		
MT5		.896	
MT6		.866	
MT9		.827	
MT1		.792	
MT7		.777	
MT8	.324	.770	
MT2		.481	
ME9	-.339		.841
ME10			.841
ME1			.817
ME8	-.324		.772
ME11	.306		.745
ME3			.741
ME5			.736
% of variation	36.436	19.298	13.710
Cronbach's alpha	0.957	0.912	0.816

EM - Extrinsic motivation, IM - Intrinsic motivation, TM - Ethical motivation

EFA barriers

Both the KMO index (0.857) and Bartlett's test of sphericity (X2 482.923; g.l. 66; Sig. 0.000) indicated that factor analysis could be performed with these data. Principal components analysis showed that two factors explain 60% of the variation of the sample, and basically the first factor had the most power. The same criteria were used to retain items. In the two extracted factors, the first was labelled "barriers specific to family business" (role incongruity: family undervalued my ability to assume leadership; invisibility: I was forced in the position where I could not participate in strategic decisions; lack of family support: the family did not support me), and the second "conciliation" (needed to prioritize other areas; had problems reconciling work and family).

Table 4 Exploratory factor analysis of motivations in order to join the family business.

Item code	Factors	
	FB	C
V24	.869	
V23	.851	
V32	.794	.346
V25	.722	
V22	.703	
V29	.642	.309
V26	.599	.354
V33		.821
V28		.732
V30	.488	.671
V31	.506	.614
V27	.386	.490
% of variation	50.724	10.462
Cronbach's alpha	0.911	

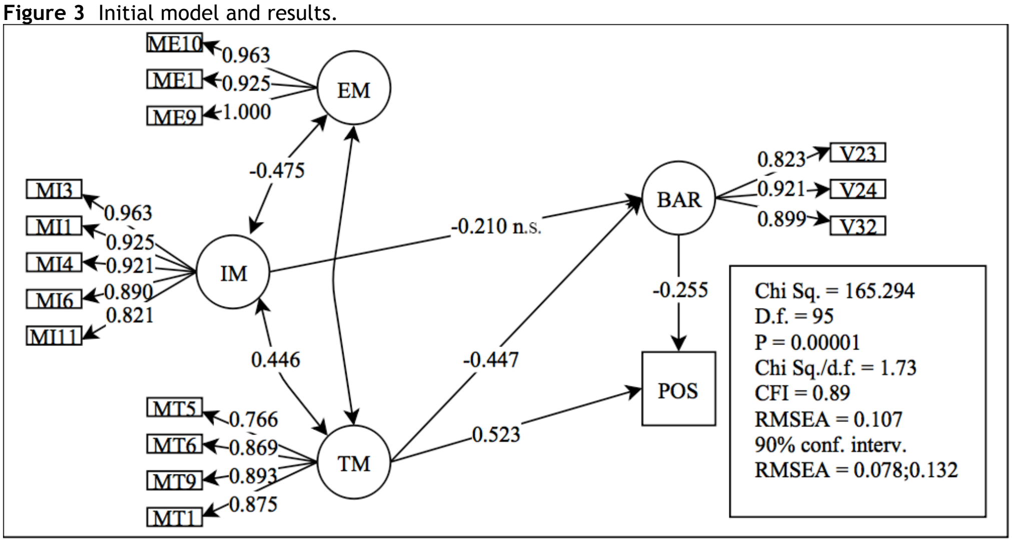
FB - Barriers specific to family business, C - Conciliation

The factor "conciliation" was rejected because (1) it is not recommended to keep factors with less than three items (e.g. Brown, 2014), and (2) because the first factor had five times more explanative power. However, for future research it is recommended to explore this factor further.

Testing for direct causal effects

Structural equation modelling (SEM) is a series of statistical methods that allow complex relationships between one or more independent variables and one or more dependent variables to be identified. To check the initial hypothesis, EQS 6.1 was used, which was the most recent version of

Figure 3 Initial model and results.



EM - Extrinsic motivation, IM - Intrinsic motivation, TM - Ethical motivation, BAR - Barriers, POS - Position
St loading between IM and BAR is marked with "n.s." not significant at 0.05 (t-value 1.685)

this software at the time the analysis was conducted.

Because the Mardia coefficient was high (6.12), the robust maximum likelihood method (ML) was used. CFI was 0.89, NNFI was 0.864, SRMR was 0.125, and RMSEA was 0.107 (90% CI set between 0.078 and 0.132). The Satorra-Bentler scaled chi-square was 165.2 based on 95 degrees of freedom, and the probability was also very low at 0.00001, suggesting a suboptimal fit between the model and the data. The global fit was acceptable for an explorative study but not optimal (figure 3).

The Wald test was used in order to improve the model fit by reducing it. The resulting model can be seen in figure 4. The Mardia coefficient was high (8.44), indicating multivariate non-normality. Therefore, the measurement model was estimated with the robust maximum likelihood (ML) method. According to Bentler (2006), this procedure offers more accurate standard errors when data is not normally distributed.

The result showed that the suggested structure was relatively good and much better than the previous model. CFI was 0.94, NNFI was 0.922, SRMR was 0.088, and RMSEA was 0.087 (with CI interval between 0.047 and 0.122). The model fit was very good, taking into consideration, for example, that RMSEA tends to over-reject small samples (N < 250) (Hu and Bentler, 1998).

Two factors, ethical motivation and barriers, were robust in explaining position. The factor "intrinsic motivation" was not robust in explaining position. Further, the factor "ethical motivation" was robust in explaining barriers and "intrinsic motivation" almost met the criteria (t-value -1.698). There was covariance between the factors "ethical motivation" and "intrinsic motivation".

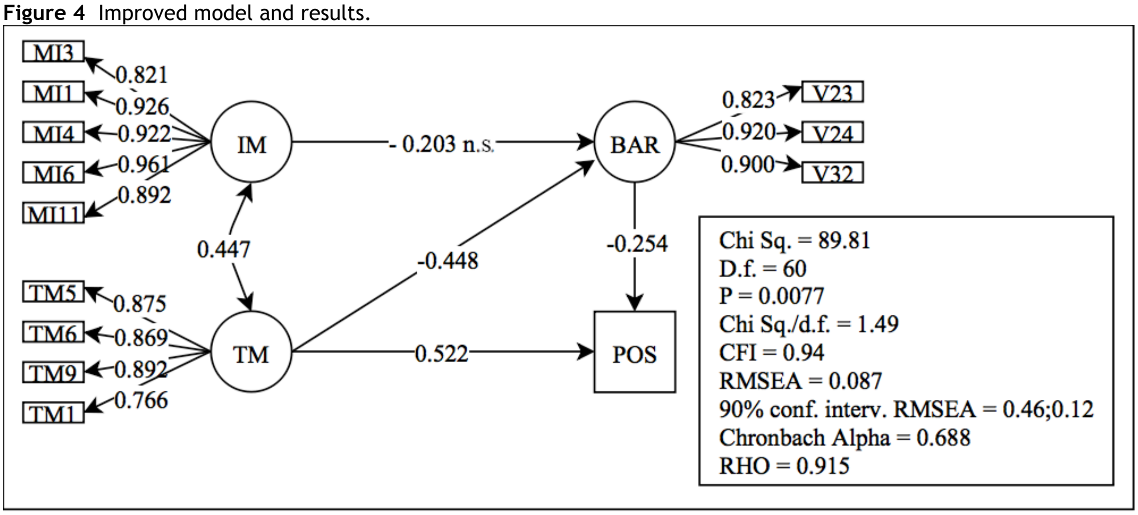
Discussion

The goal of this paper is to develop an instrument to measure motivation and barriers that daughters face in family business and to empirically examine the relation of motivation and barriers to their position in the family firm. The first part of this article summarized the process of item generation and refinement, data collection, and scale validation. In the process of scale development, special attention was paid to theoretically defining constructs. This resulted in the successful development of motivational scale (Appendix C) and scale to measure barriers specific to family firms (Appendix D). Limitations apart, two scales showed an acceptable fit even for a small sample and could be used for a variety of purposes in future.

In the second part of the article, the theoretical model, based on the direct effect relationships of motivation and barriers on position, was checked by means of SEM. The general fit of factor structure of the original model was not optimal, but somewhat acceptable for an explorative study. It was decided to modify the model in order to improve the fit. By deleting the factor "extrinsic motivation", the fit of the model significantly improved. Hypotheses 2 and 3 were rejected. Few explanations could be found to that. It could be that in the family firm, the relation between extrinsic motivation and career outcomes as well as barriers, are not straightforward and might be mediated by other types of motivation. On the one hand, the daughter might be motivated both extrinsically and ethically, and in this case, she will be acting rather pragmatically than as an agent and might be achieving high status in the family firm and experience low barriers. On the other hand, she might be motivated only extrinsically, and behave as an agent. In this case, she might experience problems attaining a high position or prefer to stay in the background, while receiving financial benefits and enjoying a decreased workload.

According to SEM analysis, ethical motivation

Figure 4 Improved model and results.



IM - Intrinsic motivation, TM - Ethical motivation, BAR - Barriers, POS - Position
St. loading between IM and BAR is marked with "n.s." not significant at 0.05 (t-value 1.698)

explained both position and barriers. A negative relationship was found between ethical motivation and barriers, confirming hypothesis 6, and a positive relationship found between ethical motivation and position, confirming hypothesis 7. In this sense, ethical motivation played an important role in determining the experience of a daughter in the family firm, by both reducing perception of barriers and increasing her chances of being promoted. Whilst the design of this study does not permit to suggest specific situations, when this occurs, this study can help orientate future research. We can speculate that when family values go in line with the ethical values of daughters, their contribution becomes noticed and they experience higher / more support from their family and fewer impediments to their career progression.

Ethical motivation (i.e. motivation to help family) might increase daughters' commitment toward work in the family firm (Daspit et al., 2010; Peters et al., 2012).

Ethical motivation might also moderate the daughter's relationship with other stakeholders: non-family employees, clients and partners, as her attitude might help her gain their respect as a viable successor, which is often is an issue (Cole, 1997). Thus, acting ethically, might also help daughters to establish their identity, which also seems to be a part of the complexity according to some authors (Deng, 2015; Hytti et al., 2017).

Additionally, the results can be interpreted in a way that variable "barriers" moderate the relation between ethical motivation and position (indirect effect 0.11, total effect 0.63). Indeed, daughters that are moved by the desire to be act in the best interest of external and internal stakeholders, would be more valued and praised. As a result, the surroundings would perceive them as viable successors. This results in daughters facing (or perceiving) fewer barriers and in them occupying a higher position (hypothesis 1).

The relationship between intrinsic motivation and position was not confirmed (hypothesis 5 was rejected), but the relationship between intrinsic motivation and barriers (hypothesis 4) seemed to be "almost robust". It is probable that in a bigger sample this relationship would have been confirmed. The negative effect of barriers on position (hypothesis 1) was also confirmed. In general, the negative effect of barriers on position is smaller than one would expect (hypothesis 1). There might be several explanations. Given that on average means for barriers were relatively low (table 2), daughters might be refusing to acknowledge unequal treatment, or might justify it (Gherardi and Perrotta, 2016). On the other hand, it might be that barriers are no longer playing an important role in preventing daughters from moving along their career path. In our study we witnessed that motivational effects are quite strong.

Finally, the study has found significant co-variation between intrinsic motivation and ethical motivation. This suggests that when daughters are motivated ethically (transcendently) they are also motivated intrinsically most of the time: coping with interesting and challenging tasks, developing professionally and enjoying their work. And vice versa: when daughters enjoy their work in different ways (autonomy, interest, professional growth, enjoyment), they are also inclined to act in the best interest of others. In general, this goes in line with previous research, that suggests that a synergy between pro-social and intrinsic motivation exists that fosters persistence, performance, creativity and productivity (Grant, 2008; Grant and Berry, 2011). Similarly, as is predicted by self-determination theory, extrinsic motivation seems to be crowding-out intrinsic motivation (Gagne and Deci, 2005).

Collectively, the results of SEM analysis can be summarized in the following way:

1. The position of a daughter in family business is higher when she has (1) high ethical motivation and (2) low perception of barriers.
2. The decreased perception of barriers coincides with (1) increased ethical motivation and (2) increased intrinsic motivation (this link should be the subject of future research).

Thus, daughters in family business who act out of ethical considerations (ethical motivation) obtain, in the long run, greater recognition by their colleagues and subordinates and seem to face fewer barriers. Daughters in family business motivated ethically towards different stakeholders come to play a more indispensable role in the company by balancing the interests of the company, employees, clients, and partners. Having internalized family values, they represent integral leaders who are respected by family and non-family employees.

Limitations

In this paper, researchers took a positivist worldview. The main concern of positivist research is to conduct an unbiased and objective investigation. Despite following established practice procedures, this study is not without limitations:

1. The sample size was somewhat smaller than expected due to the low response rate. This issue created the biggest challenges for researchers. Thus, the low response rate prevented the conducting of the test-retest procedure as is suggested by the best practices for scale development (e.g. DeVellis, 1991).
2. The second concern was the representativeness of the sample. As previously mentioned, this

sample was a convenient sample that was skewed towards older companies.

Apart from general limitations, the researchers acknowledge limitations at each step of research.

Limitations of scale development

The scale requires further research to examine the relationship between it and existing instruments and related constructs. Discriminant validity and convergent validity were tested at the stage of exploratory factor analysis. However, stricter research could have been implemented to relate the new scale of motivation to existing scales.

Nomological validity could have been established by testing against conceptually related constructs (e.g. "commitment"). In the process of scale development, the evidence of nomological validity was not established because the area of research is underdeveloped. Unidimensionality was not tested by confirmatory factor analysis.

It should be noted that, as with most measures developed for specific purposes, this tool has its inherent limitations. In the future, the scale may be tested on more general samples, for example females with family business background employed outside the family business or a mixed gender sample employed in a family business. Finally, researchers should also note that the current investigation was undertaken on a national sample and its application on an international sample will probably require some adaptations.

Limitation of structural equation modelling

The limitation of SEM analysis was the small sample size. Bentler and Mooijaart (1989) suggested a 5:1 ratio of sample size to free parameters, which would make a minimum sample size of 155 to test the improved model (which had 31 free parameters). Given that the study complies with less strict recommendations concerning the minimum sample size, which can be found in literature ("rule of 10 observations per variable" Nunnally (1967)), it is suggested to view the results with much caution, considering them as explorative. Further, in the discussion section we reflect upon the mediator effect of barriers on the relation between ethical motivation and position. The goal of the study was not to test this effect; however, for future research, the mediating effect should have been tested by a bootstrapping method.

Contributions and future research

This article makes important contributions to the stream of research on the under-representation of daughters in family business in high-level management positions. The findings have important managerial implications that can be used by family business consultants and leadership coaches in order to develop leadership programs. Theoretically, the article successfully applies the anthropological theory (Pérez López, 1991) to the case of daughters in family business, which can also be considered by other researchers. Methodologically, as a spin-off of this investigation, a scale to measure motivation and barriers specific to family firms was developed and validated. This instrument might open doors to quantitative research in this area that to date relied primarily on qualitative investigation. In general, we encourage future quantitative investigation into the problem of the gender gap in management positions in family business, as to date, most of the studies are based on qualitative studies, with a common limitation of generalizability of studies. Future studies might obviously investigate other areas. In general, antecedents of taking the decision to enter the family firm, instead of taking other career possibilities; antecedents of taking the decision to succeed the family firm, remain obscure. Also, it is not clear how some characteristics of daughters, such as motivation, might affect the transfer of knowledge and social capital between incumbent and the next generation, that usually happens before the succession takes place

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Leadership in the family business in relation to the desirable attributes for the successor: Evidence from Mexico

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Abstract In order to survive, family businesses must put in place strategies to achieve some continuity; therefore, the designation and legitimation of leadership, as well as the desirable attributes for the successor, emerge as the main strategies to develop. The objective of the present study is to analyze the types of leadership and the chosen desirable attributes for the succession process / successor. In order to achieve it, 144 questionnaires to executives and employees from tourist organizations of service, trade and industry were collected in the northwestern region of Mexico. It was based on a Likert scale type (1 to 5), including sections about leadership (constituted by five dimensions) and the desirable attributes of the successor (constituted by two dimensions). The main findings emphasize the leadership, within the family enterprise before, during and after the succession process, present a constant of importance in the presence of the different types: expert, referential and laissez faire/mission and the administrative attributes during the first four generations. On the other hand, the participatory leadership decreases and the autocratic increases. To enrich the subject of study, it is recommended to include different aspects related to the Latin American context and the generation of inferences with new elements, such as motivational profiles, labor stressors, interactions of Latino families, among others. All of this in order to try to map the family business.

CÓDIGOS JEL
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PALABRAS CLAVE
Sucesión Transgeneracional; Firma Familiar; Mortandad de la Empresa; Familia.

El liderazgo en la empresa familiar en relación a los atributos deseables para el sucesor: Evidencia de México

Resumen Las empresas familiares para la supervivencia deben generar estrategias para lograr cierta continuidad, por lo cual la designación y legitimación del liderazgo, así como los atributos deseables para el sucesor surgen como las principales a desarrollar. El objetivo del presente es analizar los tipos de liderazgo y atributos deseables elegidos para el proceso de sucesión. Para dar cuenta de lo anterior, se aplicaron 144 cuestionarios a directivos y empleados de organizaciones turísticas de servicio, comercio e industria de la región noroeste de México, con opción de respuesta en escala de Likert 1 a 5, tanto en la sección de liderazgo (conformado por cinco dimensiones) como en la de atributos deseables del sucesor (conformado por dos dimensiones). Los principales hallazgos destacan que el liderazgo dentro de la empresa familiar antes, durante y posterior al proceso de sucesión, en las primeras cuatro generaciones, presentan una constante de importancia en la presencia de los tipos: experto, referencial y laissez faire/misión, así como de los atributos administrativos, mientras que el liderazgo participativo disminuye y el autocrático aumenta, así como los atributos familiares también lo hacen conformen pasan de una etapa sucesoria a otra. Para enriquecer la temática de estudio se recomienda la inclusión de aspectos que incluyan el contexto latinoamericano y generar inferencias con nuevos elementos como los perfiles motivacionales, estresores laborales, interacciones de las familias latinas, entre otros, para intentar cartografiar la empresa familiar.

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Introduction

The family business (FB) is a type of organization that is considered to be of vital importance to the world economy (Cabrera, 1998; Barbeito-Roibal, Guillén, Martínez and Domínguez, 2004; Bawa, 2006; Pietrobelli, Porta and Moori-Koening, 2005; Mahto, Davis and Khanin, 2014), among which the companies in Mexico are the focal point in the present document/ study, mainly those located in the north-west. According to Tagiuri and Davis (1982), and Alcorn (1982), the FB is constituted by two or more members belonging to a family that directly influence the direction of it; in addition, the family members must be involved in both control and operational activities (Belausteguigoitia, 2004), to have the total or majority control, and to consider the permanence of the organization in activities through the following generations of the same family (Vallejo, 2005; Cheng, 2014).

The FB can be presented in any company stratification (De Zuani, 2003). Commonly, the National Institute of Statistics and Geography (INEGI, 2009) catalogs the FB as a microenterprise due to the limited number of relatives or external workers; nevertheless, INEGI does not have a database and/or directory of the total amount of FB because they lack an instrument that accurately detects these within their census. Even so, an increase in the economy is estimated, which positions the FB as the first jobs generator and source of income of mexican families, providing stability not only to their owners, but also to their employees (Zerón, Quevedo and Mendoza, 2013). This, as a derivative of the total number of companies in the country, where 66% of them are created with a family structure and in the state of Sonora is represented the 86% (Red Pymes CUMEX, 2010).

For its part, the FB is governed by a principle that visualizes emotional richness first and economic interests second (Vazquez, 2016; Barros, Hernan-Gómez and Martín-Cruz, 2017; Duréndez, Ruíz-Palomo, García-Pérez-de-Lema and Diéguez-Soto, 2010; Martínez-Romero and Rojo-Ramírez, 2016). As for its financial structure, Esparza, García, Dúrendez and Guillamón (2010) affirm that it acts as a fundamental pillar of these because it is ruled by its own capital, in which external investors are excluded from the family in order to achieve business independence. According to Quintana (2005), it is limited to regional and/or local markets. Therefore, the FB must generate medium-and long-term strategies to ensure their survival, where through these, the succession process emerges.

This process should contemplate the next family generation as the owner of the organization through the mentioned phase; it will ensure this objective (Arenas and Rico, 2014). This stage can be addressed *ex ante*, during or *ex post (*Basco and Calabrò, 2016); the first form is conformed by the inquiry of the contemplation and nomination of the successors, the planning, and the process preparation before it happens; the second one consists in a longitudinal way at the same time that it happens; and the last form, once it finished.

The succession process can mean/ determine the success or failure of the FB since it affects the business and the family. It can be determined by the result of an interest conflict; changes related with the organization, norms and business ideologies; confrontation of emotional problems; leadership conflicts with their respective legitimacy; and juxtaposition of the property-family subsystems.

Finally, the FB has a mortality rate so high that approximately only 10% successfully arrive to the third generation (KPMG, 2010). This, could be the origin of this figure is in structural changes, environment, size, age, turn, position of the owner and its respective influence on the potential successors, resistance when delegating power, nepotism, influence of the family, and its little adaptability for new leaders, as well as the leadership exerted within it (Araya, 2013).

Within the wide variety of studies about the FB (Brenes, Madrigal and Molina-Navarro, 2006; Brenes, Madrigal and Requena, 2011; Miller, Steier and Le Breton-Miller, 2003), it was not possible to detect investigations about the succession process a priori, as well as the types of leadership used in establishments that last more than the second generation for their comparison, considering that this stage is the responsible for the family prolongation in the organization. Likewise, there is also no knowledge of the preference and the viability of a leadership typology in the FB with experience in the succession process; therefore, the research about this topic provides valuable information. To add value, it must be done through an analysis about how opposite systems (family-business) converge in balance for the wellbeing of the organization. Similarly, documenting the obtained results provides a tool that can be used by different organizations. This study focuses on deepening it utilizing the following research question: what are the family and/or professional attributes to choose a successor according to the type of leadership in family businesses?

Family business

The definition of FB differs from one author to another; however, a compilation of the main characteristics for its identification can be made: two or more members of a family that influence both in the decision making and the operational activities, having the total or the majority control of the organization and the need for a second generation (Tagiuri and Davis, 1982; Belausteguigoitia, 2004; Dyer and Dyer, 2009; Pounder, 2015; Seaman, 2015; Burch, Batchelor, Burch and Heller, 2015)

This leads to the creation of a concept that will be used in the present research: every organization, owned by two or more individuals belonging to a family, either by blood or political ties, as well as those who are involved in the decision making and the operational activities, and contemplating the next family generation as the owner, through a succession process.

An eventual and inevitable problem of the FB is succession. The managers must confront the juxtaposition conflicts of the family-enterprise subsystems, emotional problems and legitimacy of the leadership (Barroso, 2013). If the aforementioned links are not achieved, it will damage the post-succession stage, in which the successor seeks to meet expectations. Among the main triggers/ causes of this situation is the difficult relationship between the predecessor and successor, and feelings of indispensability by members of the family (Filser, Kraus and Märk, 2013).

Finally, Boyd, Royer, Pei and Zhang (2015) assure that the succession process is a transfer of knowledge that will be understood as an intangible asset and considered as a competitive advantage to other organizations. It is transferred from one generation to another, where the greatest power is executed by the highest-ranking member within the company, and decides whether to share it or execute it. If the manager decides to share it, he or she can do it with a lower-ranking member to prolong his/her work on behalf of his/her family.

Succession process

Authors such as Osborn, Jauch, Martin and Glueck (1981), consider the process as a stage that happens when the executive director of an organization is replaced. Toffler (1981) states that it is a role-performance method, in which a new element is qualified depending on the expectations that he/she inherits from the previous one. However, Kohler and Strauss (1983) present it as a very important consideration: the examination of the possible successors and organization in which it is intended to participate; an erroneous election could happen when not carrying out what is stated by the authors.

For Avloniti, Iatridou, Kaloupsis and Vozikis (2014), the succession process represents the greatest challenge for the family-structured businesses, where a member's leadership is given to a lower-hierarchy employee and he or she must move up and take control of the company itself. For its part, an internal succession would represent the importance given to the continuity of projects and behaviors, since the following one in charge would be an already active member of the company, promoting loyalty and commitment by the organization; when the succession proceeds with an external person, it means opening up to new perspectives, fresh ideas and decisive actions that may or may not benefit the company (Lauterbach, Vu and Weisberg, 1999).

Basco and Calabrò (2016) study the FB, but from an *ex-ante* perspective of the succession process, which is related to the desirable attributes of the owner to his/her potential successor. Later, they exposed the complexity of the successor´s nomination, whether or not he/she is a member of the family. Considering the complexity of the company, the nomination is determined by the owner´s orientation to the future of the company; and his/her viability with the people involved, maintaining a balance between the successor and the collaborators that will interact at this stage.

Continually, the authors concluded that the owner will choose a successor to the extent that within the organization family members work, as well as their desirable attributes, how prepared to business or family factors, i.e. the elements that are considered of great importance to take into account the succession moment. Family attributes are those that are related to giving importance to the birth, age, kinship or gender of the successor; while the administrative attributes focus on the financial and marketing skills, as well as the work experience and the professional career of the successor (Basco and Calabrò, 2016).

The main contribution from Basco and Calabrò (2016) is to have carried out a study of a problem before it happens. They investigated about the elements that an owner takes into account for the nomination of possible successors; however, depending on the family influence the leader has and the values he or she possesses, whether business or family, it will determine whether the leader will elect a successor belonging to his or her strain or an outsider in order to prevail the integrity of the organization.

On the other hand, according to INEGI (2009), it is estimated that there are 5.1 million of family businesses in Mexico, and each year other 400,000 micro and small enterprises are incorporated with this structure, and about 90% of the companies that are in the Mexican Stock Exchange (BMV) belong to family groups that have control of these. KPMG (2010) establishes that family businesses, in the same way they originate, they die; this evidenced by its high mortality rate of 70% in its transfer from first to second generation, and only 10% surviving a third.

Leadership

According to Sánchez-Reyes and Barraza-Barraza (2015), the conceptualization of the leader goes back to the year 1300; in addition, leadership is utilized for political and control purposes, which in the environment they have to be developed, will be with the objective of an individual can bend the will of others for the achievement of various purposes. The authors add that leadership includes the interpersonal processes of influence, the relationship between a leader and followers, the cultural environment, the context of the situation, and the achievement of objectives (Sánches-Reyes and Barraza-Barraza, 2015). Ramírez (2013) adds that it is generated in every human activity; for others, the use of certain influences or motivators to manipulate or control the conduct of those around them for the fulfillment of their goals (Lai, Hsu and Li, 2018).

Likewise, leadership has been applied through two streams: the one that was previously mentioned; and the other one, is related to those that assume it as a tool for a good administration, considering it as a guide to carry out the mission and vision of an organization (Liphadzi, Aigbavboa and Thwala, 2017). The authors mention that a leader is one who delimits the way to follow for the remainder, affirmation that is considered correct, however, they focus on interpreting it as a positive element always oriented towards the common good of the group and/or organism in the long term in that has to be used by some kind of stimulus (Liphadzi, Aigbavboa and Thwala, 2017; Răduncan and Răduncan, 2014; Ramírez, 2013).

Based on the statement above, two assumptions can be interpreted: a) any good administration has a leader in the organization; and b) not every leader uses his or her skills for good administrative management. Currently, leadership has been approached as those skills that guide a group or organization to meet their goals; considering this, companies are looking for people with the qualities of a leader, resulting in a slight distortion of the concept. Gómez (2008) affirms this by mentioning it as the activity that has the capacity to lead the organization to achieve objectives with a proactive behavior that produces creative energies; it transforms the concept to something purely positive, leaving aside the conceptual focus that other authors handled.

Similarly, it should be determined whether the leader intends to apply his/her power to achieve organizational objectives or only personal motives that encourage him/her to mold or to the indiscriminated control of actions, both individually or in conjunction with the members of the organization. According to Sánchez-Reyes and Barraza-Barraza (2015), leadership presents certain characteristics, and is broken down into different types of applying power within a certain group.

According to the authors, the types of leadership they present are: a) authoritarian, where the leader has the control in terms of the interaction with his/her subordinates; b) democratic, the one in which the opinion of the collaborators about the improvement of the organization is considered; c) *"laissez faire"*, this is where the leader provides freedom to his/her collaborators through limited participation; d) transformational, which seeks to involve the worker within issues that result directly in the achievement of long-term objectives of the organization; e) distributed, similar to the democratic in the exhortation of the organization by the participation of its collaborators in the decision making process and the work together (Sánchez-Reyes and Barraza-Barraza, 2015).

The foregoing coincides with Sorenson's classification (2000), which mentions the following types: *Participatory, Autocratic, Laissez-faire/mission, Referential and Expert*, where the latter is represented by the inspiration that emanates from the current leader on his/her subordinates, in a context of great dedication and extensive knowledge about the role played and scope.

The participatory leadership is the one that happened around the decision making of those who form the organization, taking into account the opinion of the collaborators in order to

enrich the company. This type of leadership is very important in the FB since it creates an environment of trust when the opinion of each member is taken into consideration; hence, it increases the satisfaction and acceptance in the elections of the leader. The autocratic leadership is the complete opposite of the previous one because the decisions are made without taking anyone into account the consultation of nobody, characterized by a focused and rigid structure and performance; this situation distorts the resolution of the different problems of the family and/or company members, diminishing the commitment and the satisfaction (Sorenson, 2000).
Sorenson's third dimension (2000) is *Laissez-faire/mission*, which provides freedom in the decisions 'choice and showing that it is possible to obtain a high level of productivity from the collaborators.' Expert and referential leadership generate a sense of commitment and satisfaction in the employees, derived from the experience and the skill that is obtained from the practice. The mission leadership is significantly linked to the employee commitment and to a low level of organization, efficiency and productivity in the family business; it is only based on the sense of business mission for motivation, being able to not function with members of the family itself.
Finally, the author concludes that the participatory leadership contributes to the success of the family business, as a result of the constant information exchange in the interaction between the leader and his/her collaborators. In addition, referential and/or expert leadership are also related to the obtained results and the staff satisfaction, both elements benefit the family business and promote a constant updating of the company, providing tools that end in greater loyalty and a broad sense of belonging of the personnel (Sorenson, 2000).

Methodology

The selected population in this research are micro, small and medium enterprises (MSMEs) of Ciudad Obregón, located in the north-western region of Mexico and are within the tourism sector as services, trade and industry. According to the National Statistical Directory of Economic Units of INEGI (DENUE, 2017), there exists 405 organizations in the indicated areas. A response from 112 companies and 144 informants (see Table 1) was obtained, including owners, managers and operatives. Hernández-Sampieri, Fernandez and Baptista (2014) noted that when the sample is constituted of one hundred or more elements, the distribution tends to normalize and allows to carry out an analysis in the variables; therefore, by not having comcretized the desired census, the number of replies is accepted by exceeding the minimum established by the author. Ciudad Obregón was considered for its importance, since it is the second one most representative within the state of Sonora, Mexico and the principal of the southern region of the entity (Sonora Turismo, 2015; Oficina de Convenciones y Visitantes Ciudad Obregón, 2015).

Table 1: Establishments in the locality

Stage	First filter	
Census	405	
Companies	112	
Informants		144
Total Companies	**112**	
Total Informants		**144**

Note: Source: Own elaboration from the results provided by INEGI DENUE 2017.

The instrument is a construct, resulting from the theoretical review, which supports the operationalization of variables (see Table 2), as well as the integration of the research instrument, which is conformed by 13 free-response demographic items and 24 Likert scale type items including the leadership variables (Sorenson, 2000) and the dimensions of: i) representative leadership with five items; ii) participatory with four; iii) expert with two; iv) autocratic with two; and v) *laissez faire*/mission with two; and the variable of Succession (Basco and Calabrò, 2009) with two dimensions: i) family attributes, established with five affirmations and ii) competitive administrative attributes, included in 4 assumptions.
The questionnaire was asked in person and in a personal way to management and operational positions, as well as members or non-members of the family owning the companies during the field work visits that were carried out during the first three months of 2018. Next, the information was processed using a database created in the Statistical Package for the Social Sciences (SPSS) software in its 23rd version.

Table 2: Operationalization of the variables

Variable	Dimension	Item	Contributing author
Leadership	**Expert Leadership**	**3.** He/she has a wide knowledge of his/her profession. **14.** He/she is an expert in his/her profession.	Sorenson, R. L. (2000). The contribution of leadership style and practices to family and business success. *Family Business Review, 13*(3), 183-200.
	Laissez-Faire/Mission leadership	**9.** Allows employees to work alone. **15.** He/She conveys the meaning of the mission to the employees.	
	Referential Leadership	**1.** He/she is always fair with the employees. **4.** Inspires loyalty. **7.** He/she shows a great vision when working. **10.** He/she is a role model for his/her employees. **13.** He/she makes employees feel proud to work with them.	
	Participatory Leadership	**2.** He/she encourages employees to participate in important decisions. **5.** He/she is aware of how employees think and feel. **8.** He/she encourages employees to analyze when they disagree with a decision. **11.** He/she helps employees with their personal problems.	
	Autocratic Leadership	**6.** Sometimes he/she manipulates the employees. **12.** He/she is very dominant.	
Succession	**Established family attributes.**	**16.** Birth order of the successor. **17.** Age of the successor. **18.** Successor's kinship. **19.** Successor´s gender. **20.** Share the company's membership between predecessor and successor.	Basco, R. & Calabrò, A. (2016). "Whom do I want to be the next CEO?" Desirable successor attributes in family firms
	Administrative competitive attributes.	**21.** Financial experience and skills. **22.** Marketing experience and skills. **23.** Work experience in another company. **24.** Career and performance of the successor.	

Note: Own elaboration from the literature.

Results

The collected demographic information provides sufficient data for the characterization of the company and the interviewee. The companies that decided to cooperate with the study are located in an age range between 1 and 90 years, but it highlights the large percentage that is in its first 30 years with 79.5%, while the remaining is distributed between 31 and 90. Likewise, as it progresses in the established period, less are the number of companies that continue in their fields, only 57 from the second generation, ten from the third and two from the fourth; hence, it confirms the statements of some authors that only 10% of the companies arrive to the third generation (KPMG, 2010; Araya, 2012); this in relation to the mortality of the family business.

In relation to the size and line of the business of the organizations (see Table 3), a majority is shown in those that are conformed from 11 to 50 employees and are considered small enterprises in industry and services sector with a percentage of 31.3%; followed by the small ones in commerce (25.9%) and micro (23.2%); the median ones in commerce, services and industry only represent 17.9%. Finally, the large companies represent 1.8% and belong to the commerce and service sector, in other words, approximately 80% of the organizations consulted are catalogued as SMEs.

Table 3: Size and Line of the business

Characteristics	Frequency	%
Micro	26	23.2
Small (Commerce)	29	25.9
Small (Industry and Services)	35	31.3
Medium (Commerce)	13	11.6
Medium (Services)	4	3.6
Medium (Industry)	3	2.7
Large (Commerce and Services)	2	1.8
Total	112	100.0

In respect to the participants, 61.1% are men with the age most frequently presented being between 18 and 45 years, but with a majority of 36.1% between 26 and 35 years old; a higher education level of 62.6% and a secondary level of 30.1%; 52.8% of the participants are married (see Table 4). With regard to the preference of leadership among the organizations, there is a leaning to the perception of the types: expert, referential, mission and participative, where the maximum was 5 and the minimum was 1, with an average of *p=4.52*, *p=4.22*, *p=4.14* and *p=4.03*, respectively; while autocratic had an average of *p=2.48* (see Figure 3).

When analyzing the information with those that have not undergone the succession process, we find that: expert *p=4.54*, referential *p=4.24*, laissez faire/mission *p=4.11* and participatory *p=4.03*; on the other hand, a very minor importance is given to autocratic *p = 2.42*

Table 4: Particular characteristics of the participant

Characteristics	Frequency	%
Genre		
Man	**88**	**61.1**
Woman	56	38.9
Total	**144**	100.0
Age		
17 years old or less	1	0.7
18-25 years old	31	21.5
26-35 years old	**52**	**36.1**
36-45 years old	35	24.3
46 years old or more	25	17.4
Total	**144**	100.0
Education		
Elementary	1	0.7
Middle School	9	6.1
High School	44	30.6
Bachelor´s degree	**81**	**56.3**
Postgraduate degree	8	5.6
Other	1	0.7
Total	**144**	100.0
Marital Status		
Married	**76**	**47.2**
Single	68	52.8
Total	**144**	100.0

Note: Own elaboration.

In regards to the companies that are in the second generation, the predominant types are: expert *p=4.44*, referential *p=4.18*, laissez faire/mission *p=4.10* and participatory *p=4.07* and autocratic *p=2.48*. The third generation presents: expert *p=4.75*, referential *p=4.27*, laissez faire/mission *p=4.45*, participatory *p=3.93* and autocratic *p=2.65*. Finally, the fourth generation exposes the following: expert *p=5.00*, referential *p=4.30*, laissez faire/mission *p=4.75*, participatory *p=3.51* and autocratic *p=3.75* (see Figure 1).

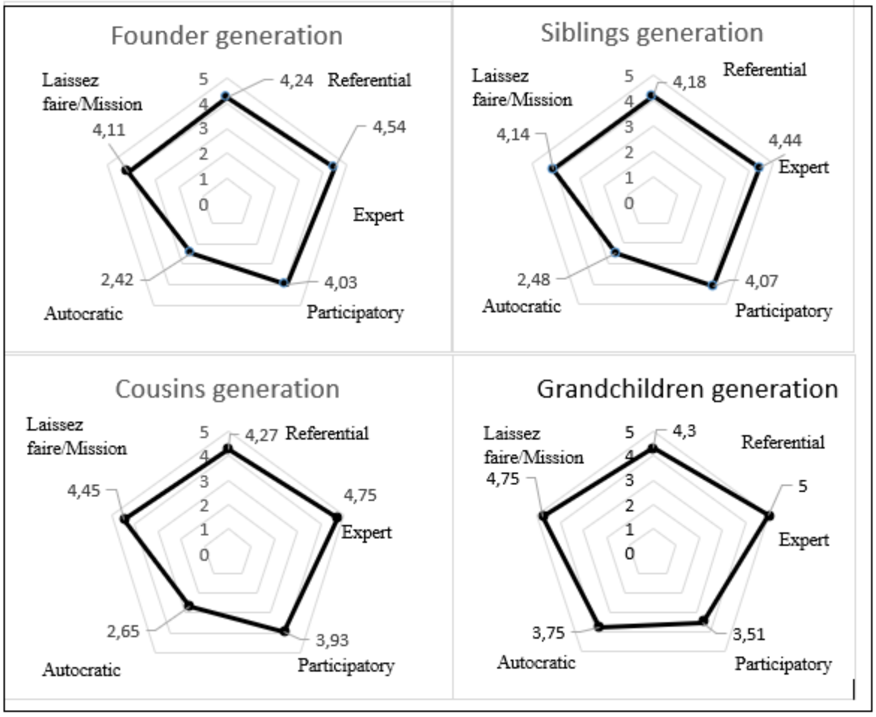

Figure 1. Leadership preference among generations of the family business.

Considering the contemplation of the succession process, the desirable attributes are formed by the family attributes with a mean of *p=3.03*, and the administrative ones with *p=4.18*, where, again, the maximum was 5 and the minimum 1; however, when disaggregated by generation, the first one presents the family attributes with *p=3.08* and the administrative with *p=4.23*; in the second generation, they are presented as *p=2.88* and *p=4.13*, respectively; the third one exposes the family values in *p=3.33* and the administrative values *p=4.12*. Finally, in the fourth generation, family attributes are established in *p=3.87* and administrative in *p=4.03* (see Figure 2).

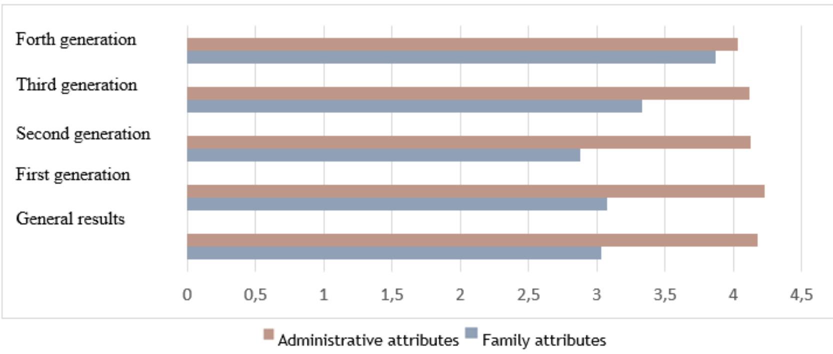

Figure 2. Preference of administrative and family attributes to contemplate the process of succession by generation in the family business.

Finally, each type of leadership is analyzed separately; in other words, the sample is stratified by the type of leadership/ the type of leadership stratifies the sample. The obtained results in the family attributes section are the following: referential *p=2.94*, participatory *p=2.85*, expert *p=3.06*, autocratic *p=3.34* and laissez faire/ mission *p=3.19*. On the other hand, the results in the administrative attributes section are: *p=4.20*, *p=4.17*, *p=4.20*, *p=3.89* and *p=4.32*, respectively to the typologies mentioned above (see Figure 3). Therefore, it is reflected predominance of the administrative attributes over the family ones; however, the latter do not disappear from the organization, they are only perceived to a lesser extent than the administrative.

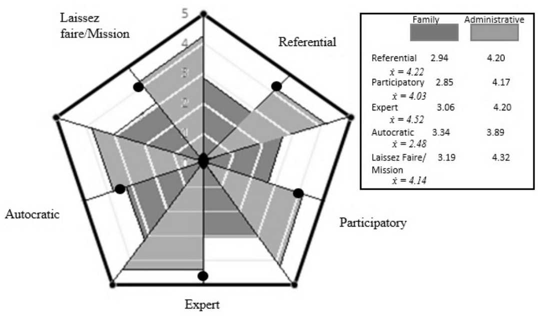

Figure 3. Preference of the desirable attributes in each type of leadership.

Discussion

The companies were inclined towards the types of leadership: expert, referential and participatory; these, as these were the most viable for the FB and are mentioned by Sorenson (2000). The author mentions that the laissez faire/mission typology and the administrative attributes are non-viable for these organizations; however, contrary to what the author establishes, the type of leadership and the attributes in mention are found positive and viable for the family businesses, which could indicate reference to the administrative attributes that are focused in the fulfillment of goals and objectives; hence, the typology laissez faire/mission obtained viability.

As for the election of leadership, Soto (2015) mentions that in Latin American countries, specifically in Venezuela, the main motivating factors for achieving goals is the desire for power, filiation and achievement. On the other hand, according to Escandon-Barbosa and Hurtado-Ayala (2016), in Colombia, they are motivated by democratic liberal typologies, that is, in those that the freedom to carry out activities and the contemplation of the opinion of the family business members during the decision making are allowed; thus, it results in the generation of a viable environment for the organization development. It could contrast that the types of leadership found maintain a mixture between those considered of value to the organizations, leaving aside the autocratic character, which can be considered as a generator of conflicts between subordinates.

In the family business, the patriarchal nepotism is forcefully presented. It generates distrust in the successors, uncertainty to the members of the organization and a high degree of distrust; nevertheless, these emphasize the importance of giving interest in the group leadership, which is similar to the participatory; this, in order to encourage control, participation, integration and problem solving (Cisneros, Ramírez and Herández, 2011).

On the other hand, the typologies with the greatest presence (referential, participative and laissez faire/mission) interact with the desirable administrative attributes for the successor, but still consider the family attributes. Consequently, the dilemma of the act of the companies with a family nature is dictated since one used to think that they were oriented to the attributes of a family; however, not only is it different, but there exists a near equilibrium of the given importance to both elements, administrative and family, for the contemplation of the future successor.

In addition, Aira (2016) establishes that family businesses are entities that take advantage of the extrapolated emotional situations of the family itself, along with loyalty and commitment. Even so, there has been an increase in the training of future generations in these types of organizations, which includes academic studies, experience and skills that should be developed in order to acquire the domain of the company itself. Therefore, this inclination towards the administrative attributes over family is considered not only to contribute directly to the modernization of the company, but can even determine the balance between the family-company subsystems and avoid/ prevent the juxtapositions of these.

Finally, with regard to leadership, the increase in the perception of the leadership types among the different generations, as well as their overall analysis, alludes to a gradual variation in the perception of the leadership of the expert. From first to second generation, there is a decrease of 2.2%, but an increase from the second to the third of 6.9%, and from the third to fourth of 5.2%. As for the referential, its variation is the best of the typologies since from the first to the second generation decreases 1.4%, it increases in its transition to the third of 2.1%, and to the fourth of 0.7%. Laissez faire or mission leadership presents a negative variation of 0.25% in the first succession, but an increase in the cousins' generation of 8.5%, and 6.74% in the grandchildren generation.

In a particular way, the participatory leadership does not reflect a positive increase after each succession process because from the first to second generation it presents an increase of 0.99%; however, in the next succession stage, it reflects a decrease of 3.44%, and in its last analyzed stage, there is another decrease of 10.5%; this supports what Sorenson (2000) mentions about the great importance of this typology because it is the indicated one to increase satisfaction and acceptance, when consulting the opinions of each member within the organizational processes. However, the opposite effect is presented in the autocratic leadership, where it formulates a significant increase as it progresses generations, i.e., from first to second generation, it causes an increase of 2.4%; but towards the third one it is 6.85%; and, finally, in the succession to the fourth generation, there is an abrupt increase of 41.50%. Therefore, the rise in the mortality rate could be due to the decreased participation and the increased autocratic characteristics.

The desirable attributes for the successor's contemplation happens in a similar way to the types of leadership previously presented, because in the first generation there is an observed inclination for administrative attributes; but, as it progresses generationally, there is a decline in the mean of inclination for these and a rise in those focused on the family. In its first successor transition there is a perceived decrease of 2.4% and 6.5% in the administrative and family attributes, respectively; however, the situation changes dramatically when the latter increases to 15.6%, while the former continues to almost 0.3% and maintains the trend in the last transition. The family attributes increase by 19.51% and the administrative ones decrease by 2.19%, compared to their previous generation respectively.

Conclusions

The preference of the types of leadership and the desirable attributes for the election of the successor determines that organizations are presumably guided by characteristics that are caused by the fulfillment of business goals and objectives; it may be due to a preference relationship by the leadership types (expert, referential, participatory, laissez faire/mission) and the administrative attributes. Nevertheless, the family attributes resulted in a considerable average, but less than the administrative attributes; therefore, the balance of these does not consist of an equal weighting in preference of the types of leadership and the desirable attributes of the future owner.

Next, everything seems to point out that as technology and accessibility to information advances, a trend is generated in the transformation of family businesses; this is because, in their survival, there is an application of new techniques that prolong the longevity of the business, as well as the well-being of its members. Consequently, in a general way, the obtained results are not presented since they are considered to be focused on the maximization, both direct and indirect, of the activities within the company; they emphasize their attention in the generation of motivation and satisfaction of the subordinates. This tendency contributes to the modernization of the company, as well as to act as mediator in the equilibrium of the family-business subsystems; avoiding the juxtapositions of these is complicated and counterproductive for the welfare of the organization.

The foregoing reflects a position about the succession of the family business and its mortality. The significant increase of the expert, referent and laissez faire/mission typologies indicate a growth in the prestige of the business and/or current owner, as well as the potential motivation by the simple merit of collaborating in the organization; however, with the rise of autocracy and the decrease of the participatory, a balance is required among the mentioned types initially. The nepotism presented in an autocrat owner and his/her little or no collective participation, can characterize this type of FB and its respective complexity exposed in this document.

In addition, this is the result of an issue little addressed at the moment, so it provides tools for future studies. In this way, it helps not only to contemplate the leadership and attributes used and desired, but also to integrate them with other perspectives and/or variables of research, in order to contribute to the category of what Pfeffer (2000) describes as the "sandbox", which is focused on integrating the different components, with the purpose of characterizing an organization like the FB.

It is considered pertinent the continuation of this type of studies, with the possible incorporation of an analysis of the organizational culture, motivational profiles and/or stressors that contemplate the importance and multi-cultural nature of countries such as Mexico. Likewise, the need for reflection on the leadership typologies since the social context of the leadership emergence is what will dictate the necessary typologies within the organizations that form a certain community and/or region, which at the end, they integrate a nation.

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The organizational culture of family enterprises and their relationship with innovation in the municipality of Cajeme, Mexico.

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Organizational culture, Innovation, Family SMEs

Summary. Family businesses are increasingly calling attention to entrepreneurs, academics and organizations. This is largely due to their contribution to GDP, as well as being a source of employment. Family enterprises have very peculiar characteristics, such as shared identity, privacy, very close and emotional relationships; however, they also face various problems related to the internal and external barriers in innovation. Among the internal barriers are the excessive risk, lack of trained personnel, high costs, and lack of expert staff; therefore, it has an impact when it comes to innovation, and the organizational culture must be added as a fundamental factor. The objective of the study is to analyze the relationship and influence of the organizational culture with the innovation in the family enterprises in Cajeme, México in order to generate new cultural models. The proposed hypotheses are: H1. The organizational culture is positively and significantly related with the innovation; H2. The educational level is related and influences, positively and significantly, innovation within the family enterprise.

CÓDIGOS JEL
M10; J28; D63

PALABRAS CLAVE
Cultura organizacional, Innovación, Familia, Pequeñas y Medianas Empresas

La cultura organizacional de las empresas familiares y su relación con la innovación en el municipio de Cajeme, México.

Resumen Las empresas familiares son un tema de interés creciente para empresarios, académicos y organizaciones. Esto se debe en gran parte a su contribución al PIB, además de ser una fuente de empleo. Las empresas familiares tienen características muy peculiares, tales como su identidad compartida, privacidad, relaciones muy cercanas y emocionales; sin embargo, también enfrentan diversos problemas relacionados con las barreras internas y externas en la innovación. Entre las barreras internas se encuentran el riesgo excesivo, la falta de personal capacitado, los altos costos y la falta de personal experto; por lo tanto, existe un impacto en relación a la innovación, y la cultura organizacional es otra variable fundamental. El objetivo del estudio es analizar la relación e influencia de la cultura organizacional con la innovación que aplican las empresas familiares en Cajeme, México, para generar nuevos modelos culturales. Las hipótesis propuestas son: H1. La cultura organizacional está relacionada positiva y significativamente con la innovación en las empresas familiares analizadas. H2. El nivel educativo está relacionado e influye, positiva y significativamente, en la innovación dentro de la empresa familiar.

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Introduction

According to FUNDES (2011), family enterprises are essential to the economy of countries, an example of which is France with family businesses making up 60.5% of its GDP, Italy with 75%, Germany with 82%, and Spain with 89%; however, in 2018, it is expected that 70% of the companies in the world will be 5 family enterprises. In Latin America, Davis (2006) mentions that family enterprises represent 70%, create 50% of the employment and 40% of the GDP.

Family enterprises have a strong entrepreneurial activity over time. On average, and throughout history, these families controlled 6.1 enterprises, created 5.4 firms, added 2.7 signatures through mergers and acquisitions, separated 1.5 firms and changed the industry's focus 2.1 times. These families exhibit a significant level of business activity over time, in terms of rearranging the portfolio of activities through foundations, mergers and acquisitions, as well as divestments (Conway Center for Family Business, 2018).

On the other hand, El Economista web portal (2015) points out family enterprises have powerful internal cultures in the United States. Through a study of 114 family enterprises and other 1,200 large companies, it was found that family enterprises get significantly higher scores in aspects such as motivation and leadership of employees. 74 percent of the family enterprises believe they have stronger culture and values than non-family enterprises; 72 percent measure success in a different way, not just growth and profits. Most of these companies (60 percent) believe that their ethical standards are more rigorous than competing firms. They also report that ethical standards are always or often discussed in meetings with employees, in conversations with clients and during board meetings.

According to San Martín and Durán (2017), family business in Mexico generates 67% of the employment in the country. The states in Mexico where the most active family enterprises are located, in terms of incursion into new markets, are: Chihuahua, Nuevo León and Tamaulipas; in addition, the states with the most generation of new products or services are: Tamaulipas, Baja California Sur and Sonora.

Similarly, Iannarelli (1994) notes that the family enterprise offers two separate but interconnected family and enterprise systems with uncertain limits, different rules and roles. Family enterprises are different from other companies because of the inclusion of family and relational ties between the family members. Therefore, the integration of family and commercial cultures exists.

For their part, Novak (1983) and Jaffe (1990) point out that companies that are controlled by the family also differ in certain characteristics of their corporate cultures. These include being more socially conscious, worrying about providing jobs to people, treating workers fairly, providing greater opportunities for women, and being preferred by consumers. Davis and Taguri (1982) argue that these characteristics are due to the existence of bivalent properties, which are characteristic of the inherent features of the family, property, and the way in which the administration is carried out. These peculiarities derive from such things as shared identity, mutual awareness, privacy, emotional participation, and ambivalence.

Problem

According to the Family Business Alliance (2014), 30% of all family enterprises last until the second generation, 12% will still be feasible/ operational by the third generation, and only 3% of these survive to the fourth generation. In addition, the Foundation of Sociological Studies (FUNDES, 2018) establishes that only 3 out of 10 family organizations pass to the second generation, and 7 out of every 100 to the third generation; this is caused by family problems and conflicts. Meza (2017) comments that family organizations belonging to the first generation represent 66% in Mexico; the second is 29%; and only 4% for the third. Moreover, the family business in Mexico lacks a strategic plan in 71% of firms.

Although, nearly/ approximately 70% of family enterprises want to pass their business to the next generation, only 30% succeed in transitioning to the next generation (Conway Center for Family Business, 2018).

In this regard, Biolcheva (2017) states that innovation has internal and external barriers that make it a challenge. Internal barriers include: excessive risk, lack of trained personnel, and high cost of maintenance for highly prepared personnel, among others. External barriers are: lack of government support, lack of marketing information, and lack of information about new technologies, among others.

In the case of Nečadová & Scholleová (2011), they mention that the five problems that are most present when it comes to innovation are: high costs, lack of experts, long periods of replacement, technical equipment issues, and finally, legislative and regulatory aspects.

Uyarra, Edler, Garcia, Georghiou & Yeow (2014) argue that there are some barriers that can prevent the public sector from innovation, which include early warning, lack of commitment between dealers and suppliers, and others.

One of the main barriers to innovation and the establishment of an innovative culture are the inertia and resistance to change. These obstacles can be eliminated; however, it is not possible without involving the members of the current project to the new one, especially if they feel disconnected to the new one (Souto, 2015).
The various barriers that can be found when implementing a culture of innovation are: lack of willingness to take risks and mistakes as an opportunity to learn, insufficient exchange of ideas and knowledge, uncertainty between managers and employees, among others (Vey, Fandel, Zipp & Schneider, 2017).
Therefore, being a small or medium-sized company, it faces various situations, which can have a drastic impact on the permanence of the market. As can be seen, organizational culture will lay the foundations of the organization, and to a great extent the guideline to follow. Consequently, it would dictate the openness towards innovation of the organization to a great extent.
The research question that arises is: What is the relationship and influence of the organizational culture with the innovation that is applied by the family enterprises in Cajeme, Mexico?

Justification

The wealth owners of family enterprises have a very important priority, and it consists in transferring, not only financially, but their values to the subsequent generations too. The main values taught include encouraging children to earn their own money, philanthropy, charitable donations and volunteering. Research shows that family enterprises are less likely to dismiss employees regardless of financial performance.
Innovation in SMEs is the primary factor for its consolidation and competitiveness, being able to be carried out in different ways in products, goods and services. Also, it includes the marketing processes and everything that impacts the design of the product, according to the Oslo Manual (Manual de Oslo, 2005).
To some extent, it is considered that the ultimate goal of the family enterprises owners is to optimize their utility; nevertheless, they usually have goals or minima that produce a satisfactory level of utility for a specific period. In addition, they also face resource constraints that limit their achievement. It is essential to take into account whether the enterprise has a clear idea of the importance of innovation or not and to promote innovation within the company.
The research related to family enterprises is increasing, largely due to the large number of companies that represent. It is indisputable that they behave differently to non-family enterprises as commented by Chua, Chrismand, de Massis, Wangh (2018); henceforth, it is vital to identify its organizational culture and its influence in the innovation process, because they are fundamental factors in the consolidation and competitiveness in the organization. Finally, it is important to evaluate the effectiveness of the established strategies, monitor the fulfillment of their goals, and consequently their performance.

Objective

To analyze the relationship and influence of the organizational culture with the innovation that is applied by the family enterprises in Cajeme, Mexico to generate new cultural models.

Hypothesis

The research hypothesis is as follows: **Hi.** The organizational culture is related and positively and significantly influences innovation within the family enterprise. Based on the foregoing, it is proposed to verify the following specific hypotheses:
H1. The productive sector is related and influences positively and significantly with the innovation applied by family enterprises.
H2. The educational level is related and influences, positively and significantly, innovation within the family enterprise.
H3. The organizational culture, the productive sector and the educational level positively and significantly influence innovation within the family enterprise.

Literature Review

Ouchi (1982), who is one of the principal scholars of culture, establishes that the cultural characteristics would be: trust, friendship, teamwork and administration by direct participation; that is to say conditions of humanized jobs. These increase the profit and productivity, and employees own estimation, achieving greater emotional wellbeing.
For its part, Schein (1988) mentions that culture is the basis of basic assumptions and beliefs that are shared by members of an enterprise, who work unconsciously and define the vision that the company has of itself and its environment. This author considers that the culture can be intervened by the direction of direct mechanisms. Similarly, Hofstede (2011) believes that the shared perceptions of everyday practices are more relevant, since it is more feasible to intervene in everyday practices than to modify the already embedded values of people.

The main contributions related to innovation belong to Nonaka (1991), and Nonaka and Takeuchi (1995); they comment that the generation of knowledge is the way of acting by the worker or the entrepreneur. This is accomplished individually or in a group, through knowledgeable people and organizational routines; there are no hierarchies, however the high level of the hierarchy in the organization knows where they want to go.

Aktouf (2002); Murillo, Calderón and Torres (2003); Hellriegel and Slocum (2009) operate similar dates in terms of the study of organizational culture. According to Aktouf (2002), the organizational culture has grown in a dizzying way since the end of the 70s. He mentions that the most important authors in the area are the following: Barnard (1938), Fuckt (1964) Ouchi (1981), Deal and Kennedy (1982), Peters and Waterman (1982), Pettigrew (1979), Weick (1979), Schein (1985), Pscale and Athos (1981).

Some other authors who refer to the family enterprises, innovation and organizational culture are presented in Table 1.

Table 1 Definition of family enterprise, organizational culture and innovation.

	Author	Definition
Family Enterprise	Miller, D., Le-Breton-Miller, I., Lester, R. H., Cannella, A. A. (2007).	Family enterprises are the ones in which multiple members of the same family are involved as owners or principal managers, either at the same time or eventually.
	Sciascia & Mazzola (2008).	Family enterprises are those in which the family controls the business through the participation in property and administration positions.
	Corona y Téllez Roca, R. (2011).	It is the one in which a family group designates the maximum executive of the company to set the business strategy, with the objective of generational continuity. This based on the joint desire of founders and successors to maintain control of the ownership and management in the family.
	Okoroafo & Koh (2010).	The family business is the one that the owner identifies as a family enterprise.
Organizational culture	Hofstede (1991)	Cultural universe formed by assumptions, values and beliefs that are shared by the members of an organization and derived from a specific social environment, which is learned through social practices and occur at an organizational level.
	Schein (1988)	It is the basis of basic assumptions and beliefs shared by the members of a company, which unconsciously work and define the vision that the company has of itself and its environment. It considers that the culture can be intervened through direct mechanisms by the management.
	Arboleda & López (2017).	Sum of beliefs and values shared by members of the same organization that influences their behaviors.
	Marulanda & López (2013).	Behavior pattern that can be observed within a community or organization that emanates from the shared values, beliefs and thoughts of the people who integrate it.
Innovation	Manual de Oslo (2005).	The introduction of a product (good or service) or a process, new or significantly improved; or the introduction of a new marketing or organization method, applied to business practices, work organization or external relations.
	Pla-Blader (2007)	It is the transformation of an idea into an improved product, an improvement in a process, or the development of a new one. That is to say, it is like a successful process of exploiting new and creative ideas, which require two characteristics that are novelty and use.
	Cáceres & Aceytuno, (2008)	It is a competitive advantage in which it helps to develop other business opportunities over rivals.

Note: Own elaboration.

According to Athwals (2017), some advantages of the family enterprises are:

Stability: Generally, it is the family position that leads the business and, as a result, there is usually longevity when it comes to leadership, which results in overall stability within the organization.

Commitment: Because the needs of the family are at stake, there is a greater sense of commitment and responsibility. This level of commitment is almost impossible to generate in non-family companies.

Flexibility: Family members are willing to take on tasks outside of their formal jobs to ensure the success of the company.

Long-Term perspective: Non-family enterprises think about reaching their goals this quarter, while family enterprises think of the years and sometimes decades that are looming. This allows for a good strategy and decision-making.
Reduced cost: Unlike typical workers, family members working in family enterprises are willing to contribute from their own finances to ensure the organization's long-term success. This could mean taxpayer capital or pay cut.
Similarly, Athwals (2017) points out the disadvantages of family enterprises:
Lack of interest among family members: sometimes family members are not really interested in joining the family business, but they do it anyway because they are expected to.
Family conflict: Because family members are involved, conflict may be more difficult to resolve and may result in difficult endings.
Unstructured governance: Governance issues such as hierarchies and internal rules, as well as the ability to follow and adhere to external corporate laws, tend to be taken less seriously in family enterprises, owing to the level of trust inherent to family enterprises.
Nepotism: Some family enterprises are reluctant to allow external people to enter the upper level, and the result is that people/ employees lack skills, education or experience for different kinds of jobs.
Succession planning: Many family enterprises lack succession plans, either because the leader does not want to admit that one day he or she will have to quit, or because there is too much trust in the family to work on this.

Methodology

In order to achieve the objective of the study, a quantitative methodology was applied, using a non-experimental cross-sectional design, in a specific time (Creswell, 2009). Also, the research population consisted of the small and medium-size family enterprises (SMEs) of the commercial, industrial and services sectors in Ciudad Obregon, Sonora, Mexico. From this, a sample was selected using a non-probabilistic method of intentional type sampling. In order to analyze the data, these were represented by numbers, which were then analyzed using descriptive and inferential statistics (Hernández, Fernandez & Batista, 2014).

Table 2 Enterprises classification according to their size.

Size	Sector	Number of employees range	Annual sales (million pesos) range	Combined maximum limit*
Small	Commercial	Up to 10	Up to $4	4.6
		From 11 to 30	From $4.01 to $100	93
	Industry, Service, Commercial	From 11 to 50	From $4.01 to $100	95
Medium		From 31 to 100		235
	Services	From 51 to 100	From $100.01 to $250	
	Indusry	From 51to 250	From $100.01 to $250	250

*Combined x = (Employees) X 10% + (Annual sales) X 90%.
Note. Official Journal of the Federation (Diario Oficial de la Federación), June 30th of 2009.

Participants

The participants in the research were small and medium-sized enterprises in Cajeme from different sectors (see Table 3).

Table 3 Productive sector of the family enterprises.

Sector	Frequency	Percentage
Service	25	17
Commercial	78	54
Industrial	42	29
Total N	145	100

In order to collect data from the population in the study, the database of the National Institute of Statistics and Geography (INEGI 2009) was consulted in its *National Statistical Directory of Economic Units (DENUE)*, which totaled 1.409 organizations. Subsequently, applying a non-probabilistic sampling of purposive type, a sample of 300 enterprises was selected, who voluntarily agreed to participate in the investigation; 48% are classified as family SMEs and these were the ones that were analyzed for the present project in relation with the initial approach. It is important to mention that, at all times, the adequate sample size was maintained for relevant statistical analyses (Levin and Rubin, 2004). The conformation of the family enterprises was based on the characteristics of family: son (a), brother, (a), spouse and others (uncles, cousins, etc.).
In consideration with the above, it can be noted that the total number of employees are around 2.320. These workers were the ones integrated into the family enterprise; whose main

characteristics are differentiated through gender.

Table 4 Gender in the family enterprises.		
Gender	Frequency	Percentage
Men	1355	58
Women	974	44
Total	2320	100

It shows a fair behavior in relation to the members of the family, and a difference not so significant according to the percentages (see Table 4). Acording to gender equity, it is perceived that women within the organizations in Cajeme have generated an increase in relation to other studies. Additionally, it is becoming more prominent with time, which is outstanding when observing the percentages that are presented within the study sample. The conformation of family enterprises was based on the characteristics of family: Son or Daughter, Brother or Sister, Spouse, and others (see Table 5).

Table 5 Relationship in the enterprises.		
Relationship	Frequency	Percentage
Son or Daughter	57	39
Brother or Sister	35	24
Spouse	36	25
Others	17	12
Total N	145	100

It is important to note that, within the organization, other relatives have a high level of prominence, for example: uncles, cousins, etc. They are close relatives and partners of the family SMEs.

Instrument

The instrument consists of two measuring scales of Likert scale consisting of five points and categorical variables that supported the analysis of the general and family aspects. Each topic addresses various items, for example innovation relates to its elements that come from items 1 to 6, emphasizing the technology dimension. On the other hand, the culture is approached from the organizational area with a number of ten items, which are indicated from item 7 to 16 with the dimensions of values, beliefs, market and leadership, which are shown below (see Table 6).

Table 6 Variables and items.

Variables	Items
INNOVATION Company´s ability to create, apply and market technologies. (Bernardez, 2007).	INNO 1. It worries about innovating in products or processes. INNO 2. It has technology that responds to their needs. INNO 3. It relies on social media. INNO 4. It manages their business with the support of technology. INNO 5. It invests in technology. INNO 6. It uses technology when handling information.
CULTURE The way things are done. Habitual and traditional way of thinking and doing things, by all the members of the enterprise, to a greater or lesser degree. (Carleton and Lineberry 2004; Jaques 1951).	CUL 1. Work and operational teams are frequently established. CUL 2. Habits and organizational values are important. CUL 3. Their own cultural patterns have developed throughout their history that affect the behavior of their members and impact the implementation of the changes. CUL 4. There are established ceremonies, rituals or prescribed ways to manage behavior in the organization. CUL 5. There are some employees who share stories, news related to the organization. CUL 6. It is directed by some family member with the intention of continuing from generation to generation. CUL 7. Authority is exercised by the higher levels of the organization. CUL 8. They reward and promote the achievement of results. CUL 9. Support among employees is encouraged. CUL 10. You can tell the difference between its members by the generational gaps.

Note. Own elaboration

For the above, the internal validity of the instrument was carried out through the application of various tests of normality. In the same way, the reliability test of the data was applied, in which the items of both variables exceeded the parameters established by Cronbach (see Table 7).

Table 7 Reliability of variables.

Variable	Number of elements	Cronbach alpha
Innovation	6	.94
Culture	10	.80

Note. Own elaboration.

Procedure

The elaboration and the previous design took as reference a timetable of activities of the project, which consisted of various steps. Theoretical information was sought in order to support the topics of study. A Likert type scale was selected because, from the point of view of the researcher, it was simple to build and gives the interviewee the opportunity to graduate his opinion with various options. After the structure, each of the items was formulated with their respective theoretical and empirical sustenance that was sent to the validity of experts.

For the pilot study, 30 questionnaires were applied to SMEs in different sectors. Of the most outstanding data in the pilot study was a change in the structure and the drafting of items since respondents detected conflicts. Considering the results of the pilot, the process of applying the rest of the sample went forward , thus obtaining the 300 questionnaires answered.

With the collected data, the base was built in the statistical package IBM SPSS (version 21), which was captured carefully, avoiding typographical errors in order not to generate any lost values. Therefore, with the sample applied, the analysis and statistical tests were initiated.

Results

In the first instance, it is decisive to mention the results on the following scenarios. The hypotheses proposed in the theoretical section of the project were accepted: *Hi*. The research hypothesis mentions a relationship between the two variables, for which a Pearson correlation test was applied (see Table 8).

Table 8 Correlation of Culture and Innovation.

Variable	N	M (%)	SD (%)	1	2
Organizational culture	145	4.02	.57	---	
Innovation	145	3.56	1.2	.347	---

Significant at .01 (two-tailed)

H1*. The organizational culture is positively and significantly related with the innovation applied by family enterprises.*

It is important to point out that an effective relationship is shown and is considered acceptable within the parameters established by Pearson since the percentage presented explains a 34% of the shared variance between its elements. Therefore, there are elements to be considered among the family enterprises. For example, items INNO 3 and 4 have an acceptable average and are aligned with the item CUL 1; hence, technology and the way to transfer it are done with a culture based on teamwork.

The second test is derived from the relationship, for which a linear regression test is analyzed, where the influence of the organizational culture on innovation in the family enterprises was analyzed (see Table 9).

Table 9 Linear Regression between CUL e INNO.

Variable	*B*	*95% CI*	*Β*	*t*	*p*
Innovation	.333	[.376- 1.040]	.347	2.71	.001

Note. Own elaboration. R^2 = .21 (N = 145, p < .001). CI = confidence interval for B.

In particular, the results shown in the previous table reflect that the organizational culture predicts/ is responsible for 21% of innovation within the family enterprises in Cajeme; consequently, it is estimated that the remaining percentage is scattered in other variables that are not contemplated for this study. In this, it is emphasized the importance that the hierarchical levels reward and incentivize the behavior and the promotion of the results. It is from there, that it derives a constant influence and generation of new ideas and applications of promotions through the social networks; this is how the focused culture of the leader intervenes in the process of innovating. There are factors that can intervene in the generation or the influence of one variable or another, which is why it is necessary to indicate other tests to check the relation of our study variables (see Table 10).

Table 10 Relationship and influence of Control variables versus Innovation.

Variable	*N*	*B*	*R2*
Productive sector	145	.534	.285
Educational level	145	-.170	----
Organizational culture	145	.333	.210

In the first subparagraph, the following specific hypotheses were pointed out to verify the mentioned above:

H1. The productive sector is related and influences positively and significantly with the innovation applied by family enterprises.

H2. The educational level is related and influences, positively and significantly, innovation within the family enterprise.

H3. The organizational culture, the productive sector and the educational level positively and significantly influence innovation within the family enterprise.

The foregoing notes that the first specific hypothesis is fulfilled because the productive sector is related and influences more than the organizational culture to innovation. What is noteworthy is that the predominant sector of the family SMEs is the commercial. There is a technological innovation as new trends are encouraging entrepreneurs to increase their level of innovation in this sector.

Therefore, innovation in the business sector, in particular in the *145* family enterprises, is influenced by the following:

$$\boldsymbol{\gamma = \beta 1 X1 + \beta 2 X2}$$

Where:

$\boldsymbol{\gamma}$ = Innovation.

$\boldsymbol{X1}$= Organizational culture.

$\boldsymbol{X2}$= Productive sector.

Essentially it is the culture and the productive sector influence that positively and significantly in a. 388; their influence increases by 10 percent when directly comparing each variable. For this reason, the families SMEs in Cajeme are more innovative based on their culture and their line of business. As a result of the main findings presented above, it is necessary to detail the most outstanding debates from an empirical perspective. To this end, the main elements of the researched variables are presented in other parts of the world, using different methodologies. A comparison study between family and non-family enterprises and their relationship with the generation of innovation is what Craig and Dibrell (2006) stand for in their research. It is focused on industrial SMEs in the United States, with a representative sample of 391 enterprises; they come to the conclusion that family enterprises can use their natural environmental policy more effectively in a strong competence of capacities that led to innovation and organizational performance. Similarly, the study has a related characteristic since the 42 analyzed companies of the industrial sector use their technological processes in order to increase their profits.

The family through its cultural values, collaboration and networks propitiates greater innovation, as raised by Cassia, De Massis and Pizzurno (2011). In a series of case studies focused on family enterprises, the authors established that the family impact on business and innovation activities occurs through a combination of interaction with family objectives, values and culture. Like the analyzed family enterprises in this document, they have developed throughout their history with their own cultural patterns that affect the behavior of their members and impact the implementation of technological changes. Likewise, they are directed by some member of the family with the intention of continuing from generation to generation.

Conclusions

It is concluded that within the pillars of the family SME the organizational culture and innovation are essential, because when analyzing the relationship and influence of these in the family companies in Cajeme, Mexico, the hypotheses are accepted. H1. The organizational culture is positively and significantly related with the innovation that is applied by family enterprises; *H2. The educational level is related and influences, positively and significantly, innovation within the family enterprise.*

It is verified that there is an effective relationship between the organizational culture and the applied innovation by the family SMEs; taking special care of technology and how to transfer it, which is supported by a culture based on teamwork.

It is established that the organizational culture predicts 21% of the innovation of the family enterprises in Cajeme; however, it is necessary

to unite/ compare, in subsequent studies, with respect to other variables not considered in the research since new proposals can emerge and positively impact the family SME.
Indisputably, the leaders of the family SMEs dictate the guideline regarding the behavior and achievements of the organization, constantly influencing the creation of ideas that impact in innovation.

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Ownership, productivity and firms' life-cycle

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family firms, productivity, life-cycle, Cobb-Douglas production function, endogeneity.

Abstract Empirical evidence on productivity differences between family owned and non-family owned firms is still sparse and reveals conflicting results. Unlike previous studies, we analyse the effect of the firm's life cycle on productivity using a large sample of non-listed firms. Furthermore, we consider a model with heterogeneity of inputs between the two types of firms and addressing possible endogeneity problems. We conclude that there are no significant differences in productivity between family and non-family firms, for both startup/growth and mature stages of life cycle. Furthermore, labour seems to be the main determinant of family firms' productivity, which is especially evident for firms in the mature stage.

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Empresas familiares; Productividad; Ciclo de vida; Funcion de producción Cobb-Douglas; endogeneidad

Propiedad, productividad y ciclo de vida las empresas

Resumen La evidencia empírica sobre las diferencias de productividad entre las empresas familiares y no familiares es aún escasa y revela resultados contradictorios. A diferencia de estudios anteriores, analizamos el efecto del ciclo de vida de la empresa en la productividad utilizando una gran muestra de empresas no cotizadas. Además, consideramos un modelo con heterogeneidad de aportes entre los dos tipos de empresas y abordando posibles problemas de endogeneidad. Concluimos que no hay diferencias significativas en la productividad entre las empresas familiares y no familiares, tanto para el inicio / crecimiento como para las etapas maduras del ciclo de vida. Además, la mano de obra parece ser el principal determinante de la productividad de las empresas familiares, lo cual es especialmente evidente para las empresas en la etapa de madurez.

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Introduction

The relation between firm ownership and performance is a growing topic in the literature; see inter alia Anderson and Reeb, 2003; Villalonga and Amit, 2006; Chrisman et al., 2004; Arosa et al., 2010. However, few researchers have studied the impact of family ownership on the fundamental driver of performance, which is productivity. Standing out, among others in this group, are the studies by Martikainen et al. (2009) and Palia and Lichtenberg (1999) about quoted firms and those by Barbera and Moores (2013), Morikawa (2013), Barth et al. (2005) and Bosworth and Loundes (2002), which considered small and medium-sized enterprises (SMEs).

SMEs account for 99.8% of all firms in the European Union (European Commission, 2015), of which 70% to 80% are family firms (Mandl, 2008). The importance of these firms for economic and social development justifies carrying out more studies about the determinants of performance, as is the case of productivity.

The central objective of this paper is to provide further evidence on whether family ownership has a positive or negative effect on productivity and how it changes along the firms' life cycle, as well as on the contribution of production factors. In particular, we aim to provide answers to the following questions: Do family owned firms display higher productivity than non-family firms?; Do labour and capital factors contribute equally to production in family firms than in non-family firms?; Do productivity differences between family owned and non-family owned firms change along the different life-cycle stages?

We consider the case of Portugal, which, according to the European pattern, has a high percentage of family firms, representing around two thirds of total turnover and 50% of employment (Mandl, 2008). We use a large sample of non-listed manufacturing firms (from the SABI database, provided by Bureau van Dijk). Besides being the first and the largest empirical study on productivity in family firms in Portugal, our approach differs from previous studies in other aspects.

Firstly, this study contributes to family firm literature by investigating the effect of a firms' life cycle on productivity differences between family and non-family owned firms. Empirical evidence in these topics is not common. Studies on family firms' productivity typically focus on the impact of the ownership on productivity without considering differences along the firms' life-cycle (e.g. Barbera and Moores, 2013, Mannarino et al., 2011). On the other hand, studies about firms' life-cycle focus on its effects on property control (e.g. Frank et al., 2012), on the evolution of firms' performance (Sridharan and Joshi, 2016) as well as on financial problems (Rocca et al., 2011). As far as we know, no previous study has analysed the differences in productivity along firms' life-cycle stages between family and non-family firms.

Secondly, this study presents a methodological contribution by not assuming homogeneity of inputs and by considering a recent method to address endogeneity problems in the estimation of the production function. In fact, unlike most empirical analyses about productivity in family firms, we do not assume homogeneity of inputs in the production functions (one exception is Barbera and Moores, 2013), that is, that labour and capital output contributions for both types of firms are the same. Hence, possible differences in the output contribution of production inputs between family firms and non-family firms are considered. Also, in general, previous research does not fully address endogeneity problems in estimation of the production function, particularly endogeneity due to simultaneity between the choice of inputs and productivity shocks. In this work, we take into account endogeneity by employing the method proposed by Wooldridge (2009). To the best of our knowledge, no previous study on family owned firms' productivity has employed this method to consider endogeneity problems.

The remainder of this paper is organized as follows. The second section presents a literature review about the impact of firm ownership on performance, taking as reference the differences between family and non-family firms identified in the literature. Based on this review, hypotheses are formulated about the difference in productivity and in the contribution of production factors between family and non-family firms, along the life-cycle. The third section describes the empirical methodology and discusses the data used in the analysis. The fourth section reports and analyses our empirical findings. The final section concludes (the paper).

Background and Hypotheses

Evidence of the impact of ownership on productivity is scarce and results have not been consensual. Researchers focusing on quoted firms mainly report a positive effect of family ownership on productivity (e.g. Górriz and Fumas, 1996; Martikainen et al., 2009). The results about the impact of family ownership in studies considering only non-listed firms or both quoted and non-listed firms, reveal that the effect on productivity is either insignificant or negative (Barbera and Moores, 2013, Bosworth and Loundes, 2002, Barth et al., 2005; Mannarino et al., 2011).

Most studies assume input homogeneity (specifically labour and capital) between family and non-family firms. Only two studies have considered that firms may diverge in the use and contribution to output of production factors, because of their different concerns, objectives, motivations and behaviour. The results of Martikainen et al. (2009) for quoted firms in the US show no significant differences in production technologies and the authors conclude that the higher production efficiency of family owned firms is caused by their more efficient use of labour and capital resources. On the contrary, Barbera and Moores (2013), considering Australian SMEs, conclude that these two types of firms differ in the use of capital and labour factors.

Considering the specific characteristics of family firms resulting from the strong inter-relationship between family and business, we can expect differences in their objectives[1] and in the strategies for allocating resources. These differences are related to the emotional context, family values, altruism and the alignment of objectives that characterize family firms' management which do not occur in other firms.

In this respect, differences in human resource management practices stand out. The literature suggests that family firms adopt less professionalized practices (De Kok, Uhlamer at al., 2006), prefer informal training (Kotey and Folker, 2007) and pay lower salaries, but provide greater job security (Bassassini et al., 2013). This informality in the decision process, as well as the adoption of more long-term perspectives (Harris and Reid, 2008) and the family atmosphere of trust and cohesion associated with a policy of conservative payment, contribute to motivate employees and increase labour productivity.

These management characteristics relate to the model of governance adopted by family firms. Based on great dedication to the continuity of the business, creating a culture of community with employees and close connections with clients, Miller et al. (2008) and Miller and Le Breton-Miller (2006) showed that the stewardship theory model is applicable to family firm governance.

The overlap between ownership and management may lead to the absence of agency costs linked to control. At the same time, it ensures close alignment between family and firm interests and a policy of lower salaries explained by the emotional link between managers/owners and firms. This leads to the creation of a climate of informality and employees' great proximity to family members, which favours involvement (Mandl, 2008), commitment (Azoury et al., 2013) and employee satisfaction (Huang et al., 2015; Block et al., 2013). Given these specific characteristics and the difficulty of replicating them in non-family firms, they may be an important competitive advantage for family firms.

[1] Often, maximizing family well-being does not coincide with business objectives. For example, non-monetary objectives such as satisfaction with the transfer of ownership to descendants may prevent making a highly-profitable investment due to the added risk this represents for the family firm.

Considering top management, the results about the relationship between the presence of a family CEO and performance are ambiguous, although most recent studies point towards a negative relationship. For example, Anderson and Reeb (2003) confirm better performance of family member CEOs because they understand the business and behave as stewards of the firm. However, Villalonga and Amit (2006) and Pérez-González (2007) identify lower performance of family member CEOs, explained by the smaller recruitment base of family firms. In turn, Bennedsen et al. (2007) show that the presence of family CEOs has an extremely negative causal effect on firm performance, whereas external CEOs have the opposite effect. As the literature suggests family firms are generally reluctant to take on external CEOs in order to prevent a loss of control (Gómez-Mejía et al. 2011) and that family member CEOs remain in the post much longer than their non-family equivalents (Gómez-Mejía et al., 2001), irrespective of the results obtained, we may expect less efficient top management in family firms.

Considering the characteristics of human resources management previously discussed and the results of Barbera and Moores (2013), concluding that the labour factor in family firms contributes significantly more to production, we may expect greater efficiency of the labour factor in family firms. To confirm this assumption, we test the following null hypothesis:

H1: There is a greater contribution of the labour factor to production in family firms than in non-family firms.

Family firms may also show a different contribution of capital. In fact, Barbera and Moores (2013) conclude that the capital factor contributes significantly less to production than in non-family firms. This difference can be explained by the characteristics of capital structure and investment decisions. Schmid (2013) identified the desire to keep control and avoid excessive risk as the main determinants of financing decisions. Most studies confirm that family firms are more risk averse (Hiebl, 2013) and that this criterion is very important in the investment decision (Anderson et al., 2012).

Despite the great amount of research, the literature about the differences in capital structure remains inconclusive (Ampenberger et al., 2013). Some studies identified greater debt in family firms (e.g. Croci et al., 2011; King and Santor, 2008; and Blanco-Mazagatos et al., 2007); while others, such as Schmid (2013), Ampenberger et al. (2013) and Anderson et al. (2012) found the opposite result of greater debt in non-family firms. More important than the differences in the capital structure is the difference in the cost of capital. According to the agency theory, the overlap between ownership and management in family firms may substantially reduce agency problems, which produces positive effects on the cost of capital (Ang et al., 2000). However, other authors, such as Schulze et al. (2001) or Schulze et al. (2003), argue that significant agency costs may occur as a result of inefficient behaviour and conflicts among family owners.

The effects of greater risk aversion in family firms were analysed in the scope of agency theory by Le Breton-Miller and Miller (2009), who concluded on under-investment in the area of business renewal and innovation. A growing number of studies demonstrate that family firms invest less in R&D than non-family ones (Patel and Chrisman, 2014; Block, 2012; and Munari et al., 2010) due to the greater risk and the desire to preserve socioemotional wealth[2].

Although most studies assume homogeneity of the capital factor in the production function, considering the differences in the financial decisions previously discussed and the result of Barbera and Moores (2013), we can expect less efficiency of this factor in family firms, and hence we test the following null hypothesis:

H2: There is a lower contribution of the capital factor to production in family firms than in non-family firms.

The theoretical prepositions and empirical results about the differences between family and non-family firms discussed above also affect the firms' productivity. Like Barbera and Moores (2013), we want to investigate the effect of family ownership on productivity. This can be explained by the resource-based view, which states that family firms have unique capabilities, resources and relationships that non-family firms cannot develop. Families may influence firm performance due to the interaction of these family factors with business variables (Habbershon and Williams, 1999; Habbershon et al., 2003; Sirmon and Hitt, 2003). This interaction between the family and productive activities can generate strategic resources, which are themselves sources of competitive advantages.

On the contrary, family firms' financing preferences can have a negative effect on competitiveness. These companies prefer to generate funds internally (Blanco-Mazgatos et al. 2007, Romano et al. 2001) as opposed to external financing, so as to avoid risk and sharing control (e.g., Coutts, 2005; DGPYME, 2003). This choice affects the availability of capital and investment and can affect competitiveness if it results in using obsolete equipment because of the difficulty in replacing it. As this problem does not arise to the same extent in non-family firms, it can create differences in competitiveness between these two types of firm.

The factors previously discussed and the governance model, more oriented to the use of control mechanisms, as predicted by agency theory, determine a firm's productivity. These features have impact on the objectives and on the management of resources, affecting firms' efficiency in several different ways. Hence, all together these effects have an impact on productivity, which leads us to test the difference between family and non-family firms by studying the following hypothesis:

H3: Taking into account different input contributions, there is no difference in productivity between family and non-family firms.

Our work differs from previous studies by considering the hypothesis of differences in productivity along a firms' life cycle. These differences can be explained by the factors described above related to financing and growth or to the change in strategic orientation. (e.g. Molly et al., 2012; Martin and Lumpkin, 2004). This analysis is based on a vision of firm's life-cycle, which begins with the founder's strong control of ownership that gradually dwindles over time.

At the initial start-up stage, the characteristics of entrepreneurs and businesses are very similar. There is a vision towards business, ideas, intellectual capital and growth opportunities (Hand, 2005). Founders typically hold a significant part of ownership and remain in power for many years. Founders' personal characteristics are common to both types of firms[3], with priority given to entrepreneurial activity and building the business rather than the role as a member of the family (Miller et al., 2013).

As the characteristics previously described do not show substantial differences between the two types of firms in the start-up/growth stage, we can accept at the outset that there is no difference in productivity. To confirm this assumption, we test the following hypothesis

H4: There is no difference in productivity between family owned firms in start-up/growth stage and non-family firms on the same stage.

Given the differences is time perspectives for family firms assumed by James (1999), who states that these firms favour long term strategies, and the findings of Mandl (2008), who confirms that family firms give priority to long term sustainability and to the challenges of ownership and management transfer, we cannot expect the previous hypothesis to be true in other stages of firms' life-cycle.

The literature identifies management problems in more advanced stages of the family firms life-

[2] Gómez-Mejía et al. (2007) defined socioemotional wealth as "non-financial aspects of the firm that meet the family's affective needs, such as identity, the ability to exercise family influence, and the perpetuation of the family dynasty".

[3] Martin and Lumpkin (2004) provide an extensive analysis of the meaning of business orientation and the personal characteristics of entrepreneurs.

cycle, which often results from ownership transfer to descendants (e.g. Molly et al., 2010 ; Villalonga and Amit, 2006). In particular, these problems are related with increased conflict between family members (e.g. Eddleston and Kellermanns, 2007), less business talent and fewer management competences (e.g. Cucculelli and Micucci, 2008), less work capacity and lower ethics in descendants (Morck and Yeung, 2003) and the lack of financial resources (Miller and Le Bretton-Miller, 2006 and Upton and Petty, 2000).

Other studies justify stagnation with the diminishing entrepreneurial orientation in subsequent generations of family firms (Martin and Lumpkin, 2004). Zellweger and Sieger (2012) concluded that ownership transfer to descendants has a negative impact on internal autonomy and innovation, and the opposite effect on pro-activeness and competitive aggressiveness. This maybe also justified by the fact that leaders remain in their positions longer in family firms, as identified by Brenes et al. (2011) and McConaughy (2000).

This evolution, which is not common in non-family firms[4], is described in the literature as a change in strategic orientation – from the entrepreneurial perspective of business renewal to a conservative vision of greater risk aversion and giving priority to protecting the family (e.g. Martin and Lumpkin, 2004 and Molly et al., 2010). Family orientation prioritizes stability and preservation of the family heritage rather than the competitive aggressiveness that characterizes business orientation (Martin and Lumpkin, 2004), which authors such as Lumpkin and Dess (2001) found to be closely related to performance.

According to Chrisman et al. (2008), an important distinction between family and non-family firms lies in how they formulate and implement strategies and how these affect performance. The strategic change previously discussed may generate both positive and negative effects on productivity in mature stage family firms that do not occur in non-family ones. No previous studies have investigated the possible differences between the two types of firm in mature stages. However, given the expected differences in strategies, we test the following hypothesis:

H5: Family firms in mature stage have lower productivity than non-family firms in the same stage.

Methodology and Data

Empirical Methodology

As previous studies, the empirical analysis is based on a standard Cobb-Douglas production function:

$$Y_{it} = \beta_0 + \beta_1 l_{it} + \beta_2 K_{it} + \varpi_{it} + \varepsilon_{it} \qquad (1)$$

Where Y_{it} is the logarithm of the Added Value of firm i at time t, K_{it} is the log of capital, l_{it} is the log of labour, ε_{it} is a standard error term and ϖ_{it} represents firms' productivity, which is assumed to be observed by the firm but not by the econometrician.

OLS estimation of the previous equation requires all inputs to be exogenous. However, it is commonly assumed that labour is an input that can adjust more rapidly than capital when the firm faces a productivity shock. Therefore, labour is considered a freely variable factor and capital a state variable. As labour adjusts to current productivity shocks, OLS estimation of the production function provides biased estimates. In fact, we have an endogeneity bias due to simultaneity, that is, firms know productivity at the time they choose their inputs and it is likely that an increase in productivity will lead to an increase in labour.

Consequently, several alternative estimators have been suggested in the literature to overcome endogeneity[5]. It has been recognized that traditional methods like fixed-effects estimation techniques, despite taking firm heterogeneity into account, do not solve the simultaneity problem when productivity shocks change over time. Similarly, instrumental variables methods have a number of problems, particularly related to the difficulty of finding appropriate instruments. In fact, in general, both fixed-effects and instrumental variables methods seem to provide unreliable estimators (Ackerberg et al., 2007). The latest solutions to deal with this problem extend the semi-parametric approach of Olley and Pakes (1996), such as the estimators of Levinsohn and Petrin (2003) or Ackerberg et al. (2006). All these authors suggested two-step methods using proxies for unobserved productivity shocks.

More recently, Wooldridge (2009) proposed a single-step method, estimating the first and second stage of previously suggested methods simultaneously, within a GMM framework. Wooldridge (2009) argues that this alternative is more efficient as, unlike the two-step approaches, it takes into account potential contemporaneous correlation in the errors across the two equations (corresponding to the two steps) and it allows for serial correlation and heteroskedasticity in the error terms. In this paper the Wooldridge (2009) approach is adopted.

[4] In non-family firms, the ownership/management transfer is seen as less of a question of renewal, where rationality prevails and the objective is to increase performance. In family firms it is a critical decision that involves principally emotion and can represent discontinuity (Stewart, 2003).

[5] See Van Beveren (2012) for surveys on the various methods.

As in Levinsohn and Petrin (2003) or Olley and Pakes (1996), a proxy for productivity shocks (materials or investment) is needed. Considering materials as a proxy, the demand for this intermediate input is assumed to depend on the firm´s capital (K_t) and the productivity shock ω_t:

$$m_t = f(K_t, \omega_t) \quad (2)$$

This function can be inverted if the monotonicity condition is met and materials are increasing in ω_t:

$$\omega_{it} = g(K_{it}, m_{it}) \quad (3)$$

By using (3) we can rewrite the equation (1) as:

$$Y_{it} = \beta_0 + \beta_1 l_{it} + \beta_2 K_{it} + g(K_{it}, m_{it}) + \varepsilon_{it} \quad (4)$$

Further, the dynamics of productivity shocks is restricted by assuming:

$$\begin{aligned} &E_{t-1}\{\varpi_{it} \mid K_{it}, l_{it-1}, \varpi_{it-1}, K_{it-1}, m_{it-1}, ..., l_{i1}, K_{i1}, m_{i1}\} = \\ &= E_{t-1}\{\varpi_{it} \mid \varpi_{it-1}\} = f[g(K_{it-1}, m_{it-1})] \end{aligned} \quad (5)$$

Plugging, $\varpi_{it} = f[g(K_{it-1}, m_{it-1})] + v_{it}$ into equation (1), we get a second equation:

$$Y_{it} = \beta_0 + \beta_1 l_{it} + \beta_2 K_{it} + f[g(K_{it-1}, m_{it-1})] + v_{it} + \varepsilon_{it} \quad (6)$$

To estimate the model and to identify both β_1 and β_2 we need to specify functions $g(\cdot)$ and $f(\cdot)$. These can be approximated by a polynomial of the third degree or less. In this paper a polynomial of the third degree for $g(\cdot)$ and of the first degree for $f(\cdot)$ is chosen, further assuming that productivity follows a random walk with drift. In this case, the following system of equations is to be estimated in a GMM framework:

$$\begin{cases} Y_{it} = \beta_0 + \beta_1 l_{it} + \beta_2 K_{it} + g(K_{it}, m_{it}) + \varepsilon_{it} \\ Y_{it} = \eta_0 + \beta_1 l_{it} + \beta_2 K_{it} + g(K_{it-1}, m_{it-1}) + u_{it} \end{cases} \quad (7)$$

The above equations have different sets of instruments, where the lag length of instruments is limited to one period. Specifically, for the first equation the instruments are labour, capital and a third degree polynomial of capital and materials, and for the second equation, lagged labour, capital and a third degree polynomial of lagged capital and lagged materials.
Since the objective is to analyse productivity differences between family firms and non-family firms, in the empirical analysis the standard Cobb-Douglas production function (1) is extended in several ways. First, a dummy variable (*family*), taking the value of one for a family firm and zero otherwise, is introduced. Second, to take into consideration possible differences in capital and labour inputs between family owned and non-family owned firms, interactions between the dummy variable of *family* and inputs are also included. Moreover, a set of dummy variables to control the industrial sector, year and region is introduced.
Therefore, the following extended version of the Cobb-Douglas production function is considered:

$$\begin{aligned} Y_{it} &= \beta_0 + \gamma\, family + \beta_1 l_{it} + \beta_2 K_{it} + \\ &+ \beta_3 family.l_{it} + \beta_4 family.K_{it} + \delta X_{it} + \varpi_{it} + \varepsilon_{it} \end{aligned} \quad (8)$$

Where X_{it} stands for the control variables. The system of equations (7) as well as the set of instruments changed accordingly. In both equations the control variables act as their own instruments.

Data

Data from the SABI (Analysis System of Iberian Balance Sheets) database supplied by Bureau van Dijk is used. This is considered to be a representative dataset of the Portuguese firms, containing financial information for all industrial sectors and that is commonly used in studies about industry. Our study focuses on the manufacturing sector (similarly to Palia and Lichtenberg, 1999 or Martikainen et al., 2009) including non-listed firms for the period 2006 to 2009 located in mainland Portugal. We chose to consider data up to 2009, as this is the year before the external adjustment programme started in Portugal. The economic crisis, which has shaken the country since 2009, could in fact affect the results.
The sample includes firms that present positive values for all the variables used in the study for at least one year. Moreover, exit and entry of new firms is allowed, which implies that the sample includes firms that survived over the entire period of analysis and those that did not. Therefore, the final sample contains a total of 18,981 firms in 2006 and an unbalanced panel between 2006 and 2009 (due to free entry and exit of firms, but also to missing values in the variables used) comprising a total of 75,365 observations[6].

[6] We have checked for the existence of outliers using several procedures. Only six observations were classified as possible outliers. However, we performed regressions with and without outliers and found no significant differences in the coefficient estimates. Therefore, we have considered all the observations in our analysis.

One key aspect in the study is how to identify family owned firms. The literature contains a variety of definitions of a family business and there is no consensus among researchers (López-Gracia and Sánchez-Andújar, 2007). In general, three main criteria define a family firm. The first is based on who takes the most important management decisions (Filbeck and Lee, 2000), the second relates to capital ownership (Donckels and Lambrecht, 1999), and finally the last criterion is based on the possibility of passing the business to future generations (McConaughy and Phillips, 1999).

As in other studies, the availability of data limits the decision on which criteria to use. In this study capital ownership is considered and a similar criterion to the one used by López-Gracia and Sánchez-Andújar (2007) is followed. Hence, family firms are those with a shareholder, single or family, who owns more than 50% of the total shares, for each year of the time period. Consequently, in our sample around 74% of the observations are family firms (55,804) and more than 70% are micro firms. These percentages are according to the structure of the Portuguese manufacturing sector (Banco de Portugal, 2016). The importance of family firms is also similar to other studies that have analysed family business performance considering non-listed firms for other countries (Arosa et al., 2010; Chrisman et al. 2004).

In the empirical analysis, as dependent variable measuring firm output, the logarithmic of the Added Value (*lnAV*)[7] is used. Labour input (in logarithms -*lnlabour*) is measured by the number of employees, as hours of work per employee are not available in the dataset.

Capital input (also in logarithms- *lncapital*) is proxied by the sum of equity and debt[8] (following Barth et al, 2005). Due to many missing observations for the investment variable in the data, causing the loss of a large number of observations, the logarithm of input materials (*lnmaterials)* is used as a proxy variable for productivity shocks in the Wooldridge (2009) method. To deflate monetary values the appropriate producer price index for each manufacturing industry is used, and therefore all variables are at 2005 prices. The price indices are taken from the National Institute of Statistics (INE-http://www.ine.pt).

In order to control for possible industry bias, following most previous authors, 22 dummy variables are included to control for heterogeneity across industry sectors for manufacturing (one dummy variable for each two-digit level of the Portuguese Standard Industrial Classification system – CAE- which is correlated with Eurostat Nace Rev.2 taxonomy. *Repair and installation of machinery and equipment* is the reference category)[9]. Also, 4 regional dummies (*North, Centre, Alentejo and Algarve*. *Lisbon* is the reference category) and year dummies are introduced.

To study productivity differences along the different stages of the firms' life cycle, we follow Mandl (2008) classification: start-up/growth, mature and declining stages. In this paper we focus on the first two stages and according to studies such as that of Gersick et al. (1997), Blanco-Mazagatos et al. (2007) and Santarelli and Lotti (2005), we consider firms with 25 years of age or less in the start-up / growth phase.

Thus, our sample was divided into two groups. The group of firms with 25 years of age or less (start-up/growth stage) and firms over 25 years of age that are in the mature stage. In our sample, the majority of both family and non-family firms are 25 years old or less. In fact, in 2006 about 84% of family firms are in the start-up/growth stage whereas only about 68,7% of non-family firms are in the same stage.

As we can see in Table 1, there are indeed significant differences in the main characteristics between firms in start-up/growth stage and mature firms. These results justify an analysis on the differences in productivity between family and non-family firms across different firms' stages.

Table 1 Comparison between start-up/growth and mature firms – selected variables.

	Start-up/growth Firms		Mature Firms		
Variable	*Mean*	*Std. Dev.*	*Mean*	*Std. Dev.*	*T-statistic*
lnAV	11.578	1.404	12.431	1.682	-65.22*
lnlabour	2.114	1.079	2.824	1.296	-70.54*
lncapital	12.578	1.447	13.524	1.753	-69.89*
lnmaterials	9.781	2.024	10.746	2.078	-53.20*
Total observations	59405		15960		

Notes: T statistics: tests difference in means between start-up/growth and mature firms.
*Significant at 1% level

Table 2 presents some descriptive statistics for the main variables for both family and non-family firms and for firms in the two stages. Tests for differences in means between family and non-family firms reveal that the two types of firms are significantly different in all variables. Family firms present lower averages in Added Value and capital, as well as fewer employees than non-family firms and less capital. Family firms also

[7] Several authors, such as Barth et al (2005) or Mannarino et al. (2011), have also considered the same measure for output.
[8] Other proxies were also considered (sum of equity and total liabilities) but the conclusions were not affected.
[9] Tobacco products were not included as no family firms are present in this sector.

show lower levels of intermediate inputs (*lnmaterials*).

The conclusion that family firms are smaller is consistent with previous studies on family business, such as Mannarino et al. (2011), Martikeinen et al. (2009) or Barbera and Moores (2013). In all variables, family firms show less dispersion than non-family firms.

Table 2. Family and Non-Family Firms: descriptive statistics and difference of means test - main variables

	Family Firms		Non-Family Firms		
Variable	*Mean*	*Std. Dev.*	*Mean*	*Std. Dev.*	*T-statistic*
lnAV	11.471	1.313	12.576	1.715	93.09*
lnlabour	2.050	1.022	2.877	1.321	89.86*
lncapital	12.468	1.324	13.664	1.840	97.51*
lnmaterials	9.691	1.946	10.824	2.196	67.72*
Total observations	55804		19561		
	Family Firms start-up / growth stage		Non-Family Firms start-up/growth stage		
Variable	*Mean*	*Std. Dev.*	*Mean*	*Std. Dev.*	*T-statistic*
lnAV	11.368	0.006	12.315	0.014	71.07*
lnlabour	1.962	0.005	2.651	0.011	67.05*
Incapital	12.351	0.006	13.378	0.015	75.14*
Inmaterials	9.562	0.009	10.548	0.019	50.31*
Total observations	46254		13151		
	Family Firms mature stage		Non-Family Firms mature stage		
Variable	*Mean*	*Std. Dev.*	*Mean*	*Std. Dev.*	*T-statistic*
lnAV	11.973	0.015	13.113	0.022	44.50*
lnlabour	2.477	0.012	3.340	0.017	43.58*
Incapital	13.037	0.015	14.249	0.023	45.55*
Inmaterials	10.315	0.019	11.390	0.027	33.13*
Total observations	9550		6410		

Notes: T statistics: tests difference in means between family and non-family firms.
*Significant at 1% level

Analysis of Results

Table 3 presents the coefficient estimates for the production function considering both homogeneity and heterogeneity of inputs, for all firms and also for start-up/growth stage firms and mature stage firms. All specifications include industry, year and regional controls, which are globally significant in explaining firm productivity. However, these are not reported due to the large number of coefficients.

Unlike previous studies, the possible bias of estimates due to correlation between input levels and unobserved productivity is explicitly considered, by using the Wooldridge (2009) approach. Indeed, tests confirm there is an endogeneity problem in all the specifications (see Table 3) and therefore OLS estimates are not consistent.

Analysing first all the firms' stages together and homogeneity of inputs, we conclude that the elasticities' estimates are very similar to other studies, such as Barth et al. (2005) and Barbera and Moores (2013), and we may reject the hypothesis of constant returns to scale. The possibility of differences in the coefficient inputs between family and non-family firms is considered by introducing two interactions between the dummy variable of *family* and each of the inputs in specification (2). The results show important differences in inputs between family and non-family firms. Indeed, for family firms capital seems to contribute less to total output while labour makes a larger contribution than for non-family firms. These findings are in line with the conclusions of Barbera and Moores (2013) about input differences between these two types of firms, and are also in accordance with our hypotheses H1 and H2.

To compare productivity performance between family and non-family firms, the key variable is the dummy *family*. Considering both homogeneity and heterogeneity of inputs, there is a negative but not significant coefficient for the *family* variable, which suggests that family firms are not more productive than non-family firms. Therefore, these results are according to previous findings of Barbera and Moores (2013) and confirm our hypothesis H3.

In order to study possible differences along the firms' life cycle we estimate separate regressions for the two firms' stages. Our findings suggest that there are no significant productivity differences between family firms and non-family firms for both start-up/growth stage and mature stage. Indeed, although the coefficient estimate of the *family* variable for mature firms is lower, the variable is always not significant. Hence, our results confirm our expectations that there are no differences in productivity between family firms and non-family firms for start-up/growth firms and therefore confirm hypothesis H4. However, these findings are not according to our predictions regarding firms in the mature stage. Our hypothesis H5 was that mature family firms display higher productivity than other type of firms of the same stage, which is not confirmed in this analysis. Regarding the inputs coefficients, the contribution of the labour factor follows the same pattern for both start-ups and mature firms. This pattern is not confirmed for the use of capital. In fact, there are significant differences in the use of capital between family and non-family mature firms, which does not occur for start-up/growth ones.

Table 3 Estimation Results – Wooldridge method.

	All Firms		Start-up/growth Stage	Mature Stage
	(1)	(2)	(3)	(4)
Family	-0. 007 (0.005)	-0.686 (0.573)	-0.263 (0.869)	-2.429 (1.439)
Lnlabour	0. 788* (0.004)	0. 738* (0.008)	0.744* (0.010)	0.753* (0.014)
Lncapital	0.356* (0.004)	0. 379* (0.007)	0.370* (0.025)	0.397* (0.013)
*lnlabour*family*	----	0. 069* (0.009)	0.056* (0.011)	0.107* (0 .018)
*lncapital*family*	----	-0.033* (0.008)	0.001 (0.028)	-0.057* (0.018)
Wald test (overall significance)	177807.3*	185244.3*	126404.7	53267.05
Endogeneity Test	39.66*	62.36*	52.40*	16.09*
Total Observations	51077	51077	39469	11608

Notes: All specifications include yearly, regional and industry dummies, but are not reported.
(*), (**) - significant at 1% and 5 % level, respectively
Robust Standard Errors are in parenthesis.

These findings suggest that the characteristics of administration and human resource management practices remain constant over the life-cycle in both types of firm. Regarding the capital factor, important changes are found in mature stage family firms. This type of firms face a greater shortage of financial resources, greater risk aversion and a change in strategic orientation, which together contribute to a lower contribution of this factor. Moreover, in the case of family firms in Portugal, the labour factor determines their productivity and explains the fact that financing decisions and change in strategic orientation does not seem to affect their productivity, along their life-cycle.

It should be also mentioned that, besides endogeneity due to simultaneity between input choice and productivity shocks, other problems may occur when estimating production functions which might affect the results. Therefore, in order to check for the robustness of our results we have performed some other regressions[10].

First, there is another possible source of endogeneity that comes from the fact that family ownership may be affected by firm performance, because families may only retain ownership of firms that perform better. Therefore, if family firms show higher productivity this may provide incentives for families to maintain control, and thus the analysis potentially suffers from an endogeneity problem. It is likely our conclusions are not too much affected by this possible problem,
as in the data almost all firms retain their ownership status over the years, which raises doubts about stronger performance causing family ownership. Other previous studies have also found that families keep firm ownership even in bad economic periods (e.g. Andres, 2008). Nevertheless, extra regressions were performed accounting for the possibility of ownership endogeneity, considering risk[11] as an instrument for family ownership (following Demsetz and Lehn, 1985). The results showed that exogeneity of the *family* variable cannot be rejected and therefore the conclusions are not affected by ownership endogeneity. This finding is in accordance with previous studies that controlled for the endogeneity of ownership (Barbera and Moores, 2013 and Martikainen et al., 2009).

Second, besides endogeneity, there is the possibility of selection problems due to firm entry or exit in the period of analysis. Some methods have been proposed to deal with this problem (namely Olley and Pakes, 1996). However, authors such as Olley and Pakes (1996) and Levinsohn and Petrin (2003), have argued that in practice the gains in efficiency from taking this problem into account are not significant, especially when using unbalanced datasets (with both surviving and non-surviving firms). Accordingly, empirical studies have reported small differences in the coefficients after explicitly considering this problem (see for example Van Beveren, 2012). As in this study we consider an unbalanced data set, the results should not be too much affected by this problem. Yet we estimated the model considering a sample comprising only firms which survived over the entire period of analysis but the conclusions remained equal.

[10] These results are available upon request.
[11] Following Maury (2006), the standard deviation of profit rate was employed as a measure of risk.

One other important aspect is the type of management in family firms, which may be an important factor in explaining the impact of family ownership on productivity. Some previous studies have analysed this aspect, such as Barth et al. (2005), and concluded that family-owned firms managed by someone hired outside the owning family show better productivity performance. Unfortunately, due to data limitations, it is not possible to study this aspect.

Conclusions

The literature suggests that ownership may influence firm performance. Although productivity is an important indicator of firms' performance, not many studies have analysed this issue. This paper offers further evidence of the relationship between family ownership and productivity performance, considering the case of the manufacturing sector in Portugal. In particular, we test several hypotheses concerning the impact of ownership on productivity and on input factors contribution for production. First, this paper analyses if labour and capital factors contribute equally to production for both family and non-family owned firms, considering possible differences along the firms' life-cycle stages. Second, this work investigates whether family owned firms display higher productivity than non-family firms and also if the impact of ownership differs along the firms' life-cycle. Moreover, unlike previous studies, we take into account possible endogeneity problems due to simultaneity between input decision and productivity shocks.

The results reveal that the production technologies of family firms and non-family firms are different, especially concerning the contribution of labour. In family firms, labour makes a larger contribution to total output than in non-family firms for both start-up/growth stage and mature stage firms. As for capital, the results suggest that for firms in the mature stage it contributes less to output in the case of family firms than in non-family firms in the same stage, which does not occur for firms in start-up/growth stage. This result can be explained by changes in finance decisions and strategic orientation caused by efforts to keep control and solve conflicts among the family firms' descendants.

Regarding the effects of family ownership on productivity, no significant differences in productivity between family and non-family firms are found for both startups and mature firms. These conclusions remain stable after performing several robustness checks. These findings confirm our conjecture that, for non-listed firms, no differences in productivity are expected between family and non-family firms for firms in startup / growth stage. However, they do not confirm our expectation that there should be a difference in productivity between family and non-family firms in the mature stage. This result is explained by the greater contribution of the labour factor and the lower contribution of capital in mature stage family firms. These two effects combined lead to no differences in productivity between the mature stage family firms and non-family firms in the same stage.

Summing up, we found no evidence of significant differences in productivity between family and non-family owned firms in the first two stages of a firms' life cycle. We also confirmed the existence of different production technologies between family and non-family firms. In fact, results suggest that labour is the main contributing factor for productivity in family firms, which is especially notable for firms in the mature stage.

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Using PLS-SEM to model Family Business Behavior when addressing the protocol

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Abstract This study focuses on the factors that lead family business to address family protocol. This paper applies the theory of planned behavior. To test the validity of this theory in predicting family business behavior, this research uses data collected from a questionnaire distributed to business family members (n = 98) from Córdoba, Spain. Firstly, this research aims to explain the paradigm in which the intentionality to start the process towards the protocol on generational replacement and future distribution of the ownership is conducted by its feasibility – and this is partially marked by the willingness to reach the agreement and its utility. Secondly, the hypotheses are confirmed by means of the analysis of the data gathered from a sample of business families. Thirdly, the results of the model applied in the study are discussed, as well as its consistency and the nature of the information used by means of PLS-SEM.

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PALABRAS CLAVE
Empresas familiares; Protocolo; Teoría del comportamiento

Modelización de la firma del protocolo mediante PLS-SEM y aplicación de la teoría de la conducta planeada

Resumen El artículo analiza los factores que influyen en la familia empresaria a la hora de abordar un protocolo familiar. Aplica la teoría de la conducta planeada y mediante ecuaciones estructurales (PLS-SEM) analiza los datos recabados a 98 integrantes de empresa familiares procedentes de Córdoba, España. La investigación persigue explicar como la intención de iniciar el proceso de firma de un protocolo en la empresa familiar está moderada por su factibilidad que a su vez viene influenciada por el deseo de alcanzar el pacto y la utilidad percibida en ello. Los resultados confirman las hipótesis de investigación planteadas y abren líneas de investigaciones futuras que permitan replicar el modelo considerando variables moderadoras en la modelización (etapa generacional, etc)

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Introduction

The survival rate of family businesses decreases dramatically as time goes by. It is necessary to improve this rate due to the weight of family business in national economies. Most companies at the global level are controlled by families (Faccio & Lang, 2002). As the family grows, the complexity of family dynamics may entail a high risk for the company. This can originate negative influences in the communication processes among the family members, inefficient decision-making processes, and frustration and conflicts, which may trigger the desire to dissolve the family business. The family business literature is dominated by references to problems in family businesses, especially various forms of conflict (Terry et al.,1997). The Family Protocol is an opportunity to support the survival of family businesses (Claver et al., 2004). The family constitution can be viewed as a normative agreement including essential guidelines and values according to which the family firm organizes its relation to the business (Berent-Braun & Uhlaner, 2012; Neubauer & Lank, 1998). In this regard family constitutions assist the business family in formalizing its expectations regarding responsibilities and rewards related to business membership (Botero et al., 2015; Fuetsch & Frank, 2015).

The protocol is a multiple agreement which is not complete. This means that the protocol does not deal explicitly in its clauses with all the potential future contingencies. Moreover, it allows many decisions or transactions to be made or established at a later stage by means of a revision process. Consequently, certain agreements can be postponed until there is an urgent need. The protocol takes into account problems of dynamic decision-making in which the parties think and agree together on future transactions, and these can be set for a subsequent period (Rodríguez 2007).

What is important here is to define which issues are raised by this dynamism, and who the decision makers are. There are several variables that need to be optimized, namely: how property deeds, control rights, authority and discretionality are distributed among the family members, as well as which rules need to be followed in case of ex-post opportunism.

Nevertheless, and despite the fact that the family protocol is devised as a key tool for the continuity of business families, little has been investigated about the protocol in the area of family businesses (Rodríguez et al., 2007).

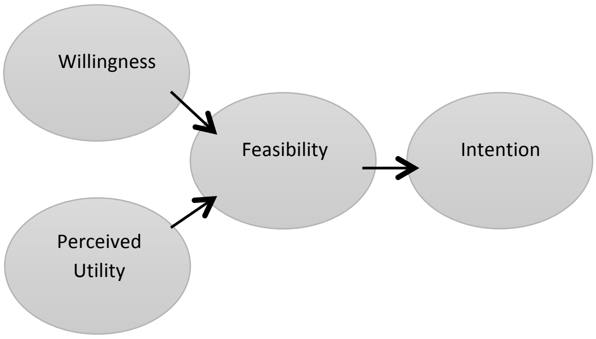
The family protocol can be conceived as an intention process, and thus as an intentionality process. To address the Family Protocol is to design a planned behavior. In this light, one of the most widely used models in research is the theory of planned behavior (TPB) (Ajzen, 1991, 2011; McEachan, Conner, Taylor, & Lawton, 2011), precisely because of its role in explaining decision-making processes in complex contexts. The theory of planned behavior has become one of the most dominant theories of human behavior, having been applied in almost every discipline concerned with understanding some type of human behavior (Armitage & Conner, 2001; Cooke & Sheeran, 2004; Notani, 1998; Rivis & Sheeran, 2003; Schwenk & Möser, 2009). In their meta-analysis, Armitage and Conner (2001) found empirical sustenance for the efficacy of the theory as a predictor of human behavior. According to their postulates, behavior is prescribed by its intentions, which are a motivational factor. These intentions, however, are conditioned by attitude, subjective norms, and perceived behavioral control. Ajzen (1991) states that the attitude towards determined behavior has an evaluation by the individual, which can be favorable or unfavorable. That is, if the person favorably evaluates the action, he or she has one of the three intention determinants to perform the action according to the Theory of Planned Behavior. The second predictor of behavior is subjective norms, which refer to the perceived social pressure to perform or not to perform the action. The third predecessor of intention is the perceived behavioral control, by which the individual perceives ability or unskillfulness to perform the action, and it is assumed to reflect past experiences anticipating potential difficulties and obstacles. When the three aforementioned determinants are combined favorably, the intention to address a protocol arises – and later the intention to sign it also arises. The model of planned behavior (Ajzen, 1991), described above, is based on the cognitive component of attitude rather than on personality traits (Epstein, 1984). It seems logical to model the process of signing the protocol from the perspective of the theory of planned behavior. It should be remembered however that the attitude towards the proposal of addressing the Family Protocol depends on intentions, but also on the environment and the specific features of each person.

Research model and hypotheses

This research builds on previous studies that have applied the theory of planned behavior to understand and predict entrepreneurial behaviors (Mitchell et al., 2007). The family business agreement can be viewed as the result of a particular behavior. This issue can be addressed by considering the factors that influence the decision to launch a business

focusing on the personality traits or personal features of the individuals (Shapero & Sokol, 1982).
The research model is presented in Figure 1.

Figure 1 Research Model.



Considering the theory of planned behavior, the following hypotheses are to be tested:

Hypothesis 1: The higher the willingness to reach the agreement, the higher the perceived feasibility.

Willingness refers to the desire to address the family protocol by the members of the business family. According to Shapero and Sokol (1982), willingness is set as a moderator variable of the entrepreneurial intention. To address the family protocol can be seen as a clearly marked entrepreneurial planned behavior as it is a key tool to support the survival of the family business. Moreover, people channel their desires and talents to the perception of an opportunity on the basis of their internal beliefs of feasibility and willingness.
According to Massis et al. (2014), willingness refers to the favorable disposition of the involved family member to engage in distinctive behavior. It comprises the goals, intentions and motivations that drive them to behaviors with certain directions in the family business. These authors consider that willingness is needed so that the family business shows a specific behavior.
Numerous researchers suggest that family businesses are fertile grounds for entrepreneurial behavior (Aldrich & Cliff, 2003). Zahra (2005) identifies several factors that explain why this type of behavior can be found in family businesses.
The concept of outcome expectations related to the anticipation of favorable consequences has been present in much of the literature on entrepreneurial intentions, by defining willingness or personal attitude against behavior (Fitzsimmons & Douglas, 2011; Kolvereid, 1996a; Krueger et al., 2000; Moriano, Gorgievski et al., 2012). Nevertheless, from an expectation-value framework, it is assumed that outcome expectations determine the forming of attitudes when these consequences are evaluated (Ajzen, 2001). It is understood then that although both variables are related to each other, they represent independent constructs. In the same vein, some authors differentiate between the anticipation of favorable results in company formation and the affective assessment of this behavior (Liñán & Chen, 2009; Goethner, Obschonka, Silvereisen, & Cantner, 2012).

Hypothesis 2: The higher the perceived utility, the higher the perceived feasibility.

Perceived utility: Another model that aims to explain the entrepreneurial intention is Krueger and Brazeal's (1994) entrepreneurial potential, which includes the concept of self-efficacy (Bandura, 1977b; Veciana et al., 2005). Perceived self-efficacy refers to beliefs about a person's capability to perform the behaviors involved to attain designated tasks (Lent & Brown, 2006).
Furthermore, outcome expectations involve personal beliefs about the consequences of performing particular behaviors (Lent et al., 1994). Numerous researchers highlighted that a high perceived self-efficacy underlies most human behaviors (Bandura, 1999). Self-efficacy is an excellent measure of perceived control, as a person's degree of confidence to perform a behavior is directly connected to the perceived control with respect to that behavior (Azjen, 1991). Individuals tend to participate in tasks they believe they are able to perform (Bandura, 1997).
According to Rodríguez et al. (2007), a family business is a common good that can benefit some members of the family. To avoid the unwanted privatization of the protocol so that it works adequately, the protocol must be consistent with the individual incentives. When a family protocol is agreed upon, this is due to the fact that it is compatible with the incentives. Moreover, every signatory of the protocol knows that their best strategy is to comply with the rules signed in accordance with their utility function.

Hypothesis 3: The higher the feasibility perceived, the higher intention to reach a family business agreement.

Regarding the signature of a protocol, behavior control perception or feasibility refers to the perception of ease or difficulty to reach the signature of the agreement. These are the judgments or beliefs of the family members about their capability to organize and perform an actionin order to reach an outcome (Bandura, 1986). The perception of ease or difficulty is gradually acquired by means of the development of cognitive, social, linguistic and/or physical abilities through personal experience (Bandura, 1982; Gist, 1987).

Intention is a necessary process prior to perform a specific action. It is indeed the commitment needed to carry out an entrepreneurial initiative (Krueger, 1993). The signature of a protocol by the business family can be analyzed in this light, and thus considered an entrepreneurial initiative. Research in this field shows that intentions are planned behavior's predictors (Baggozi et al., 1989; Kolvereid, 1996; Liñán, 2004). Therefore, the intention to sign a protocol is a relevant phenomenon to study. The intention against a given behavior comprises i) perceived willingness of the social entrepreneurial event model (EEM) (Shapero & Sokol, 1982), and ii) feasibility, which coincides with behavior control perception (Krueger et al.,2000). The protocol must be consistent with the incentives of all the signatories, as well as it must meet their personal expectations. What is important in the analysis of the constituent processes of business families is analyzing not only that the constituent process is feasible, but also the analysis of the uncoordinated behaviors that do not lead to the signature of a protocol. All feasible protocols require the description of the signing agents, the allocation mechanisms of resources and outcomes offered, and the individual preferences regarding these allocation mechanisms of responsibilities, resources and achievement distribution (Rodríguez et al., 2007). This research focuses on the behavior of the family business members who are committed with the company. This behavior derives from the members' values, desires and motivations, such as the need of being altruistic with other family members (Shulze et al., 2001) or the desire regarding the intergenerational transfer of the business (Schulze, Lubatkin, & Dino 2003b).

Methods

Research setting

To carry out this study, a survey was conducted among members of family businesses of the city of Córdoba and its province (Spain). The respondents belonged to family businesses that attended the training sessions organized by the Chair PRASA of Family Businesses. The training sessions were held for a full academic year, and included four? modules. These modules dealt with different issues related to family business, including the protocol.

Survey design and data gathering

This study aims to analyze how willingness, utility and feasibility influence the intention of establishing a protocol. For this purpose, the study uses an adaptation of the theory of planned behavior (Ajzen, 2002). The questions were modified in order to adapt them to the research setting. Particularly, to conduct the adaptation of the scale, a group of experts was selected, including two experts in the field of protocol, two family businesses that had previously started and completed the signature of the protocol, and one family that had started the process but had not finally concluded it. A 5-point Likert scale was used to measure the 4 constructs (1 = totally disagree; 5 = totally agree).

Willingness was measured with two items: "I would like to establish the family protocol", and "I am excited with the idea of establishing the family protocol." Utility was measured with two items: "The family protocol would provide me with tranquility", and "It would be a satisfaction for me to get to achieve the signature of the protocol." Feasibility was measured with two items: "It is practical and convenient to start the process to establish a family protocol" and "How feasible would it be, in your opinion, to get to achieve the signature of a family protocol among the members of your family." Behavioral intention was measured with four items: "Estimate the likelihood you personally start the process to establish a family protocol", "I would like that my family start the process to establish a family protocol", "To start the process to establish a family protocol is an attractive idea for you", and "How desirable it is for you to start the process to establish a family protocol." For all the constructs, a 5-point Likert scale was also used (1 = totally disagree; 5 = totally agree).

Before finishing the questionnaire, a pre-test with an initial sample of 10 answers was conducted. The main purpose of this stage was to modify the description of the items to increase the reliability of the research. As a result of this process, however, no changes were needed. The questionnaire was personally administered to a **convenience sample** during the training process of the members of the business families. A total of 115 responses were obtained, of which 98 were valid.

Data analysis

Once the data was collected, and a descriptive analysis of the sample profile and the indicators of each variable, an analysis of the theoretical model by using SEM was carried out. The structural model was analyzed using the partial least squares (PLS) approach, instead of the approach based on covariance (CB). PLS-SEM does not require data normality, nor a large sample size (Hair, Hult, Ringle, & Sarstedt, 2017).

Descriptive results

Data was collected from a sample of 98 members of Spanish family businesses belonging to the homogeneous cultural environment of Córdoba and its province (Spain), whose profile is shown in Table 1. Most respondents had a university degree (53%), worked for the family business (87%), and the average age was about 43 years old. The respondents answered using a 5-point scale (1 = totally disagree; 5 = totally agree) about 10 statements corresponding to the constructs under study (willingness, utility, feasibility and intentionality). The mean results and standard deviations for each of the 10 items are shown in Table 2.

Table 1 Profile of the sample.

Variable	Category	%
Marital status	Married	69.00
	Divorcee	10.00
	Single	21.00
Education	High School	11.00
	Vocational training	17.00
	Compulsory Education	19.00
	Master's Degree	20.00
	Bachelor's Degree	33.00
Position in the company	CEO	12.00
	Area director	14.00
	Manager	39.00
	No working for the family business	13.00
	Employee	22.00
Average age	43 years old	

Table 2 Descriptive statistics.

	Mean	Std. deviation
Willingness		
I would like to establish the family protocol	4.102	0.814
I am excited with the idea of establishing the family protocol	3.602	0.956
Utility		
The family protocol would provide me with tranquility	3.929	0.773
It would be a satisfaction for me to get to achieve the signature of the protocol	4.041	0.832
Feasibility		
It is practical and convenient to start the process to establish a family protocol	4.133	0.791
How feasible would it be, in your opinion, to get to achieve the signature of a family protocol among the members of your family	4.163	0.841
Intentionality		
Estimate the likelihood you personally start the process to establish a family protocol	3.663	0.999
I would like that my family start the process to establish a family protocol	4.133	0.737
To start the process to establish a family protocol is an attractive idea for you	4.173	0.756
How desirable it is for you to start the process to establish a family protocol	4.020	0.782

*5 is the highest score

Model results of structural equations

The use of PLS-SEM is adequate for this research, as it aims to measure multidimensional concepts that are not directly observable (latent variables), as well as the relationships among them (Bollen, 1989). This method allows, in a flexible way, to model phenomena in the business field that could not be modelled using any other method for failing to comply with the norms for CB-SEM modeling.

The evaluation of the results obtained from the structural model is carried out in two stages. The first step consists of validating the results depending on the type of measurement model. In this case, it is a reflective model, which entails simple linear regressions between the construct and its manifest variables, as it is assumed that the construct affects each manifest variable independently. If the evaluation of the measurement model is satisfactory, the following step is to evaluate the structural model (Hair, Hult, et al., 2014).

The specification of the model established is shown in Table 3.

Table 3 Model specification (Measurement model).

Latent variable	Number of manifest variables	Type
Willingness	2	Exogenous
Utility	2	Exogenous
Feasibility	2	Endogenous
Intentionality	4	Endogenous

Reliability and validity of the measures

The evaluation of a reflective model must examine the reliability (individual and composite) and the validity (convergent and discriminant) of the constructs. Table 4 shows the results obtained to evaluate individual reliability.

Table 7 Cross loading of manifest variables.

	WILLINGNESS	UTILITY	FEASIBILITY	INTENTIONALITY
I would like to establish the family protocol	**0.909**	0.474	0.716	0.806
I am excited with the idea of establishing the family protocol	**0.896**	0.321	0.675	0.686
The family protocol would provide me with tranquility	0.379	**0.917**	0.364	0.396
It would be a satisfaction for me to get to achieve the signature of the protocol	0.441	**0.944**	0.440	0.482
It is practical and convenient to start the process to establish a family protocol	0.739	0.394	**0.936**	0.790
How feasible would it be, in your opinion, to get to achieve the signature of a family protocol among the members of your family	0.703	0.420	**0.934**	0.773
Estimate the likelihood you personally start the process to establish a family protocol	0.597	0.419	0.567	**0.760**
I would like that my family start the process to establish a family protocol	0.785	0.459	0.744	**0.902**
To start the process to establish a family protocol is an attractive idea for you	0.695	0.357	0.751	**0.891**
How desirable it is for you to start the process to establish a family protocol	0.762	0.414	0.792	**0.886**

Individual reliability is analyzed considering the correlation among manifest variables and their corresponding latent variable. The indicators of individual reliability are positive, as loadings above 0.70 indicate that the construct explains over 50% of the indicator's variance.

Table 4 Individual Reliability.

Latent variable	Manifest variables	Loadings
Willingness	I would like to establish the family protocol	**0.909**
	I am excited with the idea of establishing the family protocol	**0.896**
Utility	The family protocol would provide me with tranquility	**0.917**
	It would be a satisfaction for me to get to achieve the signature of the protocol	**0.944**
Feasibility	It is practical and convenient to start the process to establish a family protocol	**0.936**
	How feasible would it be, in your opinion, to get to achieve the signature of a family protocol among the members of your family	**0.934**
Intentionality	Estimate the likelihood you personally start the process to establish a family protocol	**0.760**
	I would like that my family start the process to establish a family protocol	**0.902**
	To start the process to establish a family protocol is an attractive idea for you	**0.891**
	How desirable it is for you to start the process to establish a family protocol	**0.886**

The indicators of composite reliability (Table 5) are satisfactory, as values between 0.60 and 0.70 are considered "acceptable in exploratory research", whereas values between 0.70 and 0.95 are considered "satisfactory to good" (Hair, Hult, et al., 2014, pp. 101–102). Values higher than 0.95 are considered problematic, as they indicate that the items are redundant, leading to issues such as undesirable response patterns (e.g., straight lining), and inflated correlations among indicator error terms (Drolet & Morrison, 2001).

Convergent validity measures the extent to which a construct converges in its indicators by explaining the items' variance. Convergent validity is evaluated by the average variance extracted (AVE) for all items associated with each construct. The AVE value is calculated as the mean of the squared loadings for all indicators associated with a construct. An acceptable AVE is 0.50 or higher, as it indicates that on average the construct explains over 50% of the variance of its items.

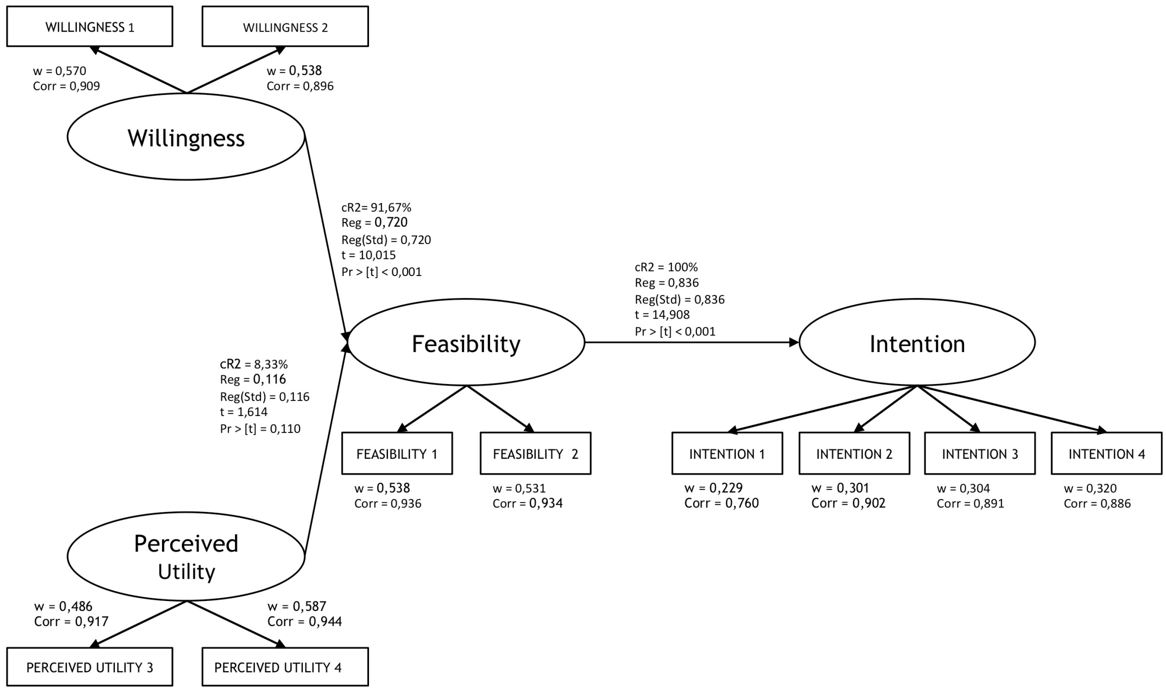
Table 5 Composite reliability.

Latent variable	Dimensions	Cronbach's alpha	D.G. rho (PCA)
WILLINGNESS	2	0.772	0.898
UTILITY	2	0.847	0.929
FEASIBILITY	2	0.857	0.933
INTENCIONALITY	4	0.883	0.920

Table 6 Results for convergent validity.

Latent variable	**AVE**
WILLINGNESS	0.814
UTILITY	0.866
FEASIBILITY	0.875
INTENCIONALITY	0.742

Figure 2 Structural model.



Once reliability and convergent validity of reflective constructs are successfully established, the next step is to assess the discriminant validity of the constructs. This allows to evaluate the extent to which a construct is empirically distinct from others in the path model, both in terms of how much it correlates with other constructs and in terms of how distinctly the indicators represent only this single construct.

An approach to assessing discriminant validity is to examine cross loadings. The recommended guideline for this approach is that an indicator variable should exhibit a higher loading on its own construct than on any other construct included in the structural model (Hair, Hult, et al., 2014). If the loadings of the indicators are consistently higher on the construct with which they are associated, then the construct exhibits discriminant validity. The results are shown in Table 7 below, and all of them are positive.

Evaluation of the structural model results

Unlike CB-SEM, PLS-SEM does not have a standard goodness-of-fit statistic, and efforts to establishing a corresponding statistic have proven extremely challenging (Henseler & Sarstedt, 2013). Instead, the assessment of the model's quality is based on its ability to predict the endogenous constructs (Hair et al., 2012b). The PLS-SEM approach focuses on the discrepancy between the observed and the approximated values for the dependent variables and the values predicted by the corresponding models, which indicates that the assessment of the quality of the model should be based on the observation of their prediction capacity.

The R2 is a measure of the variance explained in each of the endogenous constructs and is thus a measure of the model's predictive accuracy (in terms of in-sample prediction). The R2 ranges from 0 to 1, with higher levels indicting a greater degree of predictive accuracy. As a ''rough'' rule of thumb, R2 values of 0.75, 0.50 and 0.25 may be considered substantial, moderate and weak, respectively (Hair et al., 2011; Henseler et al., 2009). In terms of relevance, path coefficient values are standardized on a range from -1 to +1, with coefficients closer to +1 representing strong positive relationships and coefficients closer to -1 indicating strong negative relationships.

Table 8 below shows the results of the evaluation of the structural model.

Table 8 Evaluation of the structural model.

	R^2	F	Pr> F
FEASIBILITY	0,606	72,932	0,000
Path coefficient estimates	Value	Pr> |t|	
WILLINGNESS	0,720	0,000	
UTILITY	0,116	0,110	
INTENTIONALITY	R^2	F	Pr> F
	0.698	222,242	0,000
Path coefficient estimates	Value	Pr> |t|	
FEASIBILITY	0.836	0,000	

On the basis of the structural model results (Fig. 2), the feasibility of the agreement is explained by the construct "willingness", with a significant coefficient 0.72, which is not the case of utility (with a lower value and non-significant coefficient). The effect of willingness and self-efficacy has been addressed by Fitzsimmons and Douglas (2011). These authors show that with lower willingness levels, people can transform intention into an entrepreneurial event (in our case, the signature of a family protocol) if they perceive they have enough feasibility to perform it, in contrast with Shapero (1982).

The intentionality to address the agreement or the family protocol is explained by feasibility, with a significant coefficient 0.836.

Conclusions

Regarding the positive relations among the variables preceding intention in the theory of planned behavior (TPB), the results found in this study are in agreement with its postulates, as well as with most studies in this field (Armitage, 2005; Downs & Hausenblas, 2005; Hagger et al., 2002).

Furthermore, the results also show that both willingness and utility were positively related with feasibility. In this light, from the beginnings of this theory, Ajzen and Madden (1986) suggested that these components would affect behavior due to their effects on intentions. This way, these results have been confirmed in most of the studies in this field since then (Ajzen, 2011; Armitage, 2005; Hagger et al., 2002; McEachan et al., 2011).

While it is true that according to Fishbein and Ajzen (2010) the importance of TPB's components may vary depending on the person, in general it is expected that those people who perceive a higher level of willingness tend to consider a family agreement more feasible. Consequently, this may have a direct influence on behavioral intention.

Regarding the initial hypotheses of this study, hypotheses 1 and 3, by which willingness influences feasibility and the latter influences intentionality, are confirmed. However, hypothesis 2, which established the higher the perceived utility, the higher the perceived feasibility, is not confirmed. Considering the significance results, both willingness and feasibility have a significant influence on the intention to perform the behavior to address the signature of a protocol. This result is in agreement with Massis et al.'s (2014), who stated that willingness and ability condition the behavior of the business family members. When both variables are high, so is the commitment of the business family members, and they will be motivated to perform behaviors with a specific purpose, and vice versa.

All feasible protocols require the description of the signing agents, the allocation mechanisms of resources and outcomes offered, and the individual preferences regarding these allocation mechanisms of responsibilities, resources and achievement distribution. In some family businesses, it is relatively simple to design these procedures, and then make them real. The protocol will be real and feasible (that is, it will achieve all its goals) if all the signing members of the family respect the conditions agreed, and they are able to understand and manage all necessary and compulsory information requirements of the process. What is important is not finding a feasible process within the family business to seek consensus. It is much more important to know whether this protocol process is informatively feasible and compatible with the regular incentives (expectations and desires) of the signing agents. In other words, it is important to know whether there are enough incentives in the agreement so that none of the signing members can find advantages in the violation of the consensus. The protocol must be consistent with the incentives of all the signing agents, as well as meet their personal expectations. The effect of the family members' commitment is a critical issue for the entrepreneurial behavior, the signature of the protocol, and the success of the family business (Astrachan, 2003). Nevertheless, little attention has been paid to the effects of family dynamics on entrepreneurial behaviors (Aldrich & Cliff, 2003, p.574).

Willingness and feasibility arise as levers for the behavior of the business family members. The recent research area on family businesses underlines that family businesses are highly heterogeneous, and should even be compared with other family businesses (García-Álvarez & López-Sintas 2001; Melin & Nordqvist 2007; Sharma & Nordqvist 2008).

When a protocol is signed but it is known in advance that it is not compatible with the incentives of all the signing agents, each of them must predict the behavior of the others in order to design their own best behavior. In this case, the protocol will be real, but not feasible. This is due to the fact that the protocol has been signed in a non-cooperative setting, which will make it impossible to comply with the agreements signed. Therefore, understanding how the family can contribute or hinder the development of a transgenerational orientation for the business does not only constitute a central issue in family business research, but it is also of high practical interest. As the family tree grows, family ties usually become looser, family involvement in the business varies, family members become inclined to pursue diverging goals, and their identification with the business tends to weaken (Zellweger & Kammerlander, 2015). The study of behavioral intentions is a contribution to the actual essence of the concept of family business (Chua et al., 1999).

Future research lines should explore whether manifest intentionality has become an actual behavior with the signature of the protocol, as well as analyze the time needed to sign the family protocol.

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