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Management capability and performance in Spanish family firms

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Capacidad de gestión y rendimiento en las empresas familiares españolas

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Abstract

Purpose – The purpose of this paper is to explore the possible causes of the heterogeneous productivity observed in Spanish firms, finding evidence of a link between managerial capability and higher productivity in the context of family firms. Also, innovative human resource policies are much more frequently found in companies where there is a high level of management capability.
Design/methodology/approach – Productivity differences in Spanish family firms are, for the first time, analysed from a managerial view, and using multiple correspondence analysis (MCA).
Findings – This paper proposes a way to measure managerial capability. Innovative human resource policies are much more frequently found in companies with high levels of management capability. The authors show that sustained competitive advantage is not just a function of single or isolated components, but rather a combination of human capital elements. Besides, a clear association between high managerial capability and performance in family firms is established. Thus, better management skills enable Spanish family firms to design the necessary strategies and internal structures to facilitate their adjustment to the business environment, and, thereby, achieve operational performance gains.
Originality/value – This paper proposes a way to measure managerial capability and its association with productivity in Spanish family firms using MCA. The authors also show a clear positive association between high managerial capability and performance in family firms. Thus, better management skills enable Spanish family firms to achieve operational performance gains.

Keywords Managerial capability, Family firms, Human resource management, SEW
Paper type Research paper

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Resumen

Objetivo – Este artículo explora las posibles causas de la heterogeneidad observada en la productividad de las empresas españolas, buscando un vínculo entre la capacidad de gestión y la productividad en el contexto de las empresas familiares. Además, se muestra cómo las políticas innovadoras de recursos humanos se encuentran con mayor frecuencia en las empresas donde hay una mejor capacidad de gestión.

Diseño/metodología/enfoque – Por primera vez, se analizan las diferencias de productividad en las empresas familiares españolas desde el punto de vista de la gestión empresarial, utilizando análisis de correspondencias múltiples (MCA).

Conclusiones – Este trabajo mide la capacidad de gestión de una forma innovadora. Las políticas de recursos humanos se encuentran con mayor frecuencia en las empresas donde hay una alta capacidad de gestión. Se muestra que la ventaja competitiva de la empresa no es la suma individual de cada elemento, sino más bien una combinación de elementos de capital humano. Además, se establece una clara asociación entre la capacidad de gestión y los resultados en las empresas familiares. Por lo tanto, la mejora de las habilidades de la gestión empresarial permite a las empresas familiares españolas diseñar las estrategias y estructuras internas necesarias para facilitar su adaptación al entorno empresarial, y de ese modo, lograr mejoras en los resultados.

Originalidad/valor – Este artículo muestra la asociación entre la capacidad de gestión y la productividad de una forma original, a través de análisis de correspondencias múltiples (MCA). Establece una clara asociación positiva entre la capacidad de gestión y los resultados en las empresas familiares. Por lo tanto, la mejora de las habilidades de gestión permite a las empresas familiares españolas lograr mejoras en los resultados.

Palabras clave Capacidad de gestión, Empresa familiar, Gestión de recursos humanos, Riqueza socioemocional

Tipo de documento Trabajo de investigación

1. Introduction

The debate sparked by Spain's current economic difficulties presents us with an opportunity to weigh up the capabilities and limitations of Spanish firms for creating wealth and employment, and especially in the context of family firms. The economic and institutional environment conditions have an impact on firm performance (Acemoglu *et al.*, 2004). The rivalry between factor markets and product markets creates the conditions under which firms acquire their main productive resources, and plays a role in explaining the strategies they develop (Garicano, 2012; Fernández Villaverde and Garicano, 2013). Intense competition serves as a stimulus increasing innovation and performance, and will drive firms to improve their processes and strengthen their customer focus. Market and institutional mechanisms condition firm efficiency and effectiveness and have an impact on factor productivity. What it fails to explain, as supported by solid evidence for Spain (Fernández de Guevara, 2011), are the reasons for the high degree of inter-firm heterogeneity observed in structure, strategy and performance. Thus, if we wish to explain the diversity and persisting heterogeneity of performance across firms, we need to accompany the traditional productivity factor approach with a more micro-organizational approach focused on firm behaviour. This raises two interesting questions. Why do performance gaps occur between firms in the same country or the same sector? And, what are the conditioning factors of inter-firm performance differentials?

To answer these questions, it is necessary to study the determining factors of firm performance. The most widespread interpretation in the economics literature insists on the role of the institutional and market environments in explaining inter-firm performance differentials in macro-level studies. Another interpretation, and this is going to be our approach, advocates the notion that differences in performance are a

reflection of accompanying differences in firm management practices. The resource-based view (RBV) expresses the belief that it is the range of resources in an organization, including its human resources, that produces its unique character and creates competitive advantage (Penrose, 1959). Besides, the literature on human resource management (HRM) has demonstrated the impact that the employee skills, motivation, satisfaction, and the way the work is structured, can have on firm growth or performance (Delaney and Huselid, 1996). Several studies have shown that human resource practices including participation mechanisms, skill-based rewards, job rotation, or training systems, positively affect labour productivity (Koch and McGrath, 1996). In an early application, Huselid (1995) argued, at a general level, that HR practices could help create a source of competitive advantage, particularly if they are aligned with the firm's competitive strategy. That study received considerable attention because it demonstrated that HR practices could have a deep impact on both accounting and market based performance's measure. Our approach tries to go further and explain firm performance heterogeneity by focusing on specific HR and managerial practices, which we define as management capability, and analysing this in the special context of family firms. But, why is the family context important? Family firms are the most common form of business in most countries. For example, it has been reported that in Brazil, Italy, and Spain, over 90 per cent of the businesses are controlled by families, which has a significant impact on the economy and employment in several sectors and industries (Habbershon and Pistrui, 2002). Besides, the organizational form of family firms is unique; they are likely to be guided by a very particular set of motives. We will see that family firms are less likely to adopt professional HRM practices than non-family firms (De Kok and den Hartog, 2006), and that they may not be adopting these practises because for family firms – as opposed to the case for non-family firms – they do not have a positive impact on performance. Thus, in this study, we will analyse whether that association between the management capability and performance remains positive for family firms and, if so, why they are less likely to adopt them.

The business strategy literature insists that managerial capability is the key to explaining the different degrees of success achieved by firms competing in the same market (Porter, 1996; Grant, 2008). John Roberts (2004) notes that it is the responsibility of management to define a business strategy and adjust the organization to its competitive environment, in order to optimize performance. As an essential element of firm performance, firm productivity improvements, will be associated with business decisions relating to issues such as what needs the firm meets, what its value proposal entails, and what competitive advantage it has in order to sustain its position and capture a share of the wealth created. It is the management's job to define a competitive strategy to determine the firm's positioning and profitability. This idea gives rise to another interesting question: is it the family firms with a high managerial capability that have a better strategic focus and innovative human resource policies? In other words, is managerial capability associated with the strategic HRM of the firm?

We believe that the extensive business management literature exploring the relationships between management capability, strategy and performance (Sirmon *et al.*, 2007), has produced huge empirical evidence to show that management problems are an essential part of the explanation for entrepreneurial failure or success. But what are the antecedents of the management capability? Until now, we have seen two possible outcomes of management capability: the first is performance, and the second, strategic focus and innovative human resource policies in the context of family firms.

But, what organizational or structural variables can influence the management capabilities of the firms? In that sense, we will analyse two organizational characteristics that have been proven to have an impact in the HR policies: size (Foster *et al.*, 2008), and family ownership and management (Bloom *et al.*, 2012a, b) which will clarify and demonstrate why the context of family firms is important.

Our paper reveals some clues to help explore the argument that Spanish performance differences are due, in part, to differences in management capability. With all due regard for the opinion of the many economists who point to institutional environment and market forces as the drivers of firms' resource allocation processes and performance outcomes, this paper presents a complementary approach in which management practices are seen as fundamental to the understanding of size, ownership, strategy, and performance differences between Spanish firms. We acknowledge the difficulty involved in the identification and measurement of management practices. Since managerial capability is not directly observable, we need to define the concept and develop a reliably approximate measure to evaluate it. Our paper proposes an innovative way of using management practices to measure managerial capability and provides evidence for understanding the problems associated with low productivity in many Spanish firms, especially family ones.

Thus, our aim in this study is threefold: first, we seek to find out what kind of organizational structure characteristics are associated with higher managerial capability. We will describe the Spanish firms with higher degree of managerial capability, according to size and family ownership and management. Second, and focusing on the special context of family firms, we characterise these family owned firms according to their management capability and other relevant firm-strategy criteria. Highly significant differences are observed with respect to strategic focus and human resource policies. And finally, the last part presents evidence of links between the managerial capability and operational performance of Spanish family firms. The factors are tested both jointly and individually. The paper ends with a summary of the main conclusions.

2. Theoretical background and hypothesis

Managerial capability definition

The pioneer works of Coase (1937), Chandler (1962), and Roberts (2004) characterise the firm as a complex organization, where the visible hand of administrative coordination manages the allocation of the resources, processes, and activities needed to achieve organizational goals. Within this framework, information asymmetry and conflicting objectives among participants in the collective action lie at the core of management and negotiation problems, which are expected to be solved by those with the most responsibility, the managers. Their degree of skill in efficiently dealing with such problems will be essential in determining how the organization fares. Therefore, management capability is the firm resource by which the owners and management team set goals, define strategy, mark out programmes and plans of action needed to achieve objectives, and monitor the implementation and final outcome of these processes. Management capability, geared at achieving a good fit between strategy, organization, and environment, is the key to guaranteeing organizational success (Sirmon *et al.*, 2007). In order to identify the organizational and strategic factors and approximate the heterogeneous performance distribution to which we have been alluding, it is essential to measure the managerial capability of Spanish family firms.

It is not easy to create an instrument to measure firm management. Since managerial capability is not directly observable, we need to define the concept and develop a reliably approximate measure with which to evaluate it. Furthermore, the literature has provided numerous interpretations that serve to characterise firms immersed in the process of adapting their management capability to improve performance, and it is always debatable whether the various definitions that have been put forward successfully capture the magnitude and complexity of the phenomenon. The adoption of new management practices by more progressive firms has traditionally been considered to represent a departure from, and in many cases, a complete abandonment of the old "Taylorist" models of production and labour management and organization. The human resources management literature has always acknowledged the importance of managerial resource endowment, as reflected in a firms' management capability, as a key factor in explaining organizational success. Lawler *et al.* (1992) speaks of high worker commitment and refers to a business management model that combines the use of a diverse set of organizational and HRM practices (working groups, teams). In his identification of advanced management systems, MacDuffie (1995) considers not only the HRM system as a defining feature of internal change, but also factors relating to total capability management (TQM). Womack *et al.* (1990), characterized innovative management systems as models in which a set of high worker involvement practices are integrated with operational labour and production management methods. Osterman (1994, 2000) associates flexible management systems with practices such as quality circles, working teams, job rotation and TQM tools, as we are doing in this paper. Other approaches include training, job structure, and wage structure to define new business systems (Blair and Kochan, 2000). Besides, Huselid and Becker (1996) insist that a performance evaluation system, based on fixed objectives and performance-linked wages, is basic to the modern business model.

These systems or sets of practices have received various names in the academic literature: high performance work organization (Osterman, 1994, 2000), flexible practices (Gittleman *et al.*, 1998), worker involvement schemes (Cotton, 1993), flexible production systems (MacDuffie, 1995), advanced human resource management practices (Delaney and Huselid, 1996), high commitment management systems (Walton, 1985).

In line with the management excellence studies cited above, we select four management practices, the adoption and use of which will enable us to assess the underlying capability of management present in the sample. The EFQM tool is associated with the firm's definition of objectives and effort to implement plans and schemes to achieve them. The other three practices: job rotation, work teams, and quality circles are associated with recognition of human capital, information, and the effort to decentralize the decision-making process.

Managerial capability and organizational structure

It is an already well-known fact that there are lots of differences among Spanish firms, but in this paper, we will try to identify what kind of organizational company characteristics lead to higher management capability. We will describe the Spanish firms with different management practices according to the size (Foster *et al.*, 2008), as well as ownership and management control (Bloom *et al.*, 2012a, b). According to previous literature, larger firms tend to score higher on entrepreneurial orientation activities (Garcés-Galdeano *et al.*, 2016, Rauch *et al.*, 2009), on CSR activities (Cruz *et al.*, 2014), Human resource practices (Bloom and Van Reenen, 2010) and performance

(Garicano *et al.*, 2011). Thus, we would expect that size also affect a firm's managerial capability. So, we propose that:

H1. There is a positive association between firm size and the managerial capability.

As regards ownership, family business research suggests that management capability is one of the fundamental drivers for the success and longevity of family companies (Miller *et al.*, 2009). However, family firms are less likely to adopt professional HRM practices than non-family firms (De Kok and den Hartog, 2006). Gomez-Mejía *et al.* (2011), propose the Socioemotional Wealth (SEW) approach to explain differences between family firms and other organizations. The argument is focused on the managerial decisions-making process, particularly in those decisions concerning management processes and firm strategies. Gomez-Mejia *et al.* (2007) defined SEW as the "affective endowment" of family owners, including the family's desire to exercise authority, enjoyment of family influence, retention of a strong family identity, the continuation of family dynasty, etc. They argued that family owners' decisions regarding firm strategy are driven by their preferences to preserve SEW. It has been established that SEW preservation manifests as an essential drive in a variety of decision contexts including R&D, environmental investments, compensation, diversification and CSR (Gomez-Mejía *et al.*, 2011; Cruz *et al.*, 2014).

Particularly for management capability, family firms adopt less formality in human resource policies (De Kok and den Hartog, 2006) such as little formality in the recruitment process (Adkins, 1995), informal training (Kotey and Folker, 2007), and making variable pay a smaller component of the pay package (Gomez-Mejía *et al.*, 2003) even when they know that these practices are good for their economic performance.

Researchers have also shown that when a family owns a large portion of shares, family owners are likely to see governance structures as a tool to reinforce their control and to pressure top executives to pursue the family's objectives (Gomez Mejia *et al.*, 2011). Thus, the ownership is not the only thing that matters. In addition to ownership, family control and firm management may also manifest in family members holding key management positions. Family firms are known to have less independent directors (Anderson and Reeb, 2004) and be more likely to have chief executive officer duality (Voordeckers *et al.*, 2007). Therefore, we are able to go further and consider a more restrictive definition of family firms, one that, besides ownership, considers the management dimension (if the CEO is also a family member). Thus, we expect that family owned firms, and family managed firms have a lower degree of management capability. Our second hypothesis is that:

H2. Family ownership and management will be negatively associated with management capability.

Managerial capability and better strategic focus and innovative HR policies

Many researchers in the field of strategic management have used the RBV that explores the role of HR in supporting business strategy to provide a compelling explanation for why HR practices lead to competitive advantage. The RBV of the firm shows that sustained competitive advantage is not just a function of single or isolated components, but rather a combination of human capital elements such as the development of skills, strategically relevant behaviours, and supporting people management systems (Wright *et al.*, 2001).

The business literature reports a solid link between managerial capability and sensitivity to a changing environment, customer service, and satisfaction focus (Porter, 1996; Roberts 2004). Managerial capability is centred on the product/market bundle that responds to and guides the organization towards higher value-added demand segments. Well-run firms are those with a distinctive resource and skills base to differentiate them from their competitors, and these competencies rest on the commitment, knowledge, and quality of their human capital. Human capital management is served by rigorous selection processes, well-designed incentive schemes, and an internal organizational structure based on a flatter, more decentralized, people oriented, decision-making style. This increases the ability to anticipate rapid changes occurring in the market-place, and, by involving employees in decision making – having to coordinate their actions leading to increased teamwork – it gives the organization the flexibility needed to increase its speed of response to unforeseen contingencies.

Thus, the academic literature links managerial capability (Huang *et al.*, 2009) with the efficient use of in-house and/or externally sourced information; clearly defined objectives to set the direction for progress, a flatter organizational structure with fewer hierarchical levels, and employee participation in decision-making processes. So, firms that become more experienced and mature in the application of the EFQM model, will tend to use continuous improvement quality tools and techniques to a greater extent. That is, more cumulatively and moving from the simpler to the more complex ones. This management capability process facilitates the adoption of an integrative strategy formation process in the organizations (Balbastre and Canet, 2011), which is more focused on participation and analysis.

Previous studies of Spanish firms have examined the adoption and use of innovative management tools (Huerta *et al.*, 2003; García-Olaverri *et al.*, 2006; Larraza *et al.*, 2006). Our work presents additional evidence, adding the difficulties to analyse them in the particular context of family firms. The study of the family business is critical to understand the progress of the economy as these firms are the backbone of economic development and their study is very interesting at this point as we already know that family firms are less likely to adopt and use innovative management tools. Thus, our third hypothesis is that those family firms with better managerial capability will go hand in hand with better strategies and a more appropriate internal design. Our third hypothesis is as follows:

H3. High managerial capability is associated with better strategic focus and innovative human resource policies in Spanish family firms.

After analysing the relationship between managerial capabilities and strategic and human factors of the Spanish firms, we will go further trying to prove the empirical positive association between the managerial capability and performance in family firms.

According to the literature, there is a direct link between managerial capability and operational performance (Huselid, 1995; Delaney and Huselid, 1996). In a similar vein, Bloom *et al.* (2009) presented an international comparison of gaps between firm performance and management capability. Their research has yielded highly conclusive evidence, linking differences in performance, growth, and size, with the way in which firms are run. They claim that there is significant link between a firm's performance and the capability of its business practices. We add to these previous studies the family context in order to see if the previous direct link is also present in family firms, where

the management capability is, in fact, lower. Therefore, we will see if family firms with better managerial capability will improve their performance:

H4. High managerial capability family firms are positive associated with their performance.

3. Data and methodology

Methodology

The hypotheses are tested in a sample of 401 plants in diverse manufacturing industries where 214 are family firms. The questionnaire required completion time of approximately 45 minutes. The first section contains questions on general firm characteristics, length of time in operation, size, types of goods manufactured, and general market characteristics. The second addresses technical issues such as what production systems and quality systems are being implemented. The third and fourth explore HRM and work organization, specifically in relation to task flexibility and work/family conciliation. Section 5 covers customer-supplier relationships, and, the last collects data on the general characteristics of the parent organization. The size distribution of the surveyed firms is as follows: 322 small (50-199 workers), 31,384 workers in all; 59 medium-sized (200-499 workers), 17,429 workers in all; and 20 large (500 or more), 32,024 workers in all. The data used in this study were obtained from a series of in-depth personal interviews conducted in 2007, in Spanish manufacturing firms. To ensure the representativeness of the sample, the units interviewed were selected following a stratification process based on industry, size and region. The survey was designed to collect information on production, technology, product quality, human resource policy, internal organization, relationships with suppliers and customers, as well as a series of questions on general information about the plant. In terms of style, the survey is very similar to the one used in Osterman (1994), which analyses different aspects of internal labour markets and work organization in US firms.

The interview was personal and in all cases, the survey was answered by a company manager. To ensure adequate responses to the specific sections of the survey, in many plants, several managers were interviewed, minimizing concerns for common method bias. All of the interviewers had previously received specific information regarding business issues. The result is a unique data set that provides an exhaustive view about the internal dimensions of Spanish firms.

Variables

Managerial capability. The variable was grouped by: high, medium or low, based on the number of practices adopted. The low managerial capability group (24.7 per cent of the full sample) contains firms that have implemented none of the management practices; the medium managerial capability group (63.6 per cent) contains those that have implemented one or two, and the high managerial capability group contains those that have implemented three or all four practices (11.7 per cent). Each of these practices is defined below:

(1) Job rotation: an important issue in the organization of work is whether the workers stay at the same workstation, repeatedly performing the same tasks, or whether they rotate between jobs and duty stations. Higher job rotation is interpreted as a sign of work organization geared at increasing the intrinsic

motivation of workers and achieving a higher speed of response to changing market demands: two typical features of an advanced management model. The variable takes a value of 0 if the workers perform the same job continuously, even when trained for several different ones, and a value of 1 if the workers are trained to perform various different tasks and switch tasks regularly within their own section, sometimes even between sections. Some 47.9 per cent of the sample firms practise job rotation, the remaining 52.1 per cent do not.

(2) Work teams: in a work team system, production tasks are still highly standardised, but organized by autonomous task forces with freedom of decision regarding task allocation and working methods. Each team is responsible for a whole product or product part. Work teams may also be responsible for support services, such as maintenance, purchases, or quality control, and sometimes take collective responsibility, with no designated leader. The degree of adoption of a work team system is measured by asking respondents to state whether the firm has introduced such a system, and how many workers it involves. If the firm gives a "yes" answer, and reports at least 15 per cent of its workers to be part of a work team, it is assigned a value of 1, and 0 otherwise. Based on this criterion, 17.7 per cent of the sample firms have adopted work teams, and the remaining 82.3 per cent have not.

(3) Quality Circles: these are less permanent than work teams, and designed to promote and improve specific aspects of the organization's processes and activities. The sample firms are first asked to give a "yes" or "no" answer, according to whether they have introduced process quality circles. Those that give a "yes" answer are then asked to state how many workers are involved. Some 42 per cent of the full sample report having process quality circles with an average participation of 28.5 per cent of the workforce. Firms are assigned a value of 1 if they report process quality circles involving at least 15 per cent of their workforce, and 0 otherwise. Based on this criterion, 23.2 per cent of the sample scores 1 on this variable.

(4) EFQM: this is a non-normative quality evaluation model, based on self-assessment. It covers management techniques, specific industrial standards, ISO standards, etc., and revolves around the concept of excellence in customer satisfaction. Self-assessments made by individual section managers provide a diagnosis of the firm and enable actions for improvement. In all, 24 per cent of the firms in our sample have undergone an internal or external EFQM assessment[1].

Family firms. The literature on family firms is somewhat disperse and it is difficult to find consensus on the exact definition of one. However, the typical family firm has been characterized as an organization controlled and usually managed by multiple family members (Lansberg, 1999), often from multiple generations (Anderson and Reeb, 2003; Gomez-Mejia *et al.*, 2007). In our study, a family firm is defined as any firm where the family directly or indirectly controls more than 50 per cent of the shares, and 54.59 per cent of the firms in our sample meet this definition. Besides, we also define family managed family firms as a firm where the family, as well as controlling 50 per cent of the shares, also has at least one family member in the company's management team and/or on its board of directors. A family firm professionally managed, in the other hand, is where no family member takes part in the management team of the company or in its board of directors.

Operational performance. This concept is measured by six variables capturing the evolution over recent years on the percentage of down time (machine failure, lack of parts, lack of coordination), percentage of on-time deliveries, lead time, percentage of returned products, percentage of defects in final products, and finally, the percentage of defects in process (rejects). The first three of the above indicators refer to the efficient use of time (efficiency in process) and the other three refer to the evolution in the numbers of products that fail to reach the final customer (quality in product). A five-point Likert-scale was used for each indicator (1 = much better, 5 = much worse).

Strategic focus variables

- Export propensity: measured by the percentage of foreign sales.
- Quality management tools: a total of seven questions are asked about the extent of use of the following tools at the plant: Six Sigma; Statistical Process Control; 5 "S"; the FMEA Methodology for defect prevention in product and process design; Design of Experiments ("Taguchi"), a statistical technique used to optimize the parameters; a formal methodology for analysis and troubleshooting ("8D", etc.), and the implementation of a certified quality management system, according to ISO 9000 or to some other more demanding standard, such as TS 16949.
- Decentralization: this variable measures the decrease in the level of hierarchy. A five-point Likert-scale was used (1 = greatly increase, 5 = greatly decrease).

Human resources policy variables

- education: percentage of workers with primary or no education and percentage of workers with university education;
- temporary workers: percentage of temporary workers;
- performance-based incentive schemes: binary variable indicating whether the company pays its employees based on the results of the plant;
- employee suggestion systems: binary variable indicating the existence or not of an employee suggestion system;
- employee satisfaction surveys: binary variable indicating the existence or not of an employee satisfaction survey; and
- investment in training: measured by hours per worker/year in the firm.

Statistical analysis

This paper conducts a dual approach to the statistical analysis of the data. First, individual analyses are performed to determine the possible association between Managerial capability and a number of variables related to structure, strategy and results. ANOVA and χ^2 tests are best suited for this type of analysis. In all cases, the homoscedasticity hypothesis is fulfiled (Levene test). Second, a multidimensional joint analysis is performed in which both the managerial capability variable and the six performance variables, described above, intervene. Because the 7 variables involved are qualitative, the correct technique to study the possible association between them is multiple correspondence analysis (MCA). Thus, we will

be able to observe the nature of the overall association between management capability and the six performance indicators: three relating to the efficient use of time (up time, on-time delivery, lead time), and three relating to productive improvements (returns, rejects, defects)[2].

4. Results

Using the managerial capability ratings (high, medium, low), we now match each category with a set of firm organizational characteristics and performance indicators. Using ANOVA tests (for continuous variables) and χ^2 tests (for discrete variables), we find significant differences in some firm organizational characteristics depending on the managerial capability rating (Table I).

Only 9 per cent of the small firms, vs 35.5 per cent of the large ones, attain a high managerial capability rating. The differences are highly statistically significant ($p < 0.01$), and consistent with average firm size per managerial capability category. In our sample, which covers firms with more than 50 workers, average firm size is 136 workers in the low managerial capability category, 168 workers in the medium category, and 470 workers in the high category. This reveals a clear positive association between managerial capability and firm size, supporting *H1*, and is supported by previous international studies in different contexts such as the one by Cassell *et al.* (2002) in England; Kotey and Slade (2005) or Barrett and Mayson (2007) in Australia; Hoanga *et al.* (2010) in Vietnam; Deshpande and Golhar (1994) in Canada; or Ahire and Golhar (1996) in India.

Family-owned firms, where more than 50 per cent of the shares are family controlled, are a subgroup worth studying. Table II shows better management capability in non-family-owned firms, 15.6 per cent of which show high management capability, compared with only 9 per cent of family-owned firms, supporting *H2*. This hypothesis is also supported by previous studies, such as Ellington *et al.* (1996), where family-owned US firms were found, more often than other firms, to be total "non-adopters" of managerial practices.

Furthermore, when the family firms are grouped according to whether they are owner managed or professionally managed, we are able to observe that high management capability is found in only 8.5 per cent of owner-managed family firms, but in twice that proportion (16.8 per cent) of professionally managed family firms. This highlights the fact that management expertise is also important when it comes to running a business. The results shown in Table II draw attention to the importance of managerial professionalism in family businesses. Managerial capability in family-owned firms is better when delegated to professionals than when left in the hands of

	Small sized (50-199) (%)**	Medium-sized (200-499) (%)**	Large sized (500 or more) (%)**
Low MC	25.9	24.5	5.9
Medium MC	65.2	56.6	58.8
High MC	9.0	18.9	35.3
	100	100	100

Notes: Low MC, Medium MC, High MC stands for the three levels of managerial capability previously defined. The size is measured in three layers (50-199, 200-499, 500 or more employees). **Statistically significant at $p < 0.01$ level

Table I. Managerial capability and firm size

	Non-family firms* (%)	Family firms* (%)	Family firms Family managed** (%)	Professionally managed** (%)
Low MC	20.8	27.1	27.7	22.4
Medium MC	63.6	63.4	63.8	60.7
High MC	15.6	9.5	8.5	16.8
	100	100	100	100

Notes: Family firm is defined as any firm where the family controls directly or indirectly more than 50 per cent of the shares. Family firm family managed is defined as a firm where the family controls the 50 per cent of the shares and there is at least one family member in the management team of the company and/or in its board of directors. Family firm professionally managed is defined as a family firm when no other family member takes part in the management team of the company neither in its board of directors. Low MC, Medium MC, High MC stands for the three levels of managerial capability previously defined. *,**Statistically significant at $p < 0.05$; $p < 0.01$ levels, respectively

Table II.
Managerial capability and family ownership and management

family members. Trygve Gulbrandsen (2005) in a Norwegian context also showed that the differences between family and non-family firms are even more important when family firm owners choose to be in charge of the day-to-day running of the firm themselves (owner-management) rather than leaving this to a professional manager.

Highly significant differences are also observed with respect to strategic focus and human resource policies supporting the third hypothesis stating that high managerial capability in family firms is associated to better strategic focus and innovative human resource policies. This supports the idea that sustained competitive advantage is not just a function of single or isolated components, but rather a combination of human capital and strategy elements (Table III).

	Low MC	Medium MC	High MC
Export propensity (% of foreign sales)	21.9	26	31.3
Quality management tools* (out of a possible 7)	1	1.9	3.5
Hierarchical tendency* (% of firms having reduced the number of hierarchical levels)	3.7	11.1	27.8
Workers with primary or no education* (%)	70.8	64.6	60.3
Workers with university education (%)	4.9	7.3	5.5
Temporary workers (%)	16.7	13.3	15.1
Performance-based incentive schemes* (%)	6.5	12.2	25
Employee suggestion systems* (% of firms having introduced them)	24.1	36.2	72.2
Employee satisfaction surveys* (% of firms that conduct them)	33.3	61.4	88.9
Investment in training* (hours per worker/year)	11.9 h	12.5 h	20.9 h

Notes: MC, managerial capability. The variables measured on a continuous scale (export propensity, quality management tools, temporary workers, workers with primary or no education, investment in training) we conducted ANOVA test, and found significant differences in Quality management tools and Investment in training. The observed differences are always in the same direction: the greater managerial capability, the better is the average value from the cited indicators; The other variables are dummies (hierarchical levels, performance-based incentives, suggestions systems or satisfaction surveys) where we conducted independence χ^2 test. In all cases, we can observe a close relationship between the managerial capability and these four practices in the sense that firms with high managerial capability are more likely to offer these practices. *Statistically significant at $p < 0.05$ level

Table III.
Strategic focus, human resource policies, and managerial capability (MC) in family firms

Although not very significant, differences in means are found with respect to export propensity. Competing in international markets, and, thereby, exporting, is associated with higher firm management capability. Spanish firms' slow internationalization might be due to low management skills. It is obviously more difficult to compete at international level than it is at regional or domestic level. There is a higher degree of financial complexity, country-specific risk, and contractual diversity in international markets; all of which call for stronger managerial skills and competencies. A more capability-oriented strategic focus is observed in firms with stronger management capability. These firms use a greater number of capability tools than the rest, and 90 per cent of them (vs 73 per cent of the less well-run firms) have implemented quality assurance schemes. This result is consistent with the study by Helpman *et al.* (2004), who, despite the great heterogeneity observed between countries and sectors, generally concluded that the worst managed companies only sell in domestic markets, followed by those who sell in foreign markets but do not produce in those countries. According to this study the best-managed companies would be multinationals that produce and sell in international markets.

Innovative human resource policies are much more frequently found in companies where there is a high level of management capability. This includes performance-based incentive schemes, better information flow between workers and managers (employee suggestion systems, satisfaction surveys), and a flatter hierarchical structure contributing to a spread of responsibility. There will be more people in the same hierarchical position, having to perform several managerial tasks without supervision. They have to coordinate their actions with each other in order to avoid redundant work, forming teams that are more willing to undertake work, as one of the main elements of the managerial capability. Kuhn (2011), from a Swiss context, concluded that flatter hierarchical structures seem to enable firms to better realize their competitive advantage in today's fast moving and knowledge-intensive market environment. Cristini *et al.* (2003), from an Italian context found that delayering is an important condition for flexible human resource practices, which have a positive performance effect.

Notable differences also emerge in worker training levels, which increase with firm management capability. The best-trained workers are to be found in firms with a high-management capability (Bayo-Moriones *et al.*, 2003), either because these firms value education more highly in their selection processes, or because the kind of firms involved (large companies, multinationals, etc.) attract better-educated candidates for the posts they have to offer. There are significant differences in terms of training investment levels or temporary employment rates, firms with limited management capability score lower than the high management capability group. These results agree with those obtained by Bloom and Van Reenen (2007), who analysed 732 manufacturing companies from USA, France, Germany, and UK, concluding that the best educated workers, independently of whether they are managers or not, adapt more easily to certain advanced management practices such as teamwork or participating in improvement groups. Thus, firms that more intensively use human capital, as measured by more educated workers, tend to present much better management practices.

Ultimately, therefore, high-managerial capability is associated with a stronger focus on quality, better-educated human capital, fewer hierarchical levels, and greater recognition of human capital. Greater sensitivity to workers' ability to show effort and commitment to collective goals is reflected in the consideration of their opinions, concern for their job satisfaction, and the development of more sophisticated and inclusive incentive schemes than those commonly found in Spanish family firms. This supports *H3*.

The results for *H4* are given in Tables IV and V.

Table IV.
Indicators[a] of efficient use of time and managerial capability (MC) in family firms

	Down time* MC			On-time deliveries* MC			Lead time* MC		
	MC low (%)	MC medium (%)	MC high (%)	MC low (%)	MC medium (%)	MC high (%)	MC low (%)	MC medium (%)	MC high (%)
Worse	5.7	4.0	5.6	3.7	4.0	0	0.0	1.5	5.6
Same	45.3	22.6	5.6	40.7	21.4	22.2	50	29.4	16.7
Some-what better	37.7	56.5	61.1	40.8	49.2	33.3	38.9	51.6	50
Much better	11.3	16.9	27.8	14.8	25.4	44.5	11.1	17.5	27.7
Total	100	100	100	100	100	100	100	100	100

Notes: MC, managerial capability measured at three layers, low-medium-high, as described previously. [a]Evolution (worse, same, somewhat better, much better) from three years ago to now in: down time (machine failure, lack of parts, lack of coordination), On time deliveries, lead time. *Differences statistically significant ($p < 0.05$) for the three layers of managerial capability

Table V.
Indicators[a] of improvement in the number of final products delivered and managerial capability (MC) in family firms

	Returns** MC			Defects** MC			Rejects* MC		
	MC low (%)	MC medium (%)	MC high (%)	MC low (%)	MC medium (%)	MC high (%)	MC low (%)	MC medium (%)	MC high (%)
Worse	3.8	4.1	6.3	3.8	2.4	5.9	7.9	4.1	16.7
Same	41.5	26.8	37.5	38.5	24.4	11.8	41.2	27.6	5.5
Some-what better	37.7	56.1	43.7	42.3	57.7	58.8	29.3	52	50
Much better	17	13	12.5	15.4	15.5	23.5	21.6	16.3	27.8
Total	100	100	100	100	100	100	100	100	100

Notes: MC, managerial capability measured at three levels, low-medium-high, as described previously. [a]Evolution (worse, same, somewhat better, much better) from three years ago to now in: returns (percentage of returned products), defects (in final products), rejects (defects in process). *Rejects variable: differences statistically significant ($p < 0.05$) for the three managerial capability layers; **returns and defects variable. There are not significant differences at 5 per cent for the three managerial capability layers

The differences in terms of efficient use of time (efficiency in process) are statistically significant; almost 80 per cent of the firms scoring high in management capability (vs 50-60 per cent of those scoring low) report improvements in up time, on-time deliveries or lead-time.

Slightly different results emerge with respect to product quality: returned products, rejects and defects in final products (Table V). The only variable that is really significant is the defects in final products one. The overall trend is positive. Half of the firms with low management capability scores report improvements in all three aspects, while the other half claims to have stayed the same or even deteriorated. Some 70 per cent of the firms with high management capability scores report having (somewhat or greatly) improved. However, the returned products and the rejects are not significant.

Overall, these operational efficiency measures highlight a direct link between managerial capability in family firms and their operational performance (*H4*). These findings are consistent with other studies from other international contexts such as Australia and New Zealand (Samson and Terziovski, 1999) or from India (Ahire and Golhar, 1996). Bayo-Moriones and Merino-Díez de Cerio (2002) in the Spanish

context, also found a statistically significant correlation between the adoption of high-commitment practices and improvements in quality and time-based performance, variables very similar to the ones used in this study. However, our work provides a more specific context; that of family firms.

The individual results for each of these variables suggest that a higher managerial capability tends to be associated with higher productive efficiency. This supports our fourth hypothesis; that is, a better finished product rate (less rejects) and more efficient use of time (less down time, a higher rate of on-time deliveries, etc.). This raises the question of whether they can be related in conjunction to different management capability levels.

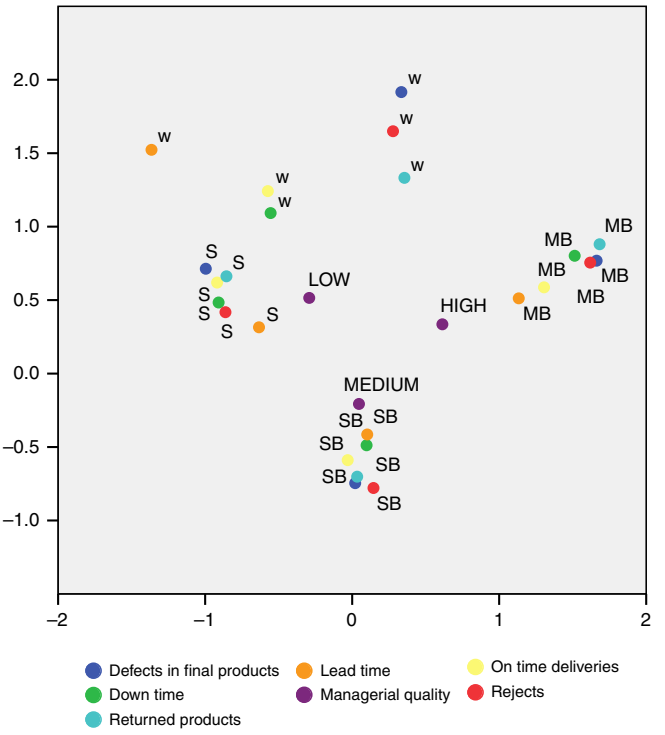
With respect to CMA analysis in which all the variables are involved, the graph reveals a pattern of firms attaining similar scores across the different performance indicators. In other words, firms that have become much better (MB) in one performance indicator have very often improved in all of them. The same can be observed for those that have become somewhat better (SB) or have remained the same (S). The only level showing a little more dispersion is "Worse" (W). These findings are consistent with the hypothesis of positive correlation between performance variables. If deliveries are on time, lead-time is most likely to be under control. If the firm has not succeeded in reducing the number of defects in final products, it will almost certainly have failed to reduce the number of rejects (defects in process). In more specific terms, indicators of a poorer finished product performance (returns, defects, rejects/wastage) are clearly correlated and just a short distance away from those representing a poor time-based performance (Figure 1).

Firms showing a good time-based performance also do well in terms of product performance. In fact, a global indicator of all six performance measures would show a high degree of internal cohesion (Cronbach's $\alpha = 0.797$).

By incorporating the Managerial Capability variable (high, medium, low) in the factor analysis, we find that:

- Scores of "MB" in the performance indicators are unequivocally correlated with scores of high-level managerial skill.
- Scores of "SB" in the performance indicators are correlated with scores of medium-level of managerial skill.
- Scores of "The Same" (S) and "Worse" (W) in the time-based performance indicators are closer to scores of low-level managerial skill.
- Scores of "Worse" (W) in the finished product performance indicators are a little further away from scores of low-level managerial skill, which is evidence of a more disperse behaviour pattern. This could be due to the heterogeneity of the industrial fabric and to different concepts of "defect" or "waste" across different sectors of industry. Similarly, "return" does not mean the same thing in the agri-food sector as it does in the electronics and optics sector.

From the Multiple Correspondence Joint Analysis[3], we are able to conclude that organizations that have systematically adopted practices such as quality circles, job rotation, EFQM models and work teams are the ones that also present both a better time-based and a better final product-based performance profile. Whether analysed individually or jointly, these performance indicators reveal a positive relationship between management capability and operational performance,



Notes: W, worse; S, same; SB, somewhat better; MB, much better. The Figure shows the factor mapping of the two main axes from the multiple correspondence analysis (MCA), which capture 60 per cent of the original inertia. The variables involved in the analysis are management capability and six performance-related variables: defects in final products, rejects, returned products, down time, on time deliveries, and lead time. Data are suitable for MCA (the χ^2 test of independence is rejected at $p<0.001$). The labels LOW, MEDIUM, and HIGH refer to categories of the previously defined "management capability" variable

Figure 1.
Joint map of categories of managerial quality and performance (MCA)

supporting our last hypothesis. Family firms whose performance remains static or actually deteriorates are more frequently found in the low management capability category; that is, among non-adopters of any of the described management tools for innovation. Those that report having somewhat improved also report having made some organizational innovations. Finally, there is a clear link between high management capability and improvement in all productive processes, reflected in an increase in value added to the goods and services produced and delivered to customers for a given level of input. All this contributes to maximize value creation from available resources and increase performance and competitive capacity. In other words, greater management capability leads to higher firm performance in family firms. This is a multiple-factor effect, achieved via the application of better technological, organizational and people-management skills.

We still have a long way to go to understanding the workings of the organization's black box, but the relationship we observe here highlights the importance of raising the capability of entrepreneurial and managerial resources in order to enhance firm performance and improve performance and profitability levels in Spain.

5. Conclusions

This paper reveals some clues to help explore the argument that Spanish performance differences are due, in part, to differences in management capability. Our work presents a complementary approach, whereby it is not only institutions and markets that are important to explain differences among firms but management practices are also seen as fundamental to the understanding of size, ownership, strategy, and performance differences between Spanish firms.

We have detected a clear link between managerial capability and firm size. Large firms tend to score high in innovation and performance. In this case, better managerial resources appear to increase the likelihood of the firm exploring and exploiting available market opportunities. This, in turn, appears to translate into higher market-share, sales growth, and profitability gains. The more profitable they are, the more resources they have to invest in managerial capabilities. So, these mutually reinforcing effects help to explain that relationship.

In the privately owned sector, family owner-managed businesses are less well managed than those that hire a professional manager.

Reinforcing the family firm literature, family owners will see governance structures as a tool to implement their control and to pressure top executives to pursue the family's objectives (Gomez Mejia *et al.*, 2011) and to protect themselves from other family members adopting mechanisms contrary to good governance practices. We have also proved that the positive link between HR practices and performance is still alive in the context of family firms, which means that they are losing some economic benefits in protecting their SEW.

Thus, in trying to better understand the behaviour of family firms, we show that high managerial capability in these family firms is associated with respect to better strategic focus and innovative human resource policies. This paper presents evidence linking better managerial capability with higher performance. Greater management capability leads to the kind of strategic planning and internal structures that enable adjustment to the business environment and thereby better operational performance levels in Spanish firms. For the first time, differences in performance in Spanish family firms are analysed, from a managerial viewpoint, using MCA.

Implications for managers

While it is difficult to establish specific criteria on which to base a managerial capability improvement policy, the key can be said to lie in moving toward professionalism in family business management and allocating the positions of high responsibility to those members of the organization who can offer the best skills and competencies despite not being family members. This will promote firm growth, improve firm strategy, and boost operational efficiency and effectiveness. Thus, those family firms which remain unchanged, controlled and managed by family members, are paying a price, a financial price, for maintaining the SEW.

We found in our data that differences in performance among firms are variations in management practices. From a policy perspective, several factors seem important in

influencing management quality. Product market competition is probably going to have a critical influence on increasing management quality. More highly qualified managers with more experience and knowledge, improve the quality of the company and of the management, and they improve firm performance. The relationship we have found regarding management capability and strategic focus means that the firms must shift from simple management capabilities to dynamic ones, which reflect an organization's ability to achieve new and innovative forms of competitive advantage (Teece *et al.*, 1997), integrating, building, and reconfiguring internal and external competences to address rapidly changing environments.

6. Limitations and future research

This paper is not free of limitations. The first is related to the sample and data availability. The data were obtained in 2007, before the current economic crisis unravelled; thus, the findings might be different if we looked at more recent data. In a future study, it would be interesting to examine whether the broader economic environment alters our findings.

The second study limitation relates to that fact that our data are cross-sectional. Cross-sectional studies suggest correlations but do not allow researchers to infer causal relationships or effects over time. For future research, it could be a good idea to build a panel with a longer period of time in order to analyse longitudinal data and infer causal relationships with the two antecedents and the two outcomes of managerial capabilities.

Third, our data consist of Spanish establishments and consequently inference to other countries should be made with caution. National culture and tradition may influence management capability, which has implications for the generalizability of our findings.

Finally, while acknowledging the difficulty involved in the identification and measurement of management practices, our paper proposes a way to measure managerial capability. Analysing the context with other managerial measurements would be an interesting approach for future research.

In sum, the evidence presented in this paper shows a clear link between managerial capability and firm size. In the privately owned sector, owner-managed businesses are less well managed than those that hire a professional manager. High managerial capability is associated with better strategic focus and innovative human resource policies. And finally, this paper presents evidence linking better managerial capability with higher performance in family firms.

Notes

1. The scores were as follows: 14.8 per cent attained fewer than 300 points, 14.8 per cent between 300 and 400 points, 29 per cent between 400 and 500, and 42.6 per cent more than 500 points.
2. Note that in all the performance variables, the label W stands for worse; S = same; SB = somewhat better; MB = much better. The labels low, medium, and high refer to categories of the previously defined "management capability" variable.
3. The graph is a factor mapping of the two main axes, which capture 60 per cent of the original inertia. The data are suitable for MCA (the χ^2 test is rejected at $p < 0.001$). The categories of variables are found to describe a parabolic curve, known as the Guttman effect, which is typical of ordinal categories (much better, somewhat better, etc.) such as those that concern us here.

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