



The impact of quality management in European companies' performance

The case of the Spanish companies

Ñaki Heras Saizarbitoria and Germán Arana Landín
*Dpto. Organización de empresas, Universidad del País Vasco,
San Sebastian, Spain, and*

Martí Casadesús Fa
Dpto. de Organización, Universidad de Girona, Girona, Spain

Abstract

Purpose – This paper aims to analyse and show the influence on European companies' performance of the two most important models for quality management (QM) practice popularised in recent years: the ISO 9000 and the European Foundation for Quality Management models.

Design/methodology/approach – The methodology is a qualitative survey carried out in Spain using the Delphi method, based on previous research work. The results of this research were analysed and triangulated with the results of other surveys carried out previously, as well as with information gathered during several in-depth interviews of the experts that participated in the Delphi panel.

Findings – In the opinion of the panel of experts, the implementation of QM models in the studied region has had a positive influence on company results, mainly through the improvement of operations, efficiency and the costs of companies' internal activities.

Originality/value – This is one of the first papers that show us the different impact of this kind of QM model in Europe.

Keywords ISO 9000 series, European Foundation for Quality Management, Quality management, Total quality management, Delphi method, Spain

Paper type Research paper

Introduction

The final decades of the twentieth century witnessed the forceful emergence onto the European business scene of a new culture, movement or paradigm of company management, focussed on the concept of quality (Dale, 2002). Originally, it was a movement whose impact was limited to the industrial sector, following a natural evolution of models, regulations and techniques included within the traditional sphere of quality management (QM). Nevertheless, over the years these initiatives spread and became popularised, reaching almost all sectors of the economy: financial services, education, social services, health care, etc. In Europe, specifically, the rise of QM in the world of business is normally associated with the implementation of quality systems



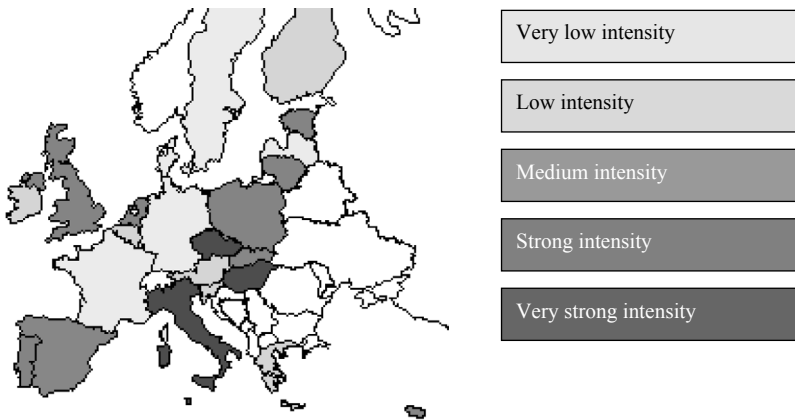
based on the ISO 9000 international standards and of the excellence model of the European Foundation for Quality Management (EFQM), one of the international models for establishing total quality management (TQM) systems in companies.

The ISO 9000 standards are now associated with the implementation of quality assurance systems (QAS), although in its actual version concepts like continuous improvement and client satisfaction have a greater weight, and key terminological changes have even been made. For example, in accordance with what is included in the standard itself, QAS has become quality management systems (QMS). According to some authors, the standards have even changed to the point of establishing themselves as a model of TQM, a claim which has not been exempt from discussion and controversy (van der Wiele *et al.*, 2000, 2001; Dale, 2002).

It is important to emphasise that, while global in scale, in the early stages these standards spread primarily through the countries of the EU, and especially in the UK; it must be remembered that the ISO 9000 regulations are based on the BS 5750 regulations developed by the UK standardisation body, the British Standards Institution in 1979. For good reason the European Commission established them as a priority objective (Hardjono *et al.*, 1997). By 1996 the countries of the EU had obtained more than 62 per cent of the worldwide certificates, of which more than 50 per cent had been issued in the UK.

A concept based on certification intensity with respect to GDP (Arana, 2003) has been elaborated to compare certification levels in each country. Figure 1 provides a graphic illustration of that indicator, defined as the relation between the percentage of ISO 9000 certificates from each country and its percentage of contribution to the European GDP. An analysis of the indicator provides an initial approximation of the average “level of quality” of companies from each country.

The analysis of this indicator, shown in Figure 1, shows how Hungary, Malta, Czech Republic and Italy were the leaders during 2003. Spain and Italy were two of the countries with a highest increase of this indicator, compared with Germany and UK, the unquestionable leaders during the last years and with an important decrease during the last period. This fact seems to indicate first symptoms of “fatigue” with



Source: Prepared from data obtained from ISO (2003) and from EUROSTAT (2004)

Figure 1.
Certificate intensity in the
countries of the EU-25
in 2003

respect to the certification of systems of management in the industrialized countries. On the other hand, regarding the evolution of the use of the EFQM model, an analysis like the one carried out for the ISO 9000 cannot be completed, because it is not a certifiable model and there is no unified record of the number of companies that have implemented it. However, some relative and interesting data can be extracted from the information regarding the recognition granted to it by various national and international organizations.

Standing out at the European level, for example, are the “European Quality Awards” granted by the EFQM for the implementation of TQM. Delving deeper into this analysis, there is an EFQM database with information about companies that have been successful in terms of quality (Successful Organisations Database). It is organised into four different categories (from lowest to highest level: “Committed to Excellence”, “Recognised for Excellence”, “European Quality Awards Finalist” and “European Quality Awards Winner”). Among the 226 companies within this database there are 41 Greek companies (35 in the lowest category), 31 German companies (20 in the lowest category), 28 companies in the UK (seven in the lowest category) and 28 Spanish companies (seven in the lowest category). Nevertheless, it should be mentioned that if the lowest level category, “Committed to Excellence”, is excluded from this database, in the remaining three (higher) categories there would be 21 Spanish companies, 17 companies from the UK, 11 German companies and only six Greek companies. A summary of that information is shown in Figure 2; the database, however, only includes those companies surveyed from the year 2000 onwards.

Objectives of the study

Within academia, this rise in QM has been extensively analysed through numerous empirical studies, detailed in this section and related to an analysis of the existing literature. An important part of these empirical studies has been the effort to analyse the main effects of the implementation of these models on business results or performance. Table I presents a brief summary of the principal empirical studies carried out around Europe during the last five years. As can be seen in the table, most of the studies were quantitative and based on surveys directed at managers; and most

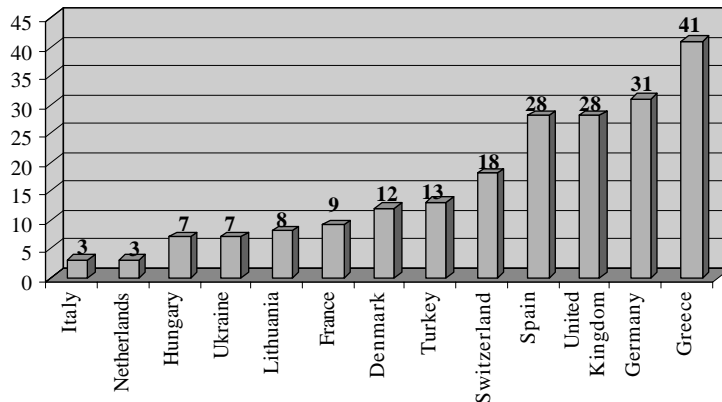


Figure 2. European organisations recognised by the EFQM as successful in terms of quality between the years 2000 and 2004

Source: Prepared from the Successful Organisations Database (EFQM, 2005).

Study	Methodology	Main conclusions
Häversjö (2000) 800 Danish companies	Database analysis	Certified companies are more profitable than non certified companies, although certification does not seem to be the cause of the increase in profitability
Romano (2000) 100 Italian companies	Survey mailed to managers	ISO 9000 certification contributes to improving quality costs, internal and external quality, and production times, although it increases inspection costs
Casadesús <i>et al.</i> (2001) 502 companies in Spain	Survey mailed to managers	65 per cent of the companies obtained improvements, internal as well as external, following implementation of the ISO 9000. The profit-motivation relationship stands out, given that the companies certified for internal reasons obtain greater profits
Merino (2001) 1,000 companies in Spain	Survey mailed to managers; case study	There are significant sectorial differences between QM practices and their influence on results. The companies reaching the highest indexes of QM implementation obtain the best results
Tari and Molina (2002) 106 companies in Spain	Survey mailed to managers	The companies in Alicante that have put QM into practice have improved business results, client satisfaction, employee satisfaction and social impact
Gotzamani and Tsiotras (2002) 85 large Greek companies	Survey mailed to managers	In the opinion of the managers, ISO 9000 contributes to improving internal company organization and operating results
Martínez-Lorente and Martínez-Costa (2002) 442 Spanish companies	Survey mailed to managers and databases	TQM has a positive effect on the operating results. However, the simultaneous application of ISO 9000 and TQM systems cancel those positive effects
Dimara <i>et al.</i> (2004) 94 Greek companies	Survey of managers and database analysis	The financial results of certified and non certified companies are analysed, taking into account their strategic orientation, which is, in the end, the variable affecting company profitability (and not the fact of being or not being certified)
Lagrosen and Lagrosen (2005) 266 Swedish organization	Survey mailed to Quality professionals	The results show that there is a correlation between the adoption of the values of TQM and successful QM. The usefulness of the ISO 9000, Swedish and European Quality Awards, as well as several of the QM tools is also indicated

Source: Prepared from the published studies presented in the table

Table I.
Principal studies
analysing the effects on
results of QM
implementation in
Europe

of the surveys were addressed specifically to managers and/or staff responsible for quality control in the companies surveyed. These studies, in our opinion, are possibly weakened and methodologically distorted by basing themselves only on opinions about the effects of the process of the company managers who had participated in the implementation process of the quality systems. As a result of this possible bias, the use

of commercial economic and financial databases as sources of information to verify the impact of QM models on company results has grown in the recent years. Even so, these studies are very limited when establishing causes for the relationships analysed, as is all highly well known and emphasised in the studies (Häversjö, 2000; Heras *et al.*, 2002, 2004; Dimara *et al.*, 2004).

For these reasons, in the present study we have considered it necessary to use a methodology that takes into account the opinions of a wide range of experts having a variety of functions in the implementation of QM models. The information thus obtained can be compared and triangulated with information obtained in previous empirical studies carried out with traditional methodology.

In short, the aim of this paper is to analyse the results of QM implementation among European companies and according to the models most commonly used in recent years (ISO 9000 and EFQM) with a new methodology, the Delphi method.

The Delphi method

The Delphi method, despite being a frequently used research technique in fields like medicine or sociology, has not been used very often in the area of knowledge of company organization, in general, and in the field of QM studies, in particular. According to the classic definition, the Delphi method is a general way of structuring the group communication process and making it effective enough to allow a group of individuals, functioning as a whole, to deal with complex problems (Linstone and Turoff, 1975, 2002). Consequently, as MacCarthy and Atthirawong (2003) point out, it is a systematic process which attempts to obtain group consensus resulting in much more open and in-depth research, since each member of the group contributes new aspects of the problems to be researched during the post-research phase. The renowned sociologist Castells (1999) claims that one of the bases of the Delphi techniques is rooted in the fact that they are more socially representative than statistics based on opinions of experts in the field under investigation.

Reid (1988) points out that one of the keys to success in this type research is an appropriate selection of panel members: they should be selected for their capabilities, knowledge and independence. In addition, it is advisable to form these groups with a minimum of seven and a maximum of thirty members (Linstone and Turoff, 1975; Denzin and Lincoln, 1994; Landeta, 1999; MacCarthy and Atthirawong, 2003) even though studies have been carried out with much more numerous groups of hundreds of people. Once the group of experts are created, a communication process is established as shown in Figure 3.

There are several important advantages or strengths to this method (Linstone and Turoff, 1975; Denzin and Lincoln, 1994; Landeta, 1999). First, the collective knowledge of the group will always be superior to the knowledge of even the best-prepared participant, since the knowledge of all the participants is mutually complemented. Secondly, with this method the opinions of each one of the members can be contrasted with the others. And, finally, there are more factors serving as objects of the study, given that each expert contributes to the general discussion ideas about the topic as seen from the viewpoint of a specific field of knowledge. There are, on the other hand, also weaknesses. Like all qualitative research methods, the Delphi method has been the focus of much criticism from the field of academic research where the use of quantitative methods dominates. Generally speaking, the scientific foundations of this

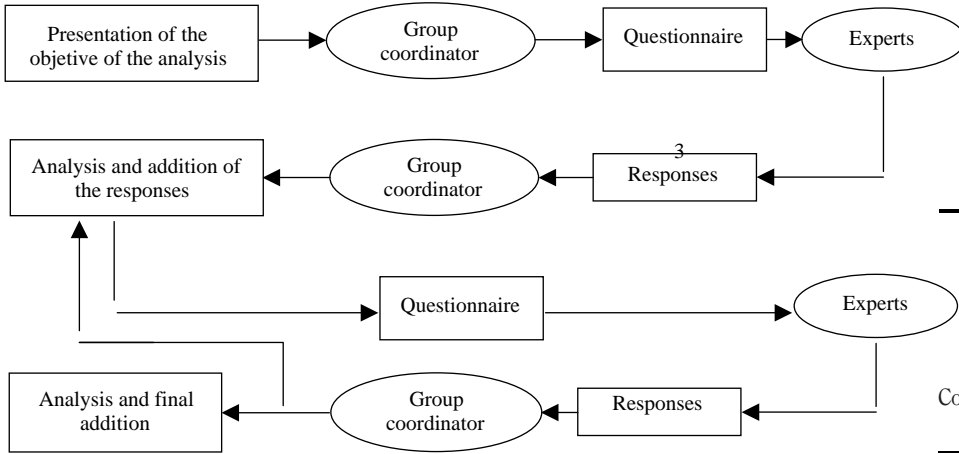


Figure 3.
Communication process in a Delphi study

method have been criticised (Sackman, 1975; Woudenberg, 1991) and, more specifically, criticisms have been made of the subjectivity inherent in a method which places such high significance on the opinions expressed by a small group of people.

Development of the empirical study

This study, carried out between May 2003 and June 2004, takes into account a series of precedents which, albeit in a summary way, are important to highlight. By the time of the planning stages, the authors had already had a certain amount of research experience carrying out empirical studies analysing QM system implementation processes and results. These studies were focussed on the analysis of implementing the ISO 9000 standards using quantitative techniques, questionnaires directed at the managers of certified companies (Casadesús and Heras, 1999; Casadesús *et al.*, 1996, 2001, 2004), and commercial economic and financial databases (Heras *et al.*, 2002, 2004).

In order to carry out this study of the ISO 9000 standard, which had experienced a spectacular increase in use, as well as of the implementation of the EFQM model, one of the most widely used models internationally and the most frequently analysed in academic literature, it was considered appropriate to use a qualitative investigative technique, which would complement and triangulate these results along with the methodology of previous research. Thus, a panel of experts was formed to carry out a Delphi-type research project to analyse the results of both the ISO 9000 standard and the EFQM model. Participating in the panel of experts (formed in May-June of 2003) were 27 QM professionals and specialists from the Basque Country: company managers, consultants, certifiers, academic specialists, assessors and members of institutions like *Euskalit* and the Knowledge Cluster[1]. The study was focussed on the Basque Country (Table II) because it is the region of Spain where QM has experienced the greatest boost and development (Heras *et al.*, 2003), and because the results obtained can be extrapolated to other regions of Spain, evidence of which has been presented in previous research efforts by the same authors (Casadesús *et al.*, 2001; Heras, 2001). Of course, it will be more interesting to develop this research including

Name	Activity	Selection criteria
J.E.	Manager of Balzers-Elay	A group of experts was formed of high level managers with experience in the implementation of QM systems. They came from companies with a variety of characteristics and objectives that had reached different levels of QM system implementation
I.U.	Manager of Grupo Egaña	
A.R.	Manager of ACICAE	
J.M.O.	Manager of Irizar	
J.M.C.	Manager of Naturcorp	
M.C.	Manager of MQM Corporation	
G.G.	Consultant from Easo Consultants	
J.M.A.	Consultant from Sayma Cons.	
E.I.	Consultant from Ibarzabal Ass.	
J.M.B.	Consultant from Dirección Integral y Desarrollo	
M.O.	Consultant from OPE Consultants	They formed part of a group of six consultants with extensive experience in the implementation of QM systems. Some of them were from large consultancy agencies while others were from smaller agencies that employed different working methods
I.I.	Consultant from HOBEST	
G.S.A.	Auditor from AENOR	
M.M.	Auditor from DNV	
P.S.	Auditor from Bureau Veritas	
J.M.	Auditor from TÜV	
M.B.	Assessor from Euskalit	
E.M.L.	Assessor from Euskalit	
I.M.L.	Assessor from Euskalit	
J.M.L.G.	Assessor from Euskalit	
R.E.	Specialist from academia	Also on the panel were a group of auditors belonging to the four principal accredited bodies operating in the Basque Country, which had issued 75 per cent of the ISO 9000 certificates
J.M.B.	Specialist from academia	
F.P.	Specialist from academia	
D.E.	Specialist from academia	
S.L.	Manager of Euskalit	
M.U.	Manager of Euskalit	
I.L.	Manager of the Know. Cluster	

Table II.
Members of the panel of experts

Source: Prepared by the authors

participants from many countries all around Europe, but it had not been possible at this time. In spite of that, we think that the results of this research could be very similar to the ones obtained in a huge research. The assessment work carried out by the *Euskalit Foundation* was crucial for the formation of the panel of experts.

The aim in the Delphi method is to progressively clarify and expand on issues, identify areas of agreement or disagreement and begin to establish priorities. In our research, the practical application of the method followed the following steps. An initial questionnaire (Table III) was sent to the panel of experts. As the method is iterative, and first aims to obtain a broad range of opinions from the target group, the initial questionnaire included in it was a series of very open-ended questions, based on the experience of the researchers and the contributions collected from the summarised literature. General questions to gain a broad understanding of the views of the experts relating to the problem were included in this questionnaire.

The pilot version of the questionnaire was reviewed and corrected by an assessment group formed by a manager, a consultant, an assessor and two academics with extensive research experience. The results of the initial survey were collated, summarised and the new questionnaire was prepared. Based on the responses to the first questions, these questions were analysed more deeply into the topic to clarify specific issues.

Fields	Analysed items
Introduction of QM development	In your opinion, which have been the most important reasons for the success of the ISO 9000 norm in the Spanish companies? Under your point of view, which are the main reasons for the TQM success in the Spanish companies? What do you think about the future development of the implementation of the ISO 9000 norm in the Spanish companies?
Main motivations for the introduction of QM Impact of QM in the performance of the companies	In your view, which have been the main reasons for the companies to introduce ISO 9000 norm and TQM models? In your opinion, which items of the companies' performance are influenced by the implementation of the ISO 9000 and TQM models? What do you think are the effects that the ISO 9000 and TQM models have in the following indicators of the companies?
Difficulties and satisfaction of the implementation	In your view, which has been the most difficult factor to take on in the implementation of the ISO 9000 and TQM models? Do you think that a change of mind has taken place for managers, middle managers and employees concerning the ISO 9000 norm and TQM models? If so, has it been for good? In your opinion, are the companies satisfied with the implementation of the ISO 9000 and TQM models?
Main reflections	If you think that in the next questionnaire we should include another question or item to be analysed, please make a comment

Source: Prepared from our first questionnaire

Table III.
Summary of the different analysed items in the first round of the Delphi studio

In principle, as had been gathered from reading the specialised literature on the method, two rounds of consultations with the experts were anticipated, with the possibility of a third round, if the consensus reached was not adequate. Once the questionnaires had been circulated twice, group consensus was high and the circulation phase was considered finished. The procedure was then repeated several more times until the responses were refined and a convergence of responses over the occurrence of a series of events was arrived at. Likewise, and as can be seen in the literature, in each round the median was calculated as a measurement of concentration and the interquartile distance was calculated as a measurement of dispersion of the various assessments carried out by the experts. This, in turn, formed part of the information which was subsequently provided to the experts in order to reach consensus.

Once the study and the analysis based on the contributions of the panel were concluded, an additional phase of the research was initiated, in which in-depth interviews with the experts who participated in the panel were carried out. These interviews were structured according to the questionnaires used by the panel, with the aim of qualifying and completing some of the commentaries collected throughout the research period. This phase of the study, arduous although fruitful, concluded in June of 2004.

Results of the empirical study

A synthesis of the results of the empirical study carried out is presented below. An analysis of the effect of the implementation of QM models on business results is presented in two different parts: the first makes reference to an analysis of the effect of ISO 9000 implementation on results, while the second analyses the effect of the EFQM model.

First of all, the effect of the implementation of the ISO 9000 standards on operating results was analysed. According to the panel of experts, the result of the implementation of the ISO 9000 on operations was positive, although the assessment given was not very high, as seen in Figure 4. In their opinion, the ISO 9000 contributes, above all, to a decrease in errors and defects and to an improvement in safety. According to some of them, this is due to the fact that “there is greater control over and follow-up to the processing of the orders”. The following statement, from one of the interviews given to an auditor, perfectly sums up many of the opinions collected along these lines, with a high degree of consensus, from the members of the panel:

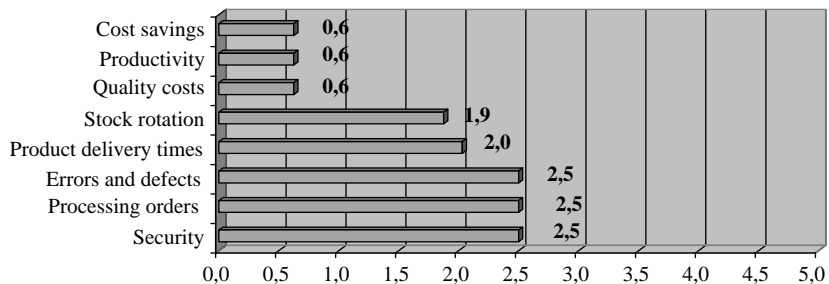


Figure 4.
Results of the ISO 9000 on operations

Source: Prepared by the authors.

... the implementation of the ISO 9000, if done correctly, contributes to unifying the workers' ways of working and the criteria to be followed, with positive effects on the operations. A system of working is established and improvisation is set aside. This, and no other, is the main contribution of this kind of system to improved operations.

The experts also emphasised that, through the implementation of the ISO 9000, there was greater compliance with established delivery times, both internally and externally.

On the other hand, in terms of the effects of ISO 9000 implementation on economic results, it should be pointed out that the opinion of the experts was unanimous: a direct causal relationship could not be established between the implementation of these standards and an improvement in economic results. However, some management experts argued that there was a relationship between obtaining the certification and increased sales.

... sales and market share increase with the certification as there are clients who do not buy from you unless you have the certificate (...)

Other experts consulted felt that the costs of implementing and certifying the regulations exceeded the benefits in some sectors. With regard to this, one consultant indicated that:

... in certain sectors, the certification contributes to an increase in sales. For other companies, however, particularly those that manufacture end products, those that are not subject to direct demands from clients, for example, for submitting tenders, it not only means no benefit, but also becomes a fixed annual expense.

Regarding the other series of effects, we should point out that according to the experts, the implementation of a quality system in accordance with the ISO 9000 standards seems to have positive consequences on clients as it contributes to a decrease in complaints and to clients repeating their purchases. One expert offered an interesting comment:

... a greater repetition of purchases – in many cases an indicator used to measure satisfaction – was due to the fact that for clients whose suppliers are certified, it means in many cases them being saved from having to authorise suppliers. Therefore, in many cases, repeat purchases are due to this reason more than to them offering a better service.

In addition, the experts indicate that these systems help to increase client satisfaction, which is due in part, in the opinion of most of them, to increased control over the operations, contributing to an improvement in the quality of the products and services offered. These results confirm what has generally been stated in traditional studies in the literature, and particularly in studies carried out by the authors of this study (Casadesús *et al.*, 2001; Heras, 2001; Casadesús *et al.*, 2004).

Another important effect that ISO 9000 certification produces on company results, according to the experts, consists in an improvement in the brand image offered by the company. The opinions about it show a very high degree of consensus for all the subgroups of experts consulted, except for the case of company managers, where answers show some divergence. For instance, we were told by a consultant in one of the interviews carried out:

... proof of the fact that having the ISO 9000 certificate improves the brand image is that practically all the companies that put quality systems in place in accordance with the ISO 9000 assume the cost of certifying the system, despite the fact that in many cases the certificate is not demanded by clients.

The consensus on these statements was high at all times except in the sub group of managers. However, the experts were unanimous in stating that the image that the certificate transmits is changing. As one expert told us:

... the ISO 9000 certificate is losing value in many cases, since it has stopped being a factor that makes a difference due to the increase in certificates issued in recent years.

Finally, some experts indicated that it was also interesting to look at the impact the application of quality systems had on the quality improvement of the products and services offered by companies, a question that had already been analysed in the empirical literature (Gotzamani and Tsiotras, 2002). This is obviously a matter of great interest, although not exempt from important conceptual – and even semantic – discussions, which go beyond the objectives of this study. In both the questionnaires circulated among the panel and in the subsequent interviews, very different opinions about this point were observed. Thus, a large number of the panellists did not feel it was relevant to look at the influence of QM models on the quality of products or services, because it seemed to them somewhat “redundant” in the following sense:

What is a quality product or service? A product or service that satisfies the client. Well, the QM models aim to satisfy the client, in other words, to improve the quality of the products or services.

In Table III, there is a synthesis of the general opinion of the panel of experts on the influence of the ISO 9000 on company results. It is a chart that is innovative in the literature of studies using this methodology, in which the general opinion of the panel on the objective of the study is summarised in one column and, to the right, in another column, the degree of consensus for each subgroup of the panel. To measure the level of consensus, we have used the value of the first and third quartile of the expert answers, as it is recommended in the literature of the method (Linstone and Turoff, 2002; Landeta, 1999). With these values, we have estimated the quartile range, this is the value of the 75th percentile minus the value of the 25th percentile. The degree of consensus for each subgroup of the panel is marked from 1 to 5 (1 being a very weak degree of consensus, when the quartile range is more than 1, 5; 5 being a very high level of consensus when the quartile range is 0) (Table IV).

As far as the influence of TQM implementation in accordance with the EFQM model on business results is concerned, the different assessments made by the experts of the implementation of TQM on operating results compared to the operating effects of ISO 9000 implementation is noteworthy, as shown in Figure 5.

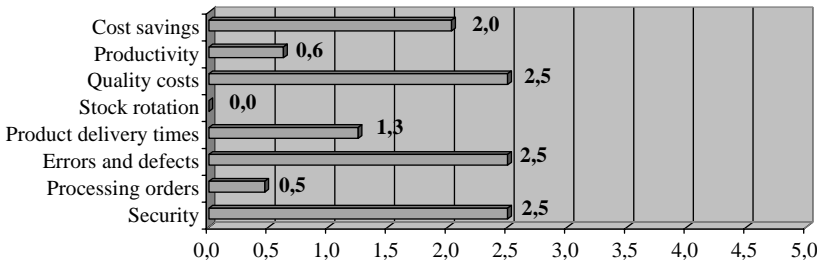
The experts indicate, with a high degree of consensus and higher grades than in the case of the ISO 9000, that the implementation of the EFQM model contributes to a reduction in inconsistencies and quality costs, to cost savings and to an increase in the security of operations which, taken together, contribute to a decrease in errors and defects produced. Related to this, a company manager established a close relationship between the motivating factor of implementing the EFQM model and its impact on operating results:

General opinion		Degree of consensus			
Effects on operations	It has positive effects as it exercises greater control and follow-up on the processing of orders and improves the security of the operations	M	●●●●○	A	●●●●○
		C	●●●●●	As	●●●●○
		Au	●●●●○	Mi	●●●●○
Effects on economic results	It contributes to a decrease in delivery times and in errors and defects	M	●●●○○	A	●●●●○
		C	●●●●●	As	●●●●○
		Au	●●●●●	Mi	●●●○○
Effects on the workers	The implementation of the ISO 9000 standards does not have significant consequences on economic and financial results	M	●●●●●	A	●●●●○
		C	●●●●○	As	●●●●●
		Au	●●●●○	Mi	●●●●○
Effects on clients	The implementation of the ISO 9000 standards does not have significant consequences on the workers, although in many cases they feel more controlled	M	●●●○○	A	●●●●○
		C	●●●●○	As	●●●●●
		Au	●●●●○	Mi	●●●●○
Effects on image	It has positive effects as it helps to decrease complaints and to increase repeat purchases	M	●●●○○	A	●●●●●
		C	●●●●○	As	●●●●●
		Au	●●●●○	Mi	●●●●○
Effects on the quality of products and services	Certification leads to improved image. Therefore, in many cases it is used as an important advertising tool	M	●●●○○	A	●●●●○
		C	●●●●●	As	●●●●●
		Au	●●●●●	Mi	●●●●○
Effects on the quality of products and services	By increasing the control over operations and materials, it reduces defective products and also improves the quality of the final products and services	M	●●●○○	A	●●●●○
		C	●●●●●	As	●●●●○
		Au	●●●●○	Mi	●●●●●

Notes: M: managers; C: consultants; Au: auditors; A: assessors; As: academic specialists and Mi: members of institutions

Source: Prepared by the authors

Table IV. Summary of the main opinions of the ISO 9000 standards



Source: Prepared by the authors.

Figure 5. Effects of the implementation of the EFQM model on operations

The operations mainly improve thanks to the attitude of the workers, who are much more motivated and participate more in the process of detecting and resolving problems.

With regard to economic results, the members of the panel pointed out positive influences, since increased contact with suppliers and clients as well as increased motivation among the workers contribute to improving company' performance, which in turn increases economic feasibility and sales. The results obtained are shown in

Figure 6. To this effect, one consultant made the following statement, which summarises very well the general opinion of the panel:

The EFQM model allows us to establish a much closer relationship with clients and suppliers which is more beneficial for all of us and which will undoubtedly have a positive effect on turnover figures and profitability.

At this point we should make special mention of the various criteria used by the experts to assess the relationship between the implementation of QM models in accordance with ISO 9000 and EFQM, and in particular those criteria used by the subgroup made up of assessors as well as by some managers and experts from the academic world. In fact, between these two subgroups, both in the questionnaires circulated and in the interviews carried out, there clear differences of criteria, as they emphasised at all times the important differences between the impact of the EFQM model and the ISO 9000 standards generally and, more specifically, on economic results. In short, these experts wanted to make quite clear the distance between the two models. The following contribution of one of the interviewed assessors is revealing:

The impact of the implementation of the EFQM model on the results has nothing to do with the impact of the ISO 9000. The ISO 9000 is of limited importance, it means scraping by with a passing grade. Introducing the EFQM model means being able to opt for a grade of excellent. With the ISO, or only with the ISO, we cannot hope for this excellent grade.

This is an often repeated viewpoint of many of the experts consulted. It could be due, in part, to the effort made by various organisations in the field to highlight this difference. It is an interesting aspect worthy of future study.

The most direct influence of the implementation of these models on employees, agreed to by the experts with a very high level of consensus, is that the employees see themselves as much more involved in the company, which leads to a tendency to offer more suggestions. In addition, they feel safer and more recognised, aspects that have a direct influence on them feeling more motivated and satisfied in their jobs. However, some experts – particularly in the subgroups of assessors, auditors and consultants – made some interesting clarifications on the matter. According to one auditor interviewed:

(...) the magnitude of these consequences is not of the size presented in many means of communication, since there is interest, from various areas, in trying to create a wave of implementations.

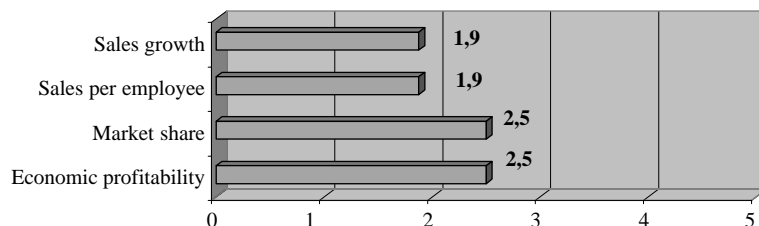


Figure 6.
Effects of the
implementation of the
EFQM model on economic
results

Source: Prepared by the authors.

With regard to the effects on clients, the experts state with a high degree of consensus that they see their satisfaction increasing, due to the fact that, as one assessor said:

... the client is the main figure for these models of TQM, and although the skill and effort required when introducing these models may be greater or lesser, the work carried out always has some degree of bearing on improved satisfaction.

With regard to brand image, there was a very high degree of consensus as most of the experts indicated unquestionable improvement. According to them, there are two main reasons: on the one hand, the improvement in external client satisfaction inherent in the application of a TQM model; and on the other, the fact that in different means of communication these companies are shown as a business reference group, in other words, as an example of a model of company management to be followed, an aspect that undoubtedly improves the image that these companies have in the public eye. For these reasons, the companies do not hesitate to show evidence of the success achieved, since these recognitions can help on many occasions to establish them in favourable positions.

With regard to the impact of the application of the EFQM model on the quality of products and services offered by companies, it should be emphasised that the degree of consensus achieved was not so high, mainly due to the discussions of terminology and concepts discussions. For the experts, the model improves the quality of the products or services offered to the extent that “the model is fully aimed at satisfying the client”. On the other hand, other experts continue to have a very different viewpoint. Finally, Table V presents a summary of the opinions of the experts regarding the influence on company results of the implementation of TQM in accordance with the EFQM model, as was similarly done for the ISO 9000.

Conclusions and contributions

Using new research methodology in the area of empirical studies into QM, this work has analysed the effects on company results of the implementation of the ISO 9000 and the EFQM Mode in European companies, based on the research in the Spanish companies. Emerging from the opinion of the panel of experts is the summarised notion that the implementation of QM models in European companies has a positive influence on company results, mainly through the improvement of operations, efficiency and the costs of companies' internal activities. However, in the opinion of the experts, the direct effect on economic results is not so clear, especially in the case of the ISO 9000 implementation. Of course, in this case the experts consulted disagreed with what is theorised in literature or what has been argued in some empirical studies based on surveys of company managers, or even in those based on the use of other sources of information such as commercial databases of economic and financial data.

There is a very high degree of consensus on emphasising the importance of the implementation of the models on the company's market quality image. Taken together, according to some of the experts consulted, the image *per se* that the recognition associated with these models (whether certificates or awards) transmits is not static. In this respect, the economic-financial analogy seems clear: the value of the certificate or award is inversely proportional to the number of certificates or awards in circulation. It would seem, therefore, that the ISO 9000 standards are coming close to the decline stage in Europe, if we analyse their development from the point of view of the life

	EFQM model		Degree of consensus			
Effects on operations	It has positive effects as it contributes to the reduction of costs, errors and defects and of delivery times, as well as to increased safety of the operations	M	● ● ● ● ○ ○	A	● ● ● ● ● ○	
		C	● ● ● ● ● ○	As	● ● ● ● ● ●	
		Au	● ● ● ● ● ○	Mi	● ● ○ ○ ○ ○	
Effects on economic results	The TQM contributes to strengthening the relationship between clients and suppliers, positively affecting turnover and profitability	M	● ● ● ● ● ○	A	● ● ● ● ● ●	
		C	● ● ● ● ● ○	As	● ● ● ● ● ●	
		Au	● ● ● ● ○ ○	Mi	● ● ● ● ○ ○	
Effects on the workers	Greater employee involvement is observed in the companies, contributing to improving the suggestions they make, their safety at work, their motivation and their satisfaction	M	● ● ● ● ● ○	A	● ● ● ● ● ●	
		C	● ● ● ● ● ●	As	● ● ● ● ● ○	
		Au	● ● ● ● ● ○	Mi	● ● ● ● ○ ○	
Effects on clients	Client satisfaction increases after the implementation. In addition, among other aspects, there are more repeat purchases and less complaints made	M	● ● ● ● ● ○	A	● ● ● ● ● ●	
		C	● ● ● ● ● ●	As	● ● ● ● ● ●	
		Au	● ● ● ● ● ○	Mi	● ● ○ ○ ○ ○	
Effects on image	The brand image improves for two reasons. On the one hand, it contributes to increased client satisfaction and, on the other, the recognitions obtained by some of these companies allow them to achieve preferential status	M	● ● ● ● ● ●	A	● ● ● ● ● ○	
		C	● ● ● ● ● ●	As	● ● ● ● ● ●	
		Au	● ● ● ● ● ●	Mi	● ● ● ● ● ●	
Effects on the quality of products and services	Implementation contributes to approximating to a greater extent the clients' objectives, improving the quality of the products and services	M	● ● ● ● ○ ○	A	● ● ● ● ○ ○	
		C	● ● ● ● ● ●	As	● ● ● ● ● ●	
		Au	● ● ● ● ● ○	Mi	● ● ○ ○ ○ ○	

Table V. Summary of the main opinions about the EFQM model

Notes: M: managers; C: consultants; Au: auditors; A: assessors; As: academic specialists and Mi: members of institutions
Source: Prepared by the authors

cycles of management tools (Marimon *et al.*, 2004). The implementation of TQM models based on the EFQM model seems to be in a preliminary phase, one of great growth, and due to the great support it is receiving from different institutional bodies, for the moment, a more promising future can be predicted for it.

Finally, we believe that from the academic world, there should be more in-depth analysis of the impact of management models on companies, and more empirical studies from a perspective that takes into account the holistic and multidimensional reality of companies should be carried out. A point of view that takes into account, among other issues, the many agents or players participating in the complex process of introducing a QM model. Therefore, we believe that they should look in depth into studies that take into account the opinion and perspective of all the agents involved in the process of implementing QM (directing managers, middle managers, workers, clients, suppliers, unions, consultancies, auditors, certifying bodies, administrations, etc.), to thus overcome the shortcomings of previous research, and to also try to make contributions that are useful for improving the implementation of these models in practice.

Note

1. Euskalit, Basque Foundation for Quality, is an organisation which advocates management improvement and innovation by promoting the total quality culture in the Basque Country. The Knowledge Cluster is an association dedicated to promoting and supporting the development and use of management knowledge in the Basque Country.

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About the authors

Iñaki Heras Saizarbitoria is a professor at the University of Basque Country in Spain. He studied Business Economics in the University of Basque Country. Likewise, he studied at the ESST Master Program (Production systems, innovations and development models) in Roskilde University (Denmark). His doctoral thesis is about the Quality Management Policies in The Basque Autonomous Region (Spain). He has published several articles in both national and international academic journals (i.e. *International Journal of Quality & Reliability Management*, *Management Auditing Journal*, *European Business Review*). On the other hand, he has participated as a main researcher in several projects on ISO 9000 financed by The Basque Country University and the Spanish Administration. During the last five years he has coordinated more than 20 projects related to the implementation of ISO 9000 standard.

Germán Arana Landin is a professor at the University of Basque Country in Spain. He studied Management Engineering at the University of Navarra in San Sebastián. After a professional experience in different industrial companies of the Basque Country related with quality management, he started his doctoral courses at the University of the Basque Country in Bilbao (Spain). His doctoral thesis is about the ISO 9000 introduction in the Basque Autonomous Region (Spain). He has published several articles mainly in national academic journals (i.e. *Alta Dirección*, *Ekonomiaz*, *International Journal of Quality & Reliability Management*). He has collaborated in several projects financed by The Basque Country University, The Gipuzkoa Provincial Council and the Spanish Administration.

Martí Casadesús Fa is an Associate Professor at the University of Girona in Spain. He studied Industrial Engineering in the Polytechnic University of Catalonia in Barcelona. Later on he studied his doctoral courses at the University of Girona in Spain. His doctoral thesis is about the ISO 9000 implementation in the industrial companies of the Catalonia Autonomous Region (Spain). He has published several articles in both national and international academic journals (i.e. *CEDE*, *Economia Industrial*, *TQM Magazine*, *International Journal of Quality & Reliability Management*, *European Business Review*, *Management Auditing Journal* ...). He has collaborated in many projects financed by the CCQ (Catalonian Quality Center) of the Catalonian Administration. He is too, the co-leader of the GREPP (Research group on Product, Process and Planning). Martí Casadesús is the corresponding author and can be contacted at: marti.casadesus@udg.es