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“This is an Accepted Manuscript of an article published by Taylor & Francis in Total Quality Management & Business Excellence on 2018, available at: <https://doi.org/10.1080/14783363.2016.1253465>.”

## **Assessment and improvement of organisational social impact through the EFQM Excellence Model**

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### **Funding**

This research has been supported by the Junta de Andalucía (Regional Government of Andalusia) (Consejería de Economía, Innovación y Ciencia), Spain (Proyecto de investigación de excelencia P10-SEJ-6081).

# Assessment and improvement of organisational social impact through the EFQM Excellence Model

## ABSTRACT

Total quality management (TQM) and corporate social responsibility (CSR) are relevant management philosophies and frameworks that organisations use to help generate a sustainable competitive advantage. This contribution aims to study the influence of TQM social factors (leadership and human resource) and TQM technical and strategic factors (Strategy-Resources management and process management) with social results. The hypotheses proposed in our research model are tested on a sample of 116 Spanish companies, with experience in TQM through assessments by means of the European Foundation for Quality Management (EFQM) Excellence Model. The partial least squares structural equations modelling (PLS-SEM) approach was used to test the research model. Our findings indicate that the EFQM Excellence Model is a reliable and valid framework with which to measure and improve the organisational social impact. The synergies and the indirect effects between the TQM critical factors, in the EFQM Excellence Model framework, constitute a management system. Moreover, the TQM social factors and Strategy-Resources management factors determine the efficiency with which an organisation manages its key processes, which have a significant impact on the social results that organisations are capable of achieving.

Keywords: Quality management; TQM; EFQM model; social impact; social responsibility

## 1. Introduction

In an increasingly complex and uncertain environment, directors tend towards mimetic isomorphism, that is, faced with the uncertainty of the environment they tend to behave like the other actors in the organisational field. For that reason, companies model themselves on other organisations which share their organisational context, choosing as models those which they perceive as having greater legitimacy or greater success within the field (DiMaggio & Powell, 1983). Therefore, in an environment dominated by uncertainty, directors tend to consider legitimate those practices that are considered as 'best practice' in the organisational field. This explains the proliferation of the total quality management (TQM) models and the rise of corporate social responsibility (CSR) (Matten & Moon, 2008). The importance of these questions has led many authors to ask themselves if the key principles and factors of both models converge or diverge (Barrett, 2009). The basic question is: can a company simultaneously align its TQM and CSR objectives and practices?

TQM is a comprehensive management philosophy oriented towards achieving excellent results in relation to stakeholders (Prajogo & McDermott, 2005). TQM has a global and strategic dimension, as it affects not only the quality of products, services, processes, and management of the organisation, but also the quality of the relationships that it maintains with its environment and main stakeholders (Kok, van der Wiele, McKenna, & Brown, 2001).

CSR refers to the set of business practices that meet or exceed the economic, legal, ethical, and philanthropic expectations of society. It includes the overall relationships of the organisation with all of its stakeholders (Tari', 2011). For that reason, public authorities, professional colleges, and consumers increasingly demand that companies contribute greater benefits to society and measure their positive and negative impacts within it (Matten & Moon, 2008). CSR is intrinsically linked to the concept of sustainable development and the management of the economic, social, and environmental impacts of the operations of organisations.

McAdam and Leonard (2003), Olaru, Stoleriu, and Sandru (2011), and Tari' (2011) suggest that quality management practices facilitate the development of environmental management,

require ethical behaviour, need a stakeholder focus, and may facilitate the development of activities that are socially responsible. It must not be forgotten that all the above must be achieved within terms of competitiveness. This has brought about certain pressure to integrate the principles of CSR into quality management systems (ISO 9000), Excellence Models frameworks more used to implement the principles and practices of TQM. The established Excellence/TQM Models (Malcolm Baldrige National Quality Award, the European Foundation for Quality Management Excellence Model, the Australian Business Excellence Framework, and the Canadian Framework for Business Excellence) all incorporate a social responsibility element, and advocate management practices compatible with the ideals of CSR (Ghobadian, Gallear, & Hopkins, 2007).

From the point of view of the specialised literature, the first authors to relate quality management principles and practices with social responsibility were termed quality gurus. Deming, Juran, and Crosby indicate the importance of the values, ethical behaviour, the motivation, and the satisfaction of the people (workers and directors) for the success of the quality initiatives (Barrett, 2009). Later, the literature has been focused on analysing the impact of TQM practices on customer satisfaction, workers' motivation, and the company's image (Calvo-Mora, Picón-Berjoyo, Ruiz-Moreno, & Cauzo-Bottala, 2014). Along this line, Lockett, Moon, and Visser (2006) indicate that an important percentage of articles focusing on environmental subjects require greater attention by the researchers on the social and ethics areas. Tarí (2011) indicates that there are insufficient works simultaneously assessing TQM practices and social responsibility in the same study, and also that theoretical studies predominate over those of an empirical nature, and that within those of an empirical nature, those using qualitative methodology are more abundant than those using quantitative methodology. In addition, although numerous authors suggest there are relationships between both approaches of management (Kok et al., 2001; Leonard & McAdam, 2003; Martín-Castilla, 2002; Withanachchi et al., 2007), there is no consensus in the literature on the best way to integrate them, or which models are more effective in their implementation and improvement.

Against this background, the present study raises the following objectives:

- 1) To analyse the suitability (validity and reliability) of the EFQM Excellence Model to assess and improve an organisation's social impact.
- 2) To study how organisations can improve their results in society through the management of their key processes related to the social impact and social responsibility of the organisation.
- 3) To verify how a suitable strategic management of resources and alliances (TQM), strategic and technical factors) and the participation and involvement of the leaders and the people of the organisation (TQM social factors) are the forerunners of an efficient management of the processes and, indirectly, of the results and social impact of the organisation.
- 4) To propose a series of recommendations for companies, when initiating the process of assessment and interpretation of the results of the social impact of the company, by means of the EFQM model.

In this study, the EFQM Excellence Model (EFQM, 2003, 2010, 2013) was taken as a reference for three main reasons: (1) it is the most used framework for the implementation of TQM principles and practices in organisations (Calvo-Mora et al., 2014; Samson & Terziowski, 1999; Van der Wiele, Dale, & Williams, 2000); (2) in 1991, it was the first Quality Award that explicitly included the importance of measuring the impact and the social results of an organisation (Kok et al., 2001) and, in the current version of the model, a specific criterion (Society results) is reserved for it; and (3) as Martín-Castilla (2002) indicates, given the non-prescriptive character of these excellence models, it is possible to give them an ethical and social responsibility focus when applying the excellence search criteria.

This study continues with a review of the literature in which the principles and evolution of TQM and CSR are analysed. Later, the proposed model is presented, detailing the hypotheses that will be tested. This will be followed by a description of the methodology and data analysis used. The results are then presented, which are followed by a discussion and the conclusions, indicating limitations and future lines of research of the study.

## **2. Literature review**

### **2.1. TQM and CSR**

TQM is a comprehensive organisational management approach. This approach is based on the correct integration of certain cultural values and principles (continuous improvement, innovation, and dynamism) into the strategy, structure, and processes of the organisation. To put these values and principles into practice, organisations use a series of techniques, models, and systems oriented towards stakeholder satisfaction and strengthening the competitiveness of the organisation.

Among the critical factors of TQM identified in the literature are an organizational culture oriented to continuous improvement; a determined commitment and leadership by the management; strategic planning; continuous improvement; a customer- and other stakeholder-focused approach; management based on data and information analysis; and the management of personnel, processes and suppliers or other partners (Sila & Ebrahimpour, 2003). In this respect, Rahman and Bullock (2005) classify the critical factors of TQM as follows:

- 1) Soft aspects, corresponding to social and behavioural factors, such as an open and flexible culture, the management's commitment and leadership, the human resources management, and the focus on stakeholders.
- 2) Hard aspects, associated with the technical factors of the design, implementation and improvement of the quality management systems, such as the control and management processes, the use of problem-solving tools, and the management of resources and supplier
- 3) Strategic aspects, that is, the need to integrate the quality objectives, plans, and policies into the general strategic process of the organisation.

On the other hand, CSR is defined as the commitment of an organisation to assess and to take responsibility for the impacts that its decisions and activities have on society and the environment, by means of an ethical and transparent behaviour that takes into consideration the interests of its interested parties, fulfils the applicable legislation and is consistent with international standards of behaviour, and is integrated into the whole organisation and put into practice in its relationships ('ISO, 26000', 2012).

According to Carroll (1991), there are four stages of social responsibility: economic, legal, ethical, and philanthropic. The highest level of social responsibility is philanthropy, which has a positive influence on the reputation and the economic performance of the organisation (Brammer & Millington, 2005). For Leonard and McAdam (2003), CSR refers to the human rights of the workers, preservation of the environment, and involvement in the community and social development. On the other hand, Kok et al. (2001) find 14 key elements of CSR which they divided into three groups:

- 1) External environment, which includes the relationships with the community, the consumers, the suppliers, and the shareholders.
- 2) Internal environment, which refers to the culture of environmental protection, working conditions, empowerment, and involvement.
- 3) Ethical conscience, referring to the codes of behaviour, and ethical values and codes.

With respect to the relationship between TQM and CSR, Leonard and McAdam (2003) tried to clarify this relationship, based on the ethical foundation of both models. From the perspective

of CSR, business ethics are not mere philanthropy, but an essential foundation that allows the improvement of the organisation and the development of society. Similarly, the TQM principles are based on the ethics of continuous improvement of all the organisational processes (Zairi & Peters, 2002).

Thus, Barrett (2009) indicates that the continuous improvement of quality requires a commitment to exceed the expectations of the customers and other stakeholders, which involves an important ethical base. For Moir (2001), CSR has a positive impact on the progress of businesses, as it reduces litigations, protects the brand image, improves customer satisfaction, and reduces absenteeism and employee turnover, whilst retaining the personnel with the most talent. Leonard and McAdam (2003) maintain that CSR approaches aspects such as employee satisfaction, protection of the environment, and sustainability so that it can be defined in terms of ethical legitimacy or acceptable ethical behaviour and, second, can be seen from an instrumental perspective in which the image and the goals of the organisation are a primary concern. In short, TQM is consistent with the ethical legitimacy and instrumental vision of CSR. This suggests that CSR can be incorporated into organisations more effectively, and in less time, by using the existing values, principles, and practices of TQM (Tari', 2011).

## **2.2. Social impact assessment in the EFQM Excellence Model**

There are different frameworks for implementing the values, fundamental principles, and practices that characterise the whole TQM initiative. Abdullah, Uli, and Tari' (2008) differentiate between them: (1) based on quality gurus; (2) extracted after theoretical and empirical research; and (3) excellence models (Deming Model, Malcolm Baldrige Model, and the European Foundation for Quality Management Model). In Europe, EFQM Excellence Model (EFQM, 2003, 2010, 2013) is the best-known reference when introducing and improving a TQM system.

Generally, excellence models include a set of guidelines that are made available to organisations so that they can develop the concepts of TQM and put them into operation (Bou-Llugar, Escrig-Tena, Roca-Puig, & Beltrán-Martín, 2009). The validity of excellence models for TQM implementation has been widely studied in the literature. Alonso-Almeida and Fuentes-Frias (2012), Bou-Llugar et al. (2009), Curkovic, Melnyk, Calantone, and Handfield (2000), Flynn and Saladin (2001), Gómez Gómez, Martínez Costa, and Martínez Lorente (2015), and Pannirselvam, Siferd, and Ruch (1998) conclude that the most extended excellence models (EFQM model and Malcolm Baldrige National Quality Award (MBNQA)) and their criteria do capture TQM core concepts and can predict the relationships between TQM procedures and organisational performance. Moreover, Calvo-Mora, Picón-Berjoyo, Ruiz-Moreno, and Cauzo-Bottala (2015) point out how the use of the EFQM Excellence Model guarantees that the management practices employed form a coherent system.

The EFQM Excellence Model has a flexible nature and can be applied to large and small organisations, in the public and private sectors, as well as to industrial and service companies (EFQM, 2003, 2010, 2013). In addition, it is a dynamic model that has evolved and adapted to social changes. The base for the application of the model and the improvement of the management is self-assessment. Self-assessment measures the level of quality reached in an organisation through a series of criteria and management and performance indicators. Once the self-assessment has been made, for which different methodologies exist, the organisation can opt for certain stamps of recognition or may even choose to present a candidacy for different quality awards. For this, it will have to be subjected to a process of external assessment by independent experts who will make a detailed analysis before they verify the self-assessment report presented by the organisation.

In order to achieve sustained success in the management of the EFQM Excellence Model, the integration of three components is proposed (Figure 1): fundamental concepts of excellence, EFQM Excellence Model criterion, and Results, Approaches, Deploy, Assess and Refine (RADAR) logic (EFQM, 2003, 2010, 2013).

The eight fundamental concepts of excellence outline the foundation for achieving sustainable excellence in any organisation. They can be used as the basis to describe the attributes of an excellent organisational culture. The fundamental concepts of excellence are (EFQM, 2013) adding value for customers; creating a sustainable future; developing organisational capability; harnessing creativity and innovation; leading with vision, inspiration, and integrity; managing with agility; succeeding through the talent of people; and sustaining excellent results over time.

The previously presented principles are condensed into nine dimensions or criteria which serve as a guide for the implementation of the management system and the measurement of the results. These criteria are specified in five enablers (leadership, policy and strategy, partnerships and resources, people, and process), and four types of results which the organisation attains (customers, employees, society, and other key results).

To develop each criterion with more detail, these contain a variable number of subcriteria. Altogether, the model considers 32 sub-criteria which are to be approached when carrying out the complete self-assessment (EFQM, 2003, 2010, 2013).

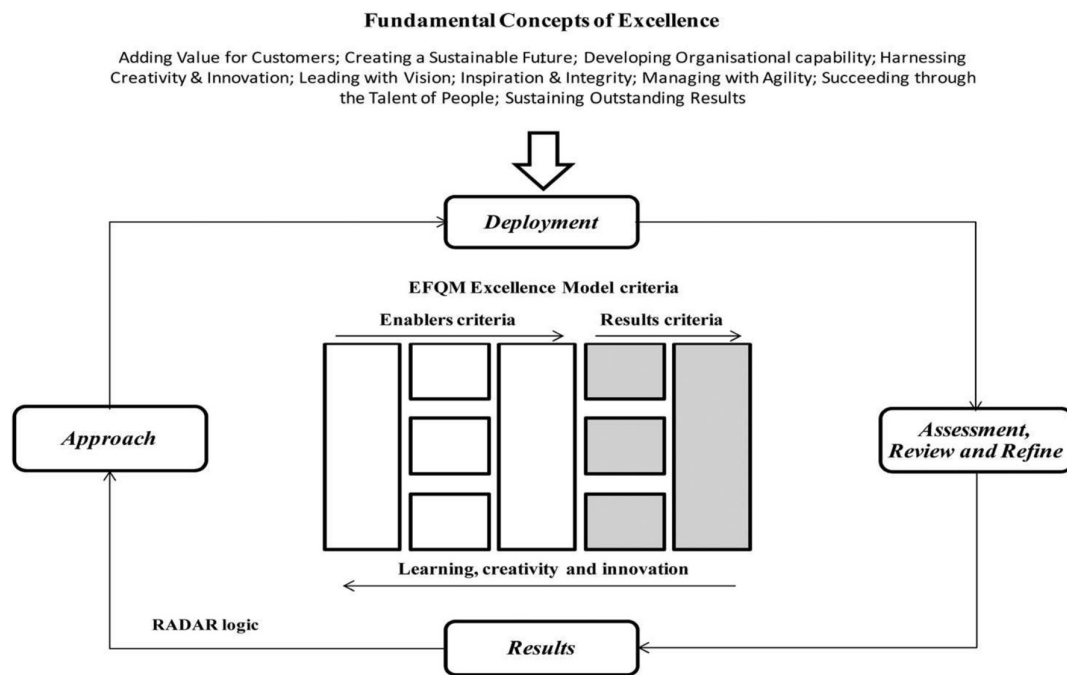


Figure 1. The structure of the EFQM Excellence Model.

On the other hand, the RADAR logic scheme provides a structured approach to making the self-assessment on the basis of the EFQM model. The elements Approaches, Deploy, Assess and Refine are applied to the agents criterion and contribute evidence on how the organisation is doing. The Results element is used to assess the results criterion and analyse what the organisation obtains, as a result of its efforts.

In the EFQM model has been incorporated the growing importance of the CSR and sustainability for the management excellence in the organisations. For example, in the 2003 version CSR was first introduced as a Fundamental Concept, whilst in 2010 100 points were given to criterion 8 instead of the 60 points of the previous version. The 2013 version included, for the very first time, topics such as positive impact in the organisation, triple bottom line, and accountability.

### **2.2.1. Social impact and fundamental concepts of excellence**

The aspects related to the social impact of the organisation are present in the fundamental concepts and, specifically, in the so-called Creating a sustainable future. In this regard, excellent organisations adopt a strict ethical approach, are transparent, and are accountable to their stakeholders for their performance as responsible organisations. They consider and promote social responsibility and environmental protection.

The social responsibility of organisations is defined in their values and integrated into them by means of public and transparent commitments, which contemplate all stakeholders. In addition, they satisfy and exceed the expectations, standards, and laws that are applicable to them. Also, they manage risks, and they seek and promote opportunities to collaborate with society in mutually beneficial projects, promoting and maintaining a high level of confidence among their stakeholders. They are aware of their impact on the present and future community and they are concerned about reducing any adverse impact to the minimum (EFQM, 2003, 2013; Olaru, Dinu, Stoleriu, Sandru, & Dinca, 2010).

### **2.2.2. Social impact and the EFQM Excellence Model criterion**

Within the results criterion, Society Results analyses the social impact of the organisation. In this point, it is necessary to highlight that for the EFQM Excellence Model, 'society' will be the parties which are in some way interested in the organisation, with the exception of shareholders, customers, suppliers, and employees, as these stakeholders are considered in the rest of the results criterion.

Criterion 8 indicates that excellent organisations take exhaustive measures and reach excellent results with respect to society, including the collaboration of the organization with philanthropic activities, relationships with authorities, ethics, social responsibility, environment protection, etc. Within criterion 8 there are 2 sub-criteria: 8a. Measures of perception and 8b. Performance indicators which specify and detail how to reach and improve the social impact of the organisation.

Moreover, despite CSR and sustainability having a strong presence in social results criterion, this is not the only criterion in which EFQM included them. The fundamental concept of excellence 'Creating a sustainable future' is related in three sub-criteria in Leadership, one in Strategy, two in Partnerships and Resources, and one from Processes (EFQM, 2013).

In short, it can be seen that the EFQM Excellence Model includes the most significant aspects of CSR when approaching the analysis of the social impact of an organization (Ascigil, 2010; McAdam & Leonard, 2003; Olaru et al., 2011). More specifically, Kok et al. (2001) conclude that criterion 8 of the EFQM Excellence Model contemplates 9 of the 14 aspects that these authors consider essential to CSR: Community relations, social responsibility and new opportunities, minorities/diversity and working conditions, ethics awareness, education and training, consumer relations, natural environment, supplier relations, and the physical environment.

## **3. Research model and hypotheses**

The research model and the hypotheses (Figure 2) have been posed, based on the structure of the EFQM Excellence Model, its basic premise, and the review of the specialised literature on TQM, the EFQM Excellence Model, and CSR. Regarding TQM practices, the enablers of the EFQM Excellence Model have been taken as reference and, more specifically, the grouping made by Calvo-Mora et al. (2014). Through



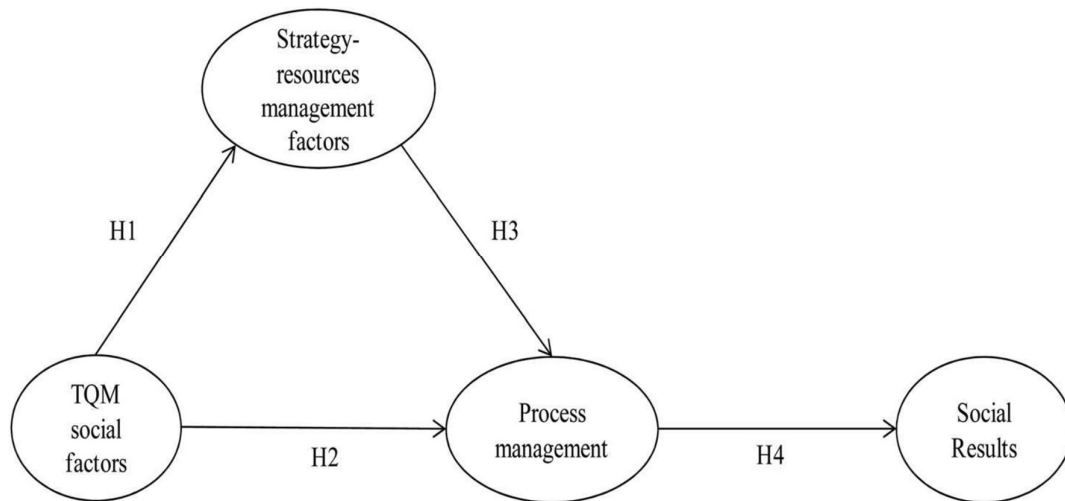


Figure 2. Research model and hypotheses.

a factor analysis, the study summarises the enablers of the EFQM Excellence Model into three factors: Factor 1, which consists of the TQM social factors and includes leadership and human resources management. Factor 2, the strategic resources management of partners has elements related to strategy formulation and review. These are based on information, indicators, and organisational learning, as well as on factors related to external partnerships (suppliers and partners) and resource management. Factor 3, process management, encompasses the organisation's key processes in order to generate an increasingly greater value for the customers and other stakeholders (Table 1).

The grouping of the enabling agents from the EFQM model produced by Calvo-Mora et al. (2014) was chosen as reference, as it allows working with an operationally simpler research model (3 constructs or latent variables, instead of the 5 contained in the original EFQM model). In addition, the proposed model is complete, as it includes the key elements of the TQM identified in the literature (Rahman & Bullock, 2005). The grouping of the enabling agents of the EFQM model into soft, strategic, and hard is also used in other studies such as those by Boullusar et al. (2009), Brown (2002), and Reiner (2002).

In short, the research model is based on finding which quality management practices may facilitate the development of social responsibility. More specifically, an organization can manage and improve its impact on society through the management and improvement of its key processes. However, for an efficient management of the processes, the organisation must have the participation and involvement of its leaders and its people (social factors), as well as a suitable strategic management of its resources and external alliances with the main partners with which it interacts (strategic resources management factors).

### 3.1. TQM social factors as drivers of TQM initiatives

The leadership of the management and the involvement of the human resources are considered determining factors for the success of the TQM and CSR initiatives (Fotopoulos & Psomas, 2010; Pedersen & Neergaard, 2008). Thus, the management must act as a guide and driver in the process of implementation of the EFQM Excellence Model, and must create and spread the values of excellence in management, as well as establishing goals and objectives that are consistent with these values (Calvo-Mora et al., 2014). From the CSR perspective, leaders must consider the needs of all stakeholders, creating models of ethical and socially responsible behaviour at all levels of the organisation (Tari', 2011).

Table 1. Measurement model evaluation.

Dimension/indicator (EFQM model sub-criteria)	Loadings
<b>TQM social factors (Composite reliability = 0.9662; AVE = 0.7047)</b>	
1a. The leaders develop the mission, vision, values, and ethical principles and act as a reference model of an excellence culture	0.8857
1b. The leaders personally involve themselves to guarantee the development, introduction, and continuous improvement of the organisation management system	0.8688
1c. The leaders interact with customers, partners, and representatives of society	0.8168
1d. The leaders reinforce an excellence culture among the people of the organization	0.8762
1e. The leaders define and boost change in the organization	0.783
2a. Strategy is based on the current and future needs and expectations of the stakeholders	0.818
2d. Strategy is communicated and deployed via a scheme of key resources	0.8797
3a. Planning, management, and improvement of human resources	0.8676
3b. Identification, development, and maintenance of the people's knowledge and Capacities	0.8343
3c. Involvement and assumption of responsibilities by people in the organisation	0.8305
3d. Existence of a dialogue between the people and the organization	0.8066
3e. Rewards, recognition, and attention to the people of the organization	0.7984
<b>Strategy-Resources management factors (Composite reliability = 0.932; AVE = 0.662)</b>	
2b. Policy and strategy are based on the information of the indicators of performance, research, learning, and external activities	0.8816
2c. Policy and strategy are developed, reviewed, and updated	0.8287
4a. Management of the external alliances	0.7558
4b. Management of the economic resources	0.815
4c. Management of the buildings, equipment, and materials	0.793
4d. Management of technology	0.8255
4e. Management of information and knowledge	0.793
<b>Process management (Composite reliability = 0.939; AVE = 0.7552)</b>	
5a. Systemic design and management of the processes	0.7976
5b. Introduction of the necessary improvements via innovation, in order to fully satisfy the stakeholders, increasingly generating a greater value	0.9049
5c. Design and development of the products and services based on the needs and expectations of the customers	0.905
5d. Production, distribution, and attention service of products and services	0.8621
5e. Management and improvement of the relationships with customers	0.871
<b>Social results (Composite reliability = 0.8997; AVE = 0.8176)</b>	
8a. Perception measures	0.8992
8b. Performance indicators	0.9092

However, to achieve success, management commitment alone is not sufficient, but its involvement must also be demonstrated through investment in different resources (material, financial, knowledge, and technological) which support the attainment of the objectives and the improvement of all the processes (Suárez, Rolda'n, & Calvo-Mora, 2014). In addition, the organisation, through the management and its leaders, must try to obtain the commitment and involvement of all the personnel (Tutuncu & Kucukusta, 2007) and, in return, to empower their participation in the decision-making and improvement activities (Seinor & Swailer, 2004). To achieve this, the leaders must influence their employees, not only through the more technical aspects of the work, but also through the psycho-emotional and ethical dimensions of the work (Tari', 2011). These actions will lead to the correct execution and improvement of the processes of the organisation, which will lead to improved results. Finally, the crucial role played by the management and human resources in the formulation, deployment, implementation, and control of the policies and strategies of the organisation must not be forgotten. On the basis of the previous arguments, the following research hypotheses can be formulated:

*H1: TQM social factors are positively related to strategy and resources management.*

*H2: TQM social factors are positively related to process management.*

### **3.2. Relationship between Strategy-Resources management factors and process management**

In accordance with the principles of TQM and CSR, organisations must implement their mission and vision developing a stakeholder-focused strategy. For this, they must make an internal and an external analysis to know the needs and expectations of the interested parties and to later incorporate them into their strategies, policies, and plans (Tarí, 2011). To make a reality of the strategy, policies, and plans, the key processes must be identified, managed, and improved.

In addition, excellent and socially responsible organisations plan and manage their alliances with suppliers, providers, distributors, competitors, and other external partners, as well as their internal resources in support of their policy and strategy and the effective operation of their key processes (Calvo-Mora et al., 2014; Pedersen & Neergaard, 2008). In this respect, collaboration with external partners is a necessity for all organisations embarking on a TQM project and which attempt to achieve success. Thus, efforts must be made to involve certain partners in the improvement of the processes, as these activities contribute to promote excellence and to generate value for the final customers (Suárez et al., 2014). Internally, the organisation must manage its resources (economic, material, technological, information, and knowledge), as well as its distinguishing capacities in such a way that the key processes are carried out effectively and efficiently (Bou-Llusar et al., 2009), without forgetting the social and ethical repercussions that the activities of the company have internally and in the environment (Westlund, 2001). In accordance with the above, the following research hypothesis of investigation has been formulated:

*H3: Strategy and resource management are positively related to process management.*

### **3.3. Relationship between process management and social results**

The EFQM Excellence Model establishes that the processes are the connecting link between the remaining key factors of implementation of the TQM and the results. Perianez-Cristobal, Calvo-Mora, and Navarro-Garcia (2014) indicate that organisations act more efficiently and obtain better results when all their activities are developed and managed as processes. Management by processes is a broad concept that includes the design of products, services, and operational processes that fulfil the expectations of stakeholders; the prevention of errors; control; and continuous improvement (Sila & Ebrahimpour, 2003). These aspects have a direct influence on the operational and economic results of any type of business (Kaynak, 2003). Furthermore, the development of the processes in a more efficient manner, that is to say, using less resources and, in short, being more productive and sustainable, has positive effects on the society in which the company operates through creating a better reputation and image (McAdam & Leonard, 2003). This image improvement has its origins in the socially responsible companies generating employment within the community; promoting equality of opportunities; having a fluid relationship with the authorities and social agents; supporting activities promoting health, culture, and sport; undertaking activities aimed at reducing and avoiding the annoyance, damage, and waste resulting from the services rendered or the products made; and evaluating and using the means necessary to be respectful towards the environment (Olaru et al., 2011; Tarí, 2011). In accordance with the above arguments, the last research hypothesis can be formulated:

*H4: Process management is positively related to the Results in society.*

## **4. Methodology and data analysis**

### **4.1. Sample**

According to data contributed by the Centres of Excellence (an association which unites the efforts of Excellence Promoting Centres throughout Spain, and which manages the Excellence Awards of the different Spanish Autonomous Communities), the total number of organisations subjected to complete assessments during the period 2003-2010 was 355. After contacting the different regional associations, a total of 116 (32.67%) complete assessments were provided.

The final sample was formed by 116 Spanish companies in private ownership, including 56 small and medium enterprises (SMEs) (48.3%) and 60 large organisations (51.7%).

For the purposes of this study, and according to the criteria of the European Union (Recommendation of the European Commission 96/280/EC), SMEs will be considered as those which employ less than 250 people, whose annual volume of businesses does not exceed 50 million euros, or whose annual general balance does not exceed 43 million euros. In addition, the sample represents diverse sectors and productive activities. More specifically, the sample is formed by 55 companies in the service sector (47.41%), 51 in the industrial and construction sectors (43.97%), and 10 pertaining to agriculture and mining (8.62%).

### **4.2. Data**

The data were collected from the results of the self-assessment and external assessment process followed by the sample of Spanish companies using EFQM Excellence Model as a reference, between 2003 and 2010. The methodology of self-assessment followed by the companies was that of working groups. This methodology helps management to have a better understanding of the model, reinforces its commitment to the implementation, and the discussion and confrontation of ideas by members of the group create a common vision of the situation of the organisation and allow a consensus to be reached on strong points and areas of improvement (Tari' Guillo', López Gamero, & Molina Azorín 2007).

The scores of the companies are derived from applying the RADAR logic and its scoring matrices to the criterion of enabling agents and that of results. The scoring scale of the RADAR matrices for the enabling agents is divided into five sections that range from value 0 (no evidence) to value 100 (total evidence). For the 'results' criterion, the scale also varies between 0 and 100, but the significance of the extreme values changes according to the type of result that is being analysed (trends of the results, fulfilment of

objectives, comparisons with other companies, causes of the results, or sphere of application) (EFQM, 2013).

It can be said that the RADAR logic is a variant of the PDCA (Plan-Do-Check-Act) or Deming improvement cycle. The most important difference is that the RADAR model suggests that before Planning what is going to be done (Approach), it is necessary to determine the 'Results' that are required (the objectives). This reinforces the importance of the cause-and-effect relationship between the processes (what is done) and the results (what was obtained). The 'Deployment' is equivalent to the 'Do' of the improvement cycle and 'Assessment and Review' are equivalent to the last two steps, 'Check and Act'

(EFQM, 2013).

### **4.3. Measures**

The measures used to obtain the data are the 5 criteria which form the enabling agents of the EFQM Excellence Model and their 19 sub-criteria. As indicated previously, these criteria and sub-criteria were grouped into three dimensions or variables obtained after a previous factorial analysis (Calvo-Mora et al., 2014). These dimensions represent the TQM social factors, as well as the factors of a strategic and technical nature.

For the measurement of the results in society, criterion 8 (Table 1) was used. More specifically, perception measures and performance indicators are used. The perception

measures analyse the opinion that stakeholders of the company may have about the organisation. Specifically, the EFQM Excellence Model summarises the perception measures into five areas: environmental impact; image and reputation; impact in society; impact in the workplace; and awards and press coverage.

The performance indicators are internal measures that the organisation uses to supervise, understand, predict, and improve the performance of the management of its impact in society and to predict its perception. These indicators must give a clear idea of the effectiveness and efficiency of the deployment and execution of the social and environmental strategy, its support policies, and its processes. The EFQM Excellence Model identifies five possible spheres on which these measures can be focused: environmental results; fulfilment of the legislation and the different official standards; results in society; results with respect to health and safety; and socially responsible management of purchases and suppliers.

#### **4.4. Data analysis: partial least squares (PLS)**

The research model was tested using a structural equations model based on the variances, specifically, the PLS technique (Reinartz, Haenlein, & Henseler, 2009). This technique, which uses the Ordinary Least Squares (OLS) algorithm, is designed to reflect the theoretical and empirical conditions of social sciences and behaviour, where there are usually situations with insufficiently based theories and scarce information available (Chin, 2010). PLS allows the simultaneous evaluation of the measurement model and the structural model (Roldan & Sánchez-Franco, 2012). SmartPLS 2.0.M3 software was used (Ringle, Wende, & Will, 2005).

### **5. Results**

PLS methodology starts from the graphical description of the structural model. It is matter of representation by means of symbols of the relationships existing between the latent variables (constructs), and of the relationships existing between the indicators and the constructs of the measurement model. The latent variables are represented by means of circles, being able to distinguish between independent (exogenous constructs) and dependent variables (endogenous constructs). In this study, the independent variable would be the social results construct, with the rest being endogenous constructs. The arrows, and their direction, indicate the predictive relationships (hypothesis) between the latent variables (Figure 2).

Roldan & Sánchez -Franco (2012) indicate two stages in any PLS analysis: the evaluation of the measurement model and the evaluation of the structural model.

#### **5.1. Evaluation of the measurement model**

Given that the measurement model has been designed as reflective, its evaluation has to be based with regard to reliability and validity (Roldan & Sanchez-Franco, 2012). In this vein, loadings of both indicators and dimensions exceed the 0.707 threshold. Consequently, indicators and dimensions are reliable. Constructs present high internal consistency since its composite reliability indexes are above 0.7. In addition, convergent validity is achieved for all latent variables because the average variance extracted (AVE) ratios surpass the 0.5 benchmark (Table 1).

Finally, Table 2 shows that the square root of the AVE of each latent variable is greater than its correlations with any other latent variable. Thus, discriminant validity is reached, and it can be concluded that the main constructs measure different aspects.

Table 2. Discriminant validity.

	TQM social factors	Strategy-Resources management factors	Process management	Social results
TQM social factors	<b>0.8394</b>			
Strategy-Resources management factors	0.8097	<b>0.8140</b>		
Process management	0.7419	0.7958	<b>0.8690</b>	
Social results	0.451	0.5096	0.4693	<b>0.9042</b>

Note: Diagonal elements (bold) are the square root of the variance shared between the constructs and their measures (AVE). Off-diagonal elements are the correlations among constructs. Table 3. Effects on endogenous variables.

## 5.2. Evaluation of the structural model

The structural model was evaluated based on the algebraic sign, magnitude and significance of the structural path coefficients, the  $R^2$  values, and the  $Q^2$  (redundancy) test for predictive relevance (Roldan & Sanchez-Franco, 2012). Consistent with Hair, Hult, Ringle, and Sarstedt (2013), bootstrapping (5000 resamples) was used to generate standard errors, t-statistics, and percentile 95% confidence intervals. The endogenous constructs achieve  $R^2$  values higher than 0.22, highlighting the value reached for the variable for Strategy-Resources management (0.6556). This is higher than the substantial level indicated by Chin (2010). In addition, Table 3 shows the amount of variance that each antecedent variable explains on each dependent variable.

A predicting variable would have to explain at least 10% (0.1) of the variance of the variable that it predicts (Roldan & Sanchez-Franco, 2012). In this case, all the relationships posed in the structural model fulfil this rule. The influence that the TQM social factor variable exerts on the rest of the variables is highlighted on explaining more than 65% of the variance of the Strategy-Resources management variable, and indirectly (through the two previous variables), explaining more than 22% of the Social Results variable.

In order to measure the predictive relevance of the dependent constructs, the Stone– Geisser test ( $Q^2$ ) is used as a criterion. According to Chin (2010), if  $Q^2 > 0$ , the construct has predictive relevance. In the current model, all the values of  $Q^2$  of the dependent constructs display values over 0.18, which is why it can be said that the model has predictive relevance.

In order to be able to verify the posed hypothesis, the precision and stability of the obtained estimations must be assessed. For this purpose the Bootstrap technique was used, which offers the standard error and the t values of the parameters. Following Roldan and Sanchez-Franco (2012), a Bootstrap test of 5000 subsamples was generated and a one-tailed Student t-test distribution with  $n - 1$  degrees of freedom, where  $n$  is the number of subsamples to calculate the significance of the coefficients path. From these levels, the significance of the structural paths is obtained and, therefore, the support, or not, of the hypothesis (Figure 3 and Table 3). Specifically, the four hypotheses posed in the research were confirmed with maximum levels of significance.

Table3 Effects on endogenous variables

Exogenous variables	Direct effect	Correlation	Indirect effect	Endogenous variables	Variance explained
SF	0.8097	0.8097	–	SRMF (R2 = 0.6556; Q2 = 0.4551)	65.56%
SF	0.2618	0.7419	0.4684	PM (R2 = 0.6547; Q2 = 0.4415)	19.42%
SRMF	0.5786	0.7958	–		46.05%
SF	–	0.451	(0.1228)+(0.2198) =0.3426	SR (R2 = 0.2203; Q2 = 0.18)	22.03%
SRMF	–	0.5096	0.2715		
PM	0.4693	0.4693	–		

Note: SF (TQM Social factors); SRMF (strategy-resources management factors); PM (process management); SR (Social results). \_\_p , .001 (based on t(4999), one-tailed test). t(0.05, 4999) = 1.645, t(0.01, 4999) = 2.327, t(0.001, 4999) = 3.092. Sig. denotes a significant direct effect at 0.05. Bootstrapping based on n = 5000 subsamples.

## 6. Discussion

The results support the reliability, validity (Tables 1 and 2), and the high predictive power of the EFQM model as a framework for the implementation of TQM practices and for the measurement of the social impact of the organisation. It presents explained variance ( $R^2$ ) values above 0.22, as can be observed in Table 3 and Figure 3. Moreover, the proposed model shows a high predictive validity, since the  $Q^2$  coefficient value is above 0 (Table 3 and Figure 3).

More specifically, the research findings show that to obtain excellent social results, it is necessary to have a set of TQM enablers or practices present in the EFQM Excellence Model, which the systemic nature of TQM confirms (Bou-Llusar et al., 2009; Eskildsen & Dahlgard, 2000; Zenko, Hrast, & Mulej, 2013). In spite of this, not all of the TQM practices have a direct or equally important influence on the social results. Thus, the direct and significant relationship between Process management and Social results ( $H4$ ) is confirmed. The importance of the processes in the social results is also reflected in the percentage of variance ( $R^2= 22.03\%$ ).

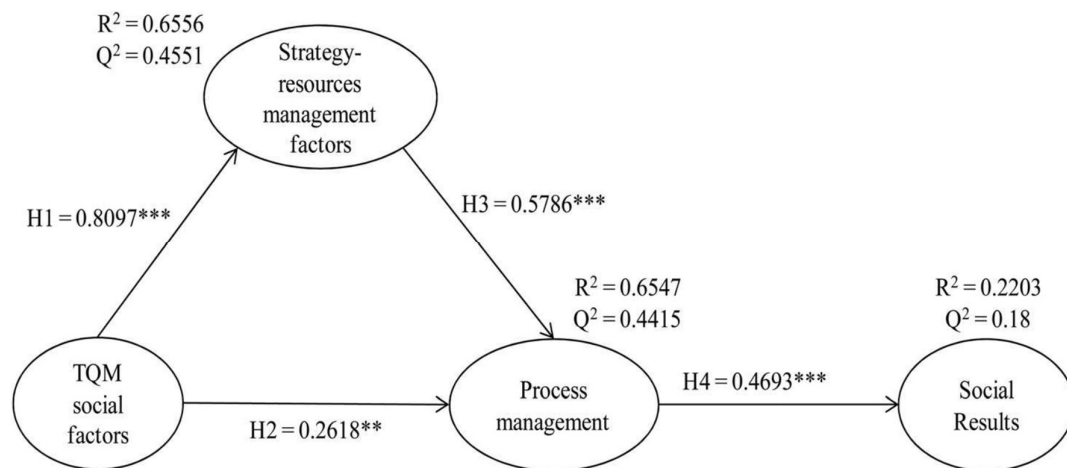


Figure 3. Structural model results.

The impact of the processes on the results that the organisation reaches in society has been indicated in the studies by Al-Tabbaa, Gadd, and Ankrah (2013), Benavides-Velasco, Quintana-García, and Marchante-Lara (2014), and Olaru et al. (2011). More specifically, Álvarez García, Rama, Vila Alonso, and Fraiz Brea (2014), in a structural analysis of the enabling agents of the EFQM model and the social impact, find positive and significant relationships between management by processes and social impact (0.371;  $R^2= 13.8\%$ ). However, in our work, the relationship between both variables and the explanatory variance percentage is more elevated.

The proposed model also shows that the social impact of the organisation cannot be improved solely by orienting the key processes and activities of the organization towards a socially responsible management (Rocha, Searcy, & Karapetrovic, 2007). The involvement of the main suppliers and partners, the efficient management of the resources, and the strategic consideration of quality and the CSR (Strategy-Resources management factors) are also critical variables. This fact is in accordance with that pointed out by Alvarez Garcia et al. (2014), Abdullah et al. (2008), and Rahman and Bullock (2005). This aspect is verified on analysing the very high influence that these variables have on Process management (*H3*), which explains 46.05% of its variance (Table 3). In addition, the Strategy-Resources management factors have an indirect influence on Social results (Table 3).

Finally, the obtained results show that companies which wish to improve their results and their social impact must take into account that TQM social factors are the most important in this respect. In this respect, management leadership and people management indirectly affect the social impact through their influence on the Strategy-Resources management factors and Process management variables (Indirect effect = 0.3426). In addition, TQM social factors have a significant direct effect on Strategy-Resources management factors (*H1*) and Process management (*H2*) and explain a high percentage of the explained variance of both variables, specifically 65.56% and 19.42%, respectively (Table 3). Although not directly related to the social impact, the existence of multiple indirect effects, between the key factors of TQM and the results, has also been studied by Curkovic et al. (2000), Suarez, Calvo-Mora, and Roldan (2016), and Tutuncu and Kucukusta (2007).

## **7. Conclusions, limitations, and future research lines**

### **7.1. Academic and theoretical implications**

As has been indicated in the discussion, it is not possible to find a unique management factor which affects the results that the organisation achieves in society. This fact corroborates the multiple relationships that exist between the agents (criteria and sub-criteria of the EFQM model) which form the management system. Below, we present the relationships which we consider the most important for the improvement of the social impact of the organisation.

- The whole process begins with the leadership. The highest managers must create the ethical and social principles and values of the organisations. They must also lead by example of involvement with, and fulfilment of, these principles and values as cultural bases, through action and behaviour. These principles and values must be translated into actions by the management in response to the demands of society. These aspects are included in the Social factors of the proposed research model.
- The integration of the aspects related to CSR into the policy and strategy. The key elements for this are as follows: (1) the communication and the results of the CSR policy of the organisation; (2) the policies and equality of opportunities; (3) demand for the fulfilment of values and the development of actions in CSR from suppliers and partners; and (4) the implementation of standardised systems of management in matters of the environment (ISO 14000) and CSR (ISO 26000). These elements are included in the



Strategy-Resources management factors and process management dimensions of the proposed model.

### **7.2. Implications for business management**

The concern of the organisation about satisfying the expectations of the people and institutions related to it obliges it to consider in its strategy the need to act in terms of social responsibility and to measure its impact in the society in which it undertakes its activity. Still recognising the inherent subjectivity of organisational ethics, understood in its widest sense, the respect of certain social standards (whether sanctioned by the effective legality or not) forms part of a TQM, which seeks long-term objectives. This may lead to the sacrifice of obtaining certain short-term profits in the interest of the opportunity to show attitudes which contribute to a positive social image of the organisation. In a broader sense, the management and continuous improvement of quality involve considering the social customer as consisting of the different segments that constitute the organisational macro-environment (political-legal, economic, environmental, and sociocultural). In addition, the organisation must not forget that the relationships with its stakeholders are based on a balance between rights and obligations; that is, they must not only receive, but also give. Thus, a relationship of confidence between an organisation and society can arise which will lay the foundations of a socially responsible behaviour.

### **7.3. Recommendations for assessment and improvement of social impact**

A series of actions are detailed below that companies would have to develop to effectively assess what they are doing to satisfy the social client and how to improve their positioning and social image:

- Clearly identify the stakeholders that it includes in the group called 'society', as well as their needs and expectations.
- Establish objectives related to social impact: image; degree of influence on the local and national economy; ethics; support to educational, sporting, or cultural activities; philanthropic or support activities to not-for-profit organisations; prevention of occupational risks; protection and preservation of the environment; etc. .
- Maintain the commitment and involvement of the leaders and highest managers of the organisation, who must create the ethical values and give an example of their application as cultural bases of actions and behaviour.
- Involve and motivate all the people of the organisation and make them see the importance of their role in the improvement of the social impact.
- Demand ethical and socially responsible values and behaviour from the main suppliers and partners.
- Explicitly establish a policy and strategy relating to social responsibility.
- Implement suitable channels for gathering information, communicating and relating with society, and evaluating their effectiveness (surveys, reports, news in the media, meetings with interest groups, Market research, etc.).
- Identify and effectively manage the key processes involved in the relationships that the company maintains with society and which can have the greatest impact on it.
- Establish programmes and plans and assign specific resources to improve the social impact.
- Design a system of measurement indicators that allow the monitoring of the effectiveness of the processes, programmes, and plans related to the social impact of the organisation.
- Establish the mechanisms for informing and maintaining a fluid dialogue with the social stakeholders.

#### 7.4. Limitations and future research lines

The interpretation of the results and conclusions of this study are subject to a series of limitations. The first limitation is due to the technique used for the proposed model: structural equation modelling, which assumes the linearity of relationships between the latent variables. The second is related to the notion of causality. Our study has considered a soft modelling approach, oriented more towards prediction than causality. The third limitation refers to the design of the research being cross-sectional instead of longitudinal. The fourth limitation is related to the sample and data collection. In this sense, the sample size and the period of time in which the data have been collected (six years) may affect the interpretation of the results and conclusions. Finally, the geo-graphical area selected for analysis can affect the results and conclusions. In this respect, ethical values and social orientation of the companies can be different from one geo-graphical context to another.

The indicated limitations constitute challenges for the development of new research. In particular, we can indicate the following: (1) To verify if the results obtained with our research can be replicated, segmenting the sample by size; (2) to deepen the understanding of the indirect relationships in the model through the analysis of the mediating effects of the Strategy-Resources management factors and Process management variables.

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