



**An exploratory study of the results of the implementation of EFQM in private Spanish firms**

Journal:	<i>International Journal of Quality &amp; Reliability Management</i>
Manuscript ID	Draft
Manuscript Type:	Quality Paper
Keywords:	EFQM, Business Excellence, Financial results, Non-financial results, Factor analysis, Cluster analysis
Abstract:	

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**An exploratory study of the results of the implementation of EFQM in private Spanish firms**

**Abstract**

**Purpose.** The implementation of business excellence models is becoming a key competitive priority for companies, but the type of results they obtain by implementing such models and the importance of such results remain open issues. The purpose of this paper is to clarify the results obtained by companies that implement the EFQM excellence model, with a focus on their importance and nature.

**Design/methodology/approach.** An empirical study was conducted in 68 Spanish firms that were immersed in the process of implementing EFQM. The methodology consists of a descriptive analysis and factor analysis in order to determine which groups of results are the most important. Finally, clusters of firms are analysed to establish their profile in relation to these groups, using cluster analysis.

**Findings.** This study shows that the main results of the implementation of EFQM are an improvement in the external image of the company and an increased efficiency of internal processes. In addition, the results can be grouped into internal results, human resources results, and economic results, with the first group being the most important. Finally, the results show that there are three groups of firms, categorized according to their results orientation: highly results-oriented, moderately results-oriented and minimally results-oriented.

**Practical implications.** Companies are in a better position to anticipate and solve the problems that may arise during the implementation process if they understand the results of the implementation of EFQM, along with the motivations for and barriers to the implementation. Also, this research shows that the bodies promoting and motivating quality should make a special effort to emphasize the importance of non-financial results in companies that implement EFQM.

**Originality/value.** This paper extends the knowledge in the field of business excellence models by developing an instrument to measure implementation results from the perspective of quality managers who were specifically appointed to lead the implementation of the EFQM excellence model in companies.

**Keywords:** EFQM, Non-financial Results, Financial Results, Factor Analysis, Cluster Analysis, Business Excellence.

**Paper type** Research paper

**1. Introduction**

Although it originated in the movement for improving product quality, TQM has evolved into a holistic management philosophy that has been adopted as an approach for improving the competitiveness of organizations (Kaynak, 2003; Powell, 1995; Prajogo and Hong, 2008; Samson and Terziovski, 1999; Sila and Ebrahimpour, 2005). The abundant evidence in the literature that TQM can help to improve business results has been an important contribution to this advance (Hendricks and Singhal, 1997; Shenaway *et al.*, 2007). The research has led to some contradictory conclusions about the results of the implementation of TQM in an organization, because there is no single measurement instrument to evaluate this (Ahire *et al.*, 1996; Antony *et al.*, 2002; Flynn *et al.*, 1994; Powell, 1995; Saraph *et al.*, 1989; Zhang *et al.*, 2000). Furthermore, evidence concerning the impact of TQM on business performance is also based on a

wide range of indicators that differ across studies and are in some cases contradictory. There are studies that report a positive relationship between TQM and performance (Brah *et al.*, 2002; Hendricks and Singhal, 2001; Kaynak, 2003; Terziovski and Samson, 1999), but there are also studies that report a negative relationship between these two variables (Chapman *et al.*, 1997; McCabe and Wilkinson, 1998). In some cases, the repercussions of TQM on financial outcomes are even deemed to be non-existent (Adam, 1994; Powell, 1995; York and Miree, 2004).

The different methodological and conceptual approaches used by researchers may have led to conflicting results but, in response to this controversial evidence, a new body of research shows how excellence models or quality awards offer a suitable reference framework for implementing TQM in an organization (Alonso-Almeida and Fuentes-Frias, 2012; Bou-Lluser *et al.*, 2009; Boulter *et al.*, 2013; Calvo-Mora *et al.*, 2013; Curkovic *et al.*, 2000; Kim *et al.*, 2010). Moreover, Calvo-Mora *et al.* (2005) and Farrar (2000) confirm the validity of the EFQM model in the educational field; Beikzad *et al.* (2012) in the financial sector; Nabitz *et al.* (2000) in health care organizations; Tomažević *et al.* (2015) and Gómez-Gómez *et al.* (2011), and Spacek (2010) in public organizations; and, for a recent review in respect of private organizations, see Doeleman *et al.* (2014). The EFQM model is an operative and non-prescriptive model, and it is currently being used by over 800 organizations throughout Europe. It is based on nine criteria, grouped into two parts: five enabler criteria (Leadership; People; Strategy; Partnerships and Resources; and Processes, Products, and Services), and four results criteria (People Results; Customer Results; Society Results; and Business Results). The enablers represent the way the organization operates, and the results concentrate on achievements relating to organizational stakeholders (EFQM, 2013). The main aim of the model is to support organizations in order for them to attain business excellence through continuous improvement, learning, innovation and the deployment of key processes (Eskildsen *et al.*, 2001; Wongrassamee *et al.*, 2003). Furthermore, organizations must not consider EFQM merely as an assessment tool (Farris *et al.*, 2011). In this line, there are several studies that have focused on the analysis of the EFQM excellence model in order to advance the knowledge of the model as a framework for implementing TQM. Specifically, the research field that studies the EFQM model is centred on the analysis of cases of organizations that have been subjected to the assessment processes. The aim of this stream of literature is to investigate the motivations for implementing the model (Gómez-López *et al.*, 2016; Heras *et al.*, 2006; Heras-Saizarbitoria *et al.*, 2011), the main barriers to the implementation of the model (Angell and Corbett, 2009; Beer, 2003; Dahlggaard-Park, 2009; Gómez-López *et al.*, 2017; Heras-Saizarbitoria *et al.*, 2011; Mann *et al.*, 2011; Mathews *et al.*, 2001; Soltani *et al.*, 2005), and the critical factors when applying the model (Kim *et al.*, 2010; Rusjan, 2005).

Another aspect that has been studied is the model's internal consistency in different areas. The evidence obtained supports the reliability and validity of EFQM as a reference framework for the implementation, evaluation and improvement of quality

(Bou-Llusar *et al.*, 2009; Calvo-Mora *et al.*, 2005; Eskildsen *et al.*, 2001; Heras-Saizarbitoria *et al.*, 2012; Reiner, 2002; Santos-Vijande and Alvarez-Gonzalez, 2007).

Regarding the practical application of the EFQM excellence model, the papers collected in this line mainly show the need to integrate it into management practices in order to achieve its full implementation (Davies, 2008; Tutuncu and Kucukusta, 2007). In addition, they provide suggestions for possible improvements in the implementation of the model (Rowland-Jones 2012).

However, the research topic with the highest amount of evidence is the contribution of the EFQM excellence model to results (Doeleman *et al.*, 2014). In this regard, the research supports the idea that working with the EFQM excellence model can contribute positively to key performance results, or, in other words, that there are strategic, economic, financial or operational benefits from using the model (Bendell and Boulter, 2008; Bou-Llusar *et al.*, 2009; Boulter *et al.*, 2013; Corredor Casado and Goñi Legaz, 2010; Easton and Jarrell, 1998; Hendricks and Singhal, 1997, 2001; Nabitz *et al.*, 2006; Tutuncu and Kucukusta, 2010; Vallejo *et al.*, 2007; York and Miree, 2004). Bendell and Boulter (2008) found that two years after winning their first National Quality Award, award-winning companies already outperform comparable companies by 24 per cent for share value. Boulter *et al.* (2013) compared award winners with companies without awards, and showed that organizations with an award achieved significantly better results than those without. Similarly, the surveys of Bou-Llusar *et al.* (2009) indicate significant relationships between enabler criteria and result criteria. Corredor and Goñi (2010) observed that only firms that earn a quality award from EFQM and that come first in the competition for the award increase their performance in the year after gaining the prize. Easton and Jarrell (1998) studied 108 firms over the five years following the achievement of a quality award, finding a significant improvement in firm performance after TQM implementation, especially in firms with more advanced total quality systems. Hendricks and Singhal (1997) explored the impact of effective TQM implementation on the operational performance of firms over a period of ten years. They found that firms that won quality awards presented better operational performance, a higher increase in sales and better cost control than a sample of control firms. Hendricks and Singhal (2001) contributed to the TQM literature with a study of how firm characteristics influence changes in firm performance. The results suggest that financial performance improves in overall terms following the implementation of a total quality programme, and also that the financial gains from implementing the system are higher in small, less capital-intense firms. The research by Tutuncu and Kucukusta (2010) showed a significant positive relationship between implementing the EFQM model and job satisfaction. Nabitz *et al.* (2006), in a longitudinal study conducted in a hospital, indicated that the active use of the EFQM model showed a balanced increase in performance with respect to all enabler and results criteria. The same finding was made in the study by Vallejo *et al.* (2007). Finally, York and Miree (2004) contributed to the literature by providing evidence of what happens to firm performance before and after achieving an award. Their results reveal award-winning firms to be the better performers both before and after achieving the award.

There is, however, a lack of research within this stream of literature that considers the results of the EFQM model more deeply. This is the next logical step after knowing the motivations that lead companies to implement EFQM and the barriers they encounter when carrying out the implementation (Gómez-López *et al.*, 2016). This paper therefore aims to clarify which of the EFQM results are obtained by the companies that implement the model. The focus is on the importance and configuration of the results, in order to learn about the nature of the results of the implementation of the model.

Based on these considerations, the purpose of this study is to fill the gap identified in the literature by exploring the main results of the implementation of the EFQM excellence model in private Spanish firms. To achieve this goal, first, a literature review was conducted in order to identify the EFQM results that have previously been studied in the literature. Second, empirical analysis was carried out in order to determine which groups of results were most important. Finally, clusters of firms were analysed to establish their profile in relation to these groups, using cluster analysis.

This paper contributes to the existing literature in several ways. First and foremost, it provides additional evidence regarding the main results (both financial and non-financial) of the implementation of EFQM. More particularly, this paper delves into the knowledge of the importance and configuration of these results.

Secondly, this is the first paper to develop an instrument to measure the results of implementing the EFQM excellence model from the perspective of quality managers. This instrument and the proposed scale will be valuable to researchers and practitioners with an interest in designing, implementing and managing excellence models. Finally, the paper offers the profile of the groups that are identified, in terms of their results and the differences between them.

To meet this objective, the paper is divided into several sections. The second section presents the literature review used to carry out the research. The third section describes the methodology used, and the results. Finally, the discussion and conclusion sections summarize the contribution of the paper, indicate its limitations and suggest directions for future research.

## 2. Literature review

In order to identify previous studies of the results of the implementation of EFQM, a systematic review of the literature was conducted, following an explicit, rigorous and transparent methodology. The search phase was performed according to the following criteria (Fink, 2005): first, only studies that focused on the results of the implementation of the EFQM excellence model were selected and, second, the review was limited to the academic literature, excluding articles that had not been peer reviewed. The intention was to exclude all popular articles that did not contribute to the growth of scientific theory (Sanchez and Blanco, 2014). The online database Web of Science was used because it is a prestigious and internationally well-known database, and it stores the abstracts and full texts of the majority of ISI management journals. Literature was



selected from the period 1995-2015. This period was chosen since electronic databases containing the full text of articles have only been available since 1995. An expansive list of search terms and combinations that should be included in the article, title, abstract or keywords<sup>1</sup> were used. After doing the search, 296 articles were found and revised to check that they were not included twice and 123 articles were obtained. In the next step, articles were excluded if the main focus was not related with EFQM excellence model (61 articles). This list, which is formed by 62 articles, was narrowed to specifically relevant articles by applying a strict criterion, and articles were included in the final list only if they explicitly examine the results of the implementation of the EFQM. The final list was integrated by 9 scientific articles published in 9 different scientific journals.

Given this lack of research, it has been decided to broaden the review of literature to encompass several terms and combinations that are related to the keywords of the paper<sup>2</sup>. In order to do that, a systematic review of the literature following the same procedure as before was conducted. After doing the search, 182 articles were found and were revised to check that they were not included twice and 113 articles were obtained. In the next step, articles were excluded if the main focus was not related with EFQM excellence model (67 articles). This list was narrowed to specifically relevant articles by applying a strict criterion, and articles were included in the final list only if they explicitly examine the results of the implementation of EFQM. The final sample was integrated by 3 scientific articles<sup>3</sup> which had already been identified in the previous search.

These theoretical findings highlight the need for further research in order to obtain a fully comprehensive understanding of the EFQM model, and, more precisely, of the results that are obtained by companies that implement this excellence model.

2.1 The results of the EFQM implementation.

The studies that were identified can be classified into two different strands according to how they measured the results variable. On the one hand, there are studies that focused on the benefits of the implementation from an economic point of view, that is to say,

<sup>1</sup> “EFQM” or “European Foundation for Quality Management” and “results”; “Business excellence” and “results”; “EFQM implementation process” or “European Foundation for Quality Management process” and “results”; “EFQM implementation” or “European Foundation for Quality Management” and “results”  
<sup>2</sup> “EFQM” or “European Foundation for Quality Management” and “organizational results”; “EFQM” or “European Foundation for Quality Management” and “financial results”; “EFQM” or “European Foundation for Quality Management” and “economic results”; “Business excellence” and “organizational results”; “Business excellence” and “financial results”; “Business excellence” and “economic results”; “EFQM implementation process” or “European Foundation for Quality Management process” and “organizational results”; “EFQM implementation process” or “European Foundation for Quality Management process” and “financial results”; “EFQM implementation process” or “European Foundation for Quality Management process” and “economic results”; “EFQM implementation” or “European Foundation for Quality Management implementation” and “organizational results”. “EFQM implementation” or “European Foundation for Quality Management implementation” and “financial results”. “EFQM implementation” or “European Foundation for Quality Management implementation” and “economic results”.

<sup>3</sup> Boulter, et al. (2013); Hendricks and Singhal (2001); and Heras-Saizarbitoria *et al.* (2011).

taking into account any improvement in the financial results of the firm (Boulter *et al.*, 2013; Easton and Jarrell, 1998; Hendricks and Singhal, 1997, 2001; Heras-Saizarbitoria *et al.*, 2011; Hongyi *et al.*, 2004; Mathews *et al.*, 2001; York and Miree, 2004). On the other hand, there are studies that focused on the main benefits obtained from the implementation from a non-economic point of view. These include such things as customer satisfaction and improvements in the internal communication of the firm (George *et al.*, 2003; Heras-Saizarbitoria *et al.*, 2011; Hongyi *et al.*, 2004; Mathews *et al.*, 2001).

Table 1 shows the papers that studied concrete financial results, as identified from the literature review about the implementation of EFQM. All of these are empirical papers, and they use diverse data sources. Some of them are longitudinal studies (Boulter *et al.*, 2013; Easton and Jarrell, 1998; Hendricks and Singhal, 1997, 2001; York and Miree, 2004), while others use primary data sources such as one year surveys (Heras-Saizarbitoria *et al.*, 2011; Mathews *et al.*, 2001) or surveys over several years (Hongyi *et al.*, 2004).

The studies that take an economic point of view highlight the fact that firms that have won prizes for quality obtain greater operational benefits and are capable of carrying out cost control that permits them to reduce their costs even further and therefore improve the price–cost ratio of their products. Furthermore, this is reflected in a greater increase in the market share and sales of these firms when compared with their competitors. In addition, the study of Heras-Saizarbitoria *et al.* (2011) identifies an increase in the export capability of a firm and an improvement in its productivity as aspects derived from the implementation of EFQM.

**Table 1**

With regard to the literature that focuses on an analysis of the non-financial impact of EFQM implementation, this highlights the fact that EFQM enables organizations to distinguish between their strengths and their weaknesses, and to focus on the relationships between people, processes and outcomes (Conti, 2007; Wongrassamee *et al.*, 2003).

Table 3 shows the papers that studied concrete non-financial results, as identified from the literature review about the implementation of EFQM. The lack of articles regarding this issue, and the need for a greater number of studies of it, should be noted. All of the studies in Table 2 are empirical studies that use primary source data such as surveys (Boulter *et al.*, 2013; Heras-Saizarbitoria *et al.*, 2011; Hongyi *et al.*, 2004; Mathews *et al.*, 2001) or case studies (George *et al.*, 2003).

The analysis of these studies allows a distinction to be drawn between two groups of results derived from the implementation of the EFQM excellence model. On the one hand are results that are focused more on human factors, such as improvements in training, motivation, participation and satisfaction, as well as improvements in the job atmosphere and opportunities for incorporating newly qualified personnel. On the other hand are improvements in internal aspects such as product or service quality, internal

communication, administrative procedures and internal processes, as well as the external company image.

Table 2

3. Research methodology

3.1 Universe and field of study

The identification of Spanish private firms immersed in the implementation of the EFQM excellence model was carried out by using the Reports of Excellence in Spain published by the Excellence in Management Club. The target population of study reached 168 firms. A response rate of 40.48% was obtained and it is found that the sample is representative according to firm size ( $\chi^2= 4.320$ ,  $p=0.01$ ) and sector ( $\chi^2=1.45$ ,  $p= 0.01$ ). The respondents of this study consisted of quality managers who were specifically appointed to lead the implementation of the EFQM excellence model. Regarding the size or dimension of the establishments of the sample 16.18% correspond to micro-businesses (0–9 employees), 32.35% correspond to small businesses (10-49), 27.94 correspond to medium businesses (50-249 employees) and the remaining 23.53% are large businesses ( $\geq 250$  employees). The classification into micro, small, medium and large companies has been made based on the criterion of the number of workers (European Commission, 2003)

3.2 Analysis of non-response bias

The sample was split into early and late respondents to test for non-response bias. Respondents to the follow-up letter were assumed to be equivalent to non-respondents, since a post-survey stimulus was required to elicit their response (Armstrong and Overton, 1977; Das and Joshi, 2007). A comparison between the respondents to the first and second mailings revealed no significant differences in terms of firm size ( $p= 0.586$ ) or sector ( $p= 0.304$ ).

3.3 Questionnaire

To design the questionnaire, a literature review of the studies analyzing the results of the EFQM implementation was undertaken (see Section 2). In this respect, the repeated use of the items to measure results, guarantees internal validity. The questionnaire contained two constructs namely “economic results” (6 items), and “non-financial results” (13 items). Both were measured based on a five-point Likert scale rating from 1-not important to 5-very important.

4. Data analysis

First of all, a descriptive analysis of the results of EFQM implementation was carried out. Table 4 shows the mean scores, standard deviations, and percentage of firms for which each result analysed was either unimportant or very important.

Table 3



From the mean scores obtained (Table 3), the two main results of implementing EFQM are an improvement in the external image of the company (4.06) and an increase in the efficiency of internal processes (3.93). Also, internal communication (3.79) and administrative procedures (3.69) that improve the quality of products and services (3.56) were important. Finally, the workforce was better trained and more motivated (3.5), and the employees were involved in projects and improvement groups that arise in the company (3.53).

In addition to this, the results that show the lowest mean scores and were therefore less important for the quality managers in the survey are the improvement in the profit margin (2.74), the ratio between product price and cost (2.72), the market share growth (2.6), the sales growth (2.53), the incorporation of newly qualified personnel (2.32), the use of external assessors (2.19), and the growth in export capacity (2.03). On the basis of these results, the most important results for Spanish firms that have implemented the EFQM are non-financial results; financial results have less relevance.

#### 4.1 Principal Components Analysis

A principal components factor analysis with VARIMAX rotation was conducted with the aim of grouping together the items that identify the results. This replaces the 19 results obtained from the questionnaire with as little loss of information as possible. The nineteen items were identified from the literature. "Use of external assessors" is eliminated because it has a very low communality (0.48). The Cronbach's alpha obtained for the 18 remaining items is 0.928, indicating an appropriate degree of internal consistency for the measurement scale.

Using the criterion of percentage of variance, there are three factors and these account for 65% of the total variance. Furthermore, in all cases, the factor loadings of the items are acceptable (greater than 0.5) (Table 4). The Bartlett test indicates a high level of support for rejecting the null hypothesis. This is to say, the variables are uncorrelated, and the test value is high and is associated with a significance below 0.05. Meanwhile, the Kaiser-Meyer-Olkin (KMO) value is 0.814, indicating the suitability of the analysis.

**Table 4**

The reliability analysis provides a Cronbach's alpha of 0.859 for factor 1 and indicates that all items should be considered for the construction of the factor.

The reliability analysis provides a Cronbach's alpha of 0.888 for factor 2 and indicates that this increases to 0.892 if the item "Incorporation of newly qualified personnel" is not considered for the factor construction.

The reliability analysis provides a Cronbach's alpha of 0.884 for factor 3 and indicates that this increases to 0.905 if the item "Improved customer satisfaction" is not considered for the factor construction.

The interpretation of the factors that summarize the results is as follows.

Factor 1. “Internal Results” is a factor that refers to the impact of implementation on the internal functioning of the firm; it includes such aspects as improvements in product or service quality, improvements in productivity and more efficient internal processes.

Factor 2. “Economic Results” is a factor that represents aspects relating to the impact of implementation on the firm’s export capacity, market share, sales growth, ratio of product price to cost and profit margin improvement.

Factor 3. “Human Resource Results” is a factor that encompasses the impact of implementation on human resources, specifically in the following areas: motivation, satisfaction, participation and improvements in the workplace environment.

To conclude this analysis the importance of the three factors mentioned above was examined. The most important results of EFQM implementation are internal results, with a mean of 3.6912, against human resource results (3.4191) and economic results, with an average of 2.5235.

In this vein, it is surprising that economic results are the least important, bearing in mind that a large number of papers have analysed the relationship between EFQM and financial or economic results (Bendell and Boulter, 2008; Corredor and Goñi, 2010; Easton and Jarrell, 1998; Hendricks and Singhal, 1997; York and Miree, 2004).

4.2 Cluster analysis

There is no generally accepted procedure for determining the number of clusters. In this paper the dendrogram and the agglomeration coefficient are observed. From Table 5, it can be seen that, with respect to the coefficients of agglomeration, the major difference between the percentages of change occurs in three clusters (9.4805), so this would be the number of groups according to these criteria. Finally the study is validated with One-Factor Analysis of Variance (ANOVA) and it is found that three factors are significant (Table 6).

Table 5 - Table 6

From the results (Table 7), it can be concluded that internal results are the most important because they show average values near four (important/very important) for the first two groups which constituting 80.88% of the sample. This result confirms the results obtained in the previous descriptive analysis.

Table 7

The three groups created can be interpreted to establish a profile of the groups regarding the importance of the results obtained from implementing EFQM. To complete the interpretation of the groups that have been established, the original variables are used. These original variables represent the percentage of firms in each group that assess each variable to be important or very important.

The first group consists of 24 highly results-oriented firms that show the highest values of importance for most of the results in the analysis. By means of EFQM

implementation, these firms have improved their external image and have optimized the quality of their products/services. They also recognize the importance of high participation by their personnel in improvement projects, together with improvements in administrative procedures and internal communication, which reinforce their employees' motivation. Aspects such as export capacity, improving the profit margin of the company and the ratio between product price and cost are less relevant for this group.

The second group consists of 31 moderately results-oriented firms. Firms in this cluster highlight improvement in external image and improved administrative procedures with more efficient internal processes as the most important results. Regarding the financial results, for this group of firms an improvement in profit margin is more important than increased market share or sales growth. Regarding the human resource results, this group highlights the importance of higher participation by personnel in improvement projects in a more favourable job atmosphere.

Finally, the third group consists of 13 minimally results-oriented firms, with the lowest values in all results. More specifically, these are companies whose most important result is an improvement in their internal processes and communication. All of these firms highlight the significance of the EFQM implementation for improving their perceived image in the market. Moreover, this group gives more relevance to internal and human resource results than to economic results.

## 5. Discussion

This paper carried out a literature review to identify two different kinds of results of implementing EFQM. On the one hand, there are financial results, which are related to the economic aspects of the implementation, such as improving corporate profits and the price-cost ratio of the products, sales growth, and increased market share. It should be noted that increased export capacity can also be found in this group. This could be related to the existence of regulations in foreign countries that require Spanish companies to implement EFQM in order to perform export activities. This finding is in line with the results of the study carried out by Gómez-López et al. (2016), which identifies external requirements related to customers, governments, and competitors as a reason to implement the EFQM. On the other hand, only six papers were identified in the literature review that addressed non-financial results. Non-financial results are related to internal improvements in the company (quality, productivity, communication, and efficiency), and to human resources (motivation, participation, satisfaction and improved work environment). These theoretical findings highlight the need for further research to address the EFQM model comprehensively and, more precisely, to study the implementation process and the results of the implementation of the model.

From the descriptive analysis, the most important result of EFQM implementation for Spanish firms is an improvement in their external image. This reflects the importance of EFQM as an instrument for comparing an organization with its competitors in order to

achieve and/or maintain competitive advantage (Santos-Vijande *et al.*, 2007). The improvement in the company's external image is followed in importance by the increased efficiency of internal processes, internal communication and administrative procedures that improve the quality of the company's products/services. These aspects are directly related to an improvement in productivity and in the competitive position of the companies (Agus *et al.*, 2009; Brkić *et al.*, 2011; Calvo-Mora *et al.*, 2014; Hendricks and Singhal, 1997; Kaynak, 2003; Samson and Terziovski, 1999). Moreover, improvements related to human factor inside the company are important too. This finding confirms that the great significance attributed to aspects of human resource management since the beginning of the quality movement (Crosby, 1979; Deming, 1982; Juran *et al.*, 1990) is not only symbolic, but is present in reality. In addition, this finding is consistent with findings from previous research analysing the relationship between quality management, on the basis of excellence models, and flexible work organization practices (Bayo-Moriones *et al.*, 2011; Bayo-Moriones and Merino, 2001; Tari and Sabater, 2006). These results derived from the descriptive analysis are confirmed empirically by the average factor. Furthermore this approach is supported by Mathews *et al.* (2001) and Heras-Saizarbitoria *et al.* (2011) with regard to the greater importance of improving company image, product quality and employee training. Finally, this paper shows the different types of results and the profile of the firms implementing EFQM. From the analysis of the outcomes, the results can be divided into three groups: (1) "Internal results" (2) "Economic results" (3) "Human resource results". These three groups present an appropriate degree of internal consistency and reliability of the measurement scale. The main implication of this finding is that the three measurement scales for the results of the EFQM implementation can be validated, bearing in mind that the non-financial results are divided into two different groups, internal results and human resource results. The most important of the three groups is internal results. In this vein, it is interesting that economic results are the least important, given that a large number of papers have analysed the relationship between EFQM and financial or economic results (Bendell and Boulter, 2008; Corredor and Goñi, 2010; Easton and Jarrell, 1998; Hendricks and Singhal, 1997; York and Miree, 2004).

With regard to the profile of the firms, highly results-oriented firms are those that have improved their external image and their administrative procedures, by introducing more efficient internal processes. Moderately results-oriented firms demonstrate a greater involvement of their employees. The third group gave the lowest average score on every factor, and contains companies that show better internal results and human factor results than economic results. These are minimally results-oriented firms, and they might be at the beginning of the path of excellence, being driven there by their competitors/suppliers/customers and not by their own conviction. Further empirical study could be necessary in order to examine, and generalise these findings in different organizations or industries.

## 6. Conclusion and managerial implications

The purpose of this paper is to explore the main results of the implementation of the EFQM excellence model in private Spanish firms. A literature review was carried out identifying that there are both financial and non-financial results of EFQM implementation. The results of a survey questionnaire administered to Spanish firms immersed in the implementation of the EFQM excellence model indicated that internal results have the greatest importance for these firms. Factorial and cluster analysis was carried out in order to determine the structure of the results and the profile of the firms in an empirical way.

This is the first study to investigate the results of EFQM implementation and to develop an instrument to measure these results from the perspective of quality managers who had been specifically appointed to lead the implementation of the EFQM excellence model in their company. Consequently, the findings of this paper are very interesting and have practical implications for the EFQM practitioner community.

First, for those companies that are contemplating implementing the EFQM model for the first time, the research provides evidence of the results that the organization might reap from its effective implementation. However, managers must set rational expectations for the degree of benefits from EFQM over the long term, since the model needs time to mature. Second, by understanding the results, along with the motivations for and barriers to implementation, organizations and quality managers are in a better position to anticipate and solve the problems that may arise during the implementation process. Third, the empirical validation of the classification of the results indicates that non-financial results are more important than financial ones. This may be interpreted by considering that signs of financial success may not occur instantaneously or to the same extent as non-financial improvements. Managers must thus realize that an improved external image, improved efficiency in internal processes, and improvements in internal communication may not automatically be a source of profit. Because efforts to improve results of this kind primarily affect future actions and behaviour, the greater portion of the economic returns from these improvements will also be realized in subsequent periods. Finally, the results of this study encourage bodies promoting and motivating quality (foundations, associations, consultancies, etc.) to make a special effort to emphasize the importance of non-financial results. This means that managers should be concerned about how these results can enhance the recognition and credibility of the organization in the market.

Several limitations of the present study must be considered when it comes to interpreting the results and the conclusions arising from them. The present study is based on cross-sectional data from 68 firms. It is an exploratory study that was undertaken to advance the knowledge about the EFQM excellence model, since very few studies have attempted to evaluate the effect of using EFQM for Spanish firms. Consequently, future research with a larger sample of both private and public firms from different countries is needed to extend our research. Also, it would be interesting to study the relationship between the motivations that lead a company to implement EFQM and the results it obtains from such implementation. Similarly, a future research



line is opened to examine whether the results for firms with little experience in EFQM implementation are different from the results for companies that have an advanced TQM system or a consolidated system.

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**-TABLES-****Table 1: Financial results of the EFQM implementation**

	Hendricks & Singhal (1997)	Easton & Jarrell (1998)	Hendricks & Singhal (2001)	Mathews et al. (2001)	Hongyi et al. (2004)	York & Miree (2004)	Heras-Saizarbitoria et al. (2011)	Boulter et al. (2013)
Profit margin improvement	X	X	X	X		X	X	X
Product Price-cost ratio	X		X		X		X	X
Sales growth	X						X	X
Market share growth				X			X	
Export capacity growth							X	
Improved productivity							X	

Source: own elaboration.

**Table 2: Non-financial results of the EFQM implementation.**

	Mathews et al. (2001)	George et al. (2003)	Hongyi et al. (2004)	Heras- Saizarbitoria et al. (2011)	Boulter et al. (2013)
Product/service quality improvement	X		X	X	
Improved staff training		X		X	
Improved employee motivation	X	X			
Internal communication improvement	X	X			
Higher participation by personnel in improvement projects	X	X			
Improved employee satisfaction	X	X			
Job atmosphere improvement	X	X			
Improved customer satisfaction	X		X		
Improvement of administrative procedures	X				
Improved internal process efficiency	X		X		X
Improved external image				X	
Use of external assessors				X	
Incorporation of newly qualified personnel				X	

Source: own elaboration.

**Table 3: Mean scores, standard deviations, and the percentage of firms for which is unimportant and very important each result analysed**

	Mean	Standard deviations	Unimportant (score from 1 to 3) % firms	Very important (score from 4 to 5) % firms
Improved external image	4.06	0.879	22.1	77.9
Improved internal process efficiency	3.93	0.869	27.9	72.1
Internal communication improvement	3.79	0.873	30.9	69.1
Improvement of administrative procedures	3.69	0.95	35.3	64.7
Product/service quality improvement	3.56	1.056	44.1	55.9
Higher participation by personnel in improvement projects	3.53	1.072	42.6	57.4
Improved staff training	3.5	1.113	44.1	55.9
Improved customer satisfaction	3.47	1.099	48.5	51.5
Improved employee motivation	3.43	0.997	48.5	51.5
Job atmosphere improvement	3.37	1.006	54.4	45.6
Improved employee satisfaction	3.35	1.048	57.4	42.6
Improved productivity	3.31	1.096	48.5	51.5
Profit margin improvement	2.74	1.101	75	25
Product Price-cost ratio	2.72	0.96	80.9	19.1
Market share growth	2.6	1.174	75	25
Sales growth	2.53	1.165	76.5	23.5
Incorporation of newly qualified personnel	2.32	1.251	79.4	20.6
Use of external assessors	2.19	1.162	82.4	17.6
Export capacity growth	2.03	1.146	88.2	11.8



**Table 4: Factorial loads for the 16 items of results generated by means of Factorial Analysis with varimax rotation**

	Factors		
	Internal Results	Economic Results	Human Resource Results
Product/service quality improvement	<b>0.555</b>	0.347	0.207
Improved staff training	<b>0.798</b>	0.171	0.216
Improved external image	<b>0.842</b>	0.138	0.063
Improved productivity	<b>0.573</b>	0.439	0.256
Improvement of administrative procedures	<b>0.574</b>	0.235	0.342
Internal communication improvement	<b>0.572</b>	0.111	0.409
Improved internal process efficiency	<b>0.675</b>	0.060	0.226
Export capacity growth	0.010	<b>0.772</b>	0.300
Market share growth	0.146	<b>0.894</b>	0.010
Sales growth	0.381	<b>0.841</b>	0.051
Product Price-cost ratio	0.389	<b>0.601</b>	0.317
Profit margin improvement	0.165	<b>0.733</b>	0.358
Improved employee motivation	0.418	0.221	<b>0.711</b>
Higher participation by personnel in improvement projects	0.130	0.039	<b>0.875</b>
Job atmosphere improvement	0.504	0.241	<b>0.667</b>
Improved employee satisfaction	0.437	0.291	<b>0.731</b>

**Table 5: Coefficient of agglomeration of the results of EFQM implementation**

Number of groups	Coefficient Agglomeration	Percentage change of coefficient	Differences between the percentage changes
11	15.582	119.0229	-60.8564
10	34.127	58.1665	-12.1151
9	53.978	46.0514	-12.3303
8	78.836	33.7211	-7.8932
7	105.420	25.8279	-2.1633
6	132.648	23.6646	8.4966
5	164.038	32.1612	5.9097
4	216.795	38.0709	1.3915
<b>3</b>	<b>299.331</b>	<b>39.4624</b>	<b>9.4805</b>
2	417.454	48.9428	
1	621.768		

**Table 6: Validation analysis**

Variable	F	Sig
Factor 1 (factor scores)- Internal Results	21.683	0.00000
Factor 2 (factor scores)- Economic Results	17.605	0.00000
Factor 3 (factor scores)- Human Resource Results	15.572	0.00000

**Table 7: Factor averages and statistical tests verifying the differences**

	Highly "results-oriented" firms	Moderately "results-oriented" firms	Lowly "results-oriented" firms	Kruskal Wallis	
	n=24	n=31	n=13	Chi-squared	Sig.
Internal Results	3.9405	3.8894	2.7582	23.0736	0.0000
Economic Results	2.9000	2.6968	1.4154	22.2949	0.0000
Human Resource Results	3.7188	3.6290	2.3654	19.6506	0.0001