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# ISO 9000 as a Tool for TQM: A Spanish Case Study

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*Using case study methodology, the authors asked quality managers about their company's experience with ISO 9000:1994 and total quality management (TQM) implementation. The results show that initially the standard could help some companies reorganize their procedures and define responsibilities and duties. However, managers' perspectives on its possible effect on company performance are not positive. Only product quality improves after implementation. On the contrary, TQM has improved many aspects of performance, the most influential aspects being those "soft" dimensions of leadership and human resource management. These aspects were not included in ISO 9000:1994. After analyzing ISO 9000 as a first step toward the TQM implementation, as much of the literature advises, the authors' findings suggest that managers consider it to be a disturbing element when implemented jointly with TQM. Their study points out that, in practice, there are two parallel quality systems in a company. To get better results, it is important to adapt ISO requirements to facilitate TQM implementation; otherwise, the only advantage of the registration is the "permission" to sell in the market.*

*Key words: case study, quality assurance, quality management*

## INTRODUCTION

Over the last decade, ISO 9000 certification has been the subject of many articles. The phenomenon of its quick development led to a belief that it was a great advantage for a company to attain registration. In keeping with this, many researchers tried to identify the impact of ISO 9000 certification on companies' results and management. An important group of researchers has not found any strong positive relationship between certification and results (Terziovski, Samson, and Dow 1997; Hua et al. 2000; Lima, Resende, and Hosenclever 2000; Singels, Ruel, and Van der Water 2001; Wayhan, Kirche, and Khumawala 2002). However, there is another group of articles that points out an influence of registration on product quality (Romano 2000; Sun 2000; Withers and Ebrahimpour 2001).

Apart from any influence derived from implementation, some authors advocated that certification could be a good first step toward a total quality management (TQM) system, raising awareness of quality among workers and a good climate in which to implement it (Taylor 1995; Tummala, Rao, and Tang 1996; Skrabec 1999; Escanciano, Fernandez, and Vazquez 2001).

Regarding this point, implementation of the standard was advised with the aim of implementing TQM in order to obtain maximum benefits from the registration (Brecka, 1994; Meegan and Taylor 1997; Hwang, Horng, and Chen 1999; Hughes, Williams, and Ryall 2000; Sun 2000; Gotzamani and Tsiotras 2002). The question is: Do companies really implement ISO certification with this aim? Is the accepted wisdom that ISO certification could "help" companies attain a TQM system true? Which aspects of ISO do that? The purpose of this research is to empirically evaluate the real contribution of ISO 9000 toward TQM implementation. The authors will also compare the effects that both quality systems

have had on company performance, as well as the effect of their joint implementation for management.

### LITERATURE REVIEW

According to Sun (1999), European companies usually implement ISO 9000 more often than TQM, while in the United States, Japan, Brazil, and Canada ISO 9000 certification is not so accepted. Sun (1999) also analyzed differences in performance depending on the chosen quality system and found that the group with better results was composed of companies that were using ISO 9000 and TQM jointly, supporting the findings of Ismail and Hashmi (1999). Both studies agree that the order of implementation is not relevant at the time of obtaining better results, which could contradict the accepted wisdom of ISO as a good first step toward TQM. The authors conclude that the certification complements the TQM system, and the decision on the convenience of which system to implement first should be taken according to the company's situation.

Using a sample of companies from Singapore, Quazi and Padibjo (1998) state that companies often start with an ISO system and later slowly move toward TQM. Escanciano, Fernandez, and Vazquez (2000) believe this is because companies get results from registration and this prompts managers to pursue higher levels of quality. Another important factor is when a company has decided to implement the ISO system motivated by internal conviction that it will be beneficial for management, which supports previous literature about the positive relationship between motivation and certification results (Meegan and Taylor 1997; Huarng, Horng, and Chin 1999; Hughes, Williams, and Ryall 2000; Gotzamani and Tsiotras 2002).

Do companies applying ISO have higher levels of TQM than companies that are not applying it? Is the certification advantageous for companies in order to attain a TQM system? In this sense, Sun (2000) points out that certified companies have higher levels in some TQM dimensions: quality information, product quality assurance, process management, and cooperation with customers. However, the author does not find any difference regarding quality planning, employee participation, and human resource management. Gotzamani

and Tsiotras (2001) find differences in most TQM aspects except flexibility and human resource management. Rao, Raghu-Natham, and Solis (1997) show, in a big sample comprising American, Mexican, and Indian companies, that certified companies have higher levels of TQM than noncertified companies. However, a recent replication of this research in Singapore (Quazi, Wing Hong, and Tuck Meng 2002) did not find any difference in TQM levels, nor did another study in England (Taylor and Wright 2003).

Assuming that ISO 9000 certified companies could have higher levels of quality management except for those related to human resource management or quality planning, it could be argued that these companies should have better results, derived from a better management system. However, based on previous research that supports the finding that the most important dimensions at the time of getting better results from TQM are the "soft" ones (Powell 1995; Anderson and Sohal 1999; Dow, Samson, and Ford 1999; Samson and Terziovski 1999), it could also be argued that certified companies will not produce these better results.

The literature presents examples of positive effects from certification (Docking and Downen 1999; Gupta 2000; Romano 2000; Withers and Ebrahimpour 2001; Heras, Casadesus, and Dick 2002), as well as no effects from it (Hua et al. 2000; Lima et al. 2000; Wayhan, Kircho, and Khumawala 2002), or even negative effects (Aarts and Voss 2001; Singels, Ruel, and Vander Water 2001). Regarding TQM, the literature seems to agree on the positive effect (Powell 1995; Forker et al. 1997; Sun 2000; Hendricks and Singhal 2001). These papers, however, do not test in the same sample the possible effect that both TQM and ISO 9000 have on company performance. There are few articles that test these effects of TQM and ISO 9000 using the same sample, evaluating if there are differences in effects between both systems.

Terziovski, Samson, and Dow (1997) considered TQM implementation as a contingent variable at the time of getting results from certification. They concluded that ISO 9000 certification does not have any effect on performance when implemented with TQM nor when implemented alone. In similar research in Australia, Rahman (2001) reached the same conclusion.

Finally, Najmi and Kehoe (2001) found that the group of certified companies in their sample did not have better performance, contrary to the group applying TQM that had better results than the other companies.

From the discussion set out, the authors have stated the following research questions:

- How does ISO 9000 affect company performance?
- How does the TQM system affect company performance?
- Can the ISO system be a good first step toward a TQM system implementation?
- How do both systems affect the results if jointly implemented?

## METHODOLOGY

Case study methodology is best when the objective is to build theory in preliminary phases of a research study or to add new perspectives to previous research (Yin 1994). Part of this research can be considered as preliminary, because there is still little evidence on how the ISO 9000 and TQM act jointly in management.

The objective of the case study is not the statistical generalization, but the analytical one. This methodology tries to generalize from case to theory; it does not attempt to extrapolate facts from sample to population. Relating to the number of cases, the lower number will allow the researcher to obtain more information (Voss, Tsikriktsis, and Frohlich 2002). However, a multiple case study increases reliability and external validity. Each case should be selected in order to (Yin 1994):

- Predict similar results (literal replication)
- Get different results due to predictable reasons (theoretical replication)

The authors chose a multiple case study instead of a single one to increase external validity and reliability. Fourteen companies among the biggest manufacturing companies in Spain were selected for the study. The cases were selected with the condition of being certified at least by the ISO 9000:1994. Three of them were applying TQM and two were recently certified by the new version of ISO 9000:2000. The case study protocol included two questionnaires in order to apply

**Table 1** Companies profile.

Company	Activity	Workers <sup>1</sup>
Atofina	Petrochemical	350
BPB Iberplaco	Plaster	800
Carbueros Metalicos	Medicinal and industrial gases	1119
Castellon	Cables for automobiles	650
Cobega	Refreshments	330
Damm	Beer	170
Henkel Iberica	Chemical	150
Loreal	Cosmetics	250
Miquel y Costas & Miquel	Paper for cigarettes	300
Pirelli	Tires	1150
Reckittbenckiser	Cleaning products	375
Santa Barbara (General Dynamics)	Weapons	2050
Tyco Electronics	Electrical connectors	800
Zardoya Otis	Elevators	4800

<sup>1</sup>Number of workers at the plant level. If the quality policy is centralized and the company only counts as a single registration, the level of analysis will be the whole company.

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triangulation, following the recommendation of many authors (Jick 1979; McCucheon and Meredith 1993; Yin 1994; Lewis 1998; Meredith 1998; Voss, Tsikriktsis, and Frohlich 2002). One of them was used in the interview with the quality manager. The other questionnaire was to be completed by other managers not associated with the quality area. The authors took into consideration other documents supplied by the company and direct observation through plant visits.

Table 1 shows the companies participating in the study and their characteristics. Later in this article, the authors assign a number for each company in order to safeguard confidentiality of responses.

The criteria used to select companies were mainly:

- Homogeneity of external factors: The authors focused on manufacturing companies since ISO 9000 was initially designed for industrial companies.

Later, the service sector adapted its requirements, but, because of the heterogeneity of the service sector, there are substantial differences at the time of its implementation in this kind of company.

- Size: The authors also selected companies among the biggest in Spain. They considered these companies to be more experienced in ISO implementation than smaller companies.
- ISO 9000:1994. All companies should have applied or should be applying ISO 9001 or 9002:1994.
- TQM: Some companies should be applying TQM.

The case study protocol (see appendix) was tested in a pilot case study done in companies of the Region of Murcia, Spain.

Interviews lasted between 1 and 3.5 hours. They were tape recorded to assure that information was not later biased. Only one manager did not allow the authors to do so.

## RESULTS

### Effects of TQM on Company Performance

First the authors classified companies according to the degree of implementation of a total quality system. They identified three companies with high levels and experience in TQM the remaining companies had a low degree of TQM implementation. This classification was based on information about TQM dimensions such as customer orientation, work teams for continual improvement, consciousness about quality, quality planning, and so on.

Managers of the three TQM companies were asked about the perceived performance improvements as a result of TQM implementation. The three managers agreed that TQM implementation had benefited the company in many ways. Then the authors asked them to position the improvements in a set of performance measurements, explaining why the TQM system had improved every measure. Measurements were obtained from a literature review that relates quality management and performance. The richness of the case study

is that the manager is able to explain at the moment of completing the questionnaire the “why” of each rate and to add evidence to the question. Table 2 shows the results along with some notes from managers. The last column shows the value of the influence on each measure based on the majority of responses (1-2 = low, 3 = medium, 4-5 = high). In the cases where companies’ responses are very different (one of each) there is not enough evidence to affirm that TQM influences that point.

According to these managers’ perceptions, TQM influences product quality, customer service, fast response, competitiveness, customer satisfaction, employee satisfaction and motivation, rate of defects, and stock price. Regarding the customers’ claims, it is important to note that two managers indicated that this point had not improved because customers today are more demanding than before. A similar explanation is valid for warranty costs. One company also pointed out that these costs often come from a wrong use of the product and not from its quality. Exports and innovations were not tested because of the particular characteristics of the companies interviewed. Financial measures were difficult to mark. Managers agreed that they would need more information to position themselves, although they perceived that the market in general values the fact that the company has implemented a TQM system and consequently, the stock price rises.

After completing the questionnaire, managers were asked to indicate the elements of TQM that are “more responsible” for company improvements. Following are their responses:

- Company 1: “The most important aspect is that everybody in the company, including the cleaning service, the doorman, and the accountant, is conscious and worried about quality. Before, the only people interested in quality were the quality department staff.”
- Company 4: “Personnel motivation and participation. If you get this, then the complete system works.”
- Company 12: “First, the general belief of the importance of quality. Second, the decision to be real leaders. Managers and staff move together towards the same aim.”

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**Table 2** Effect of TQM in company performance.

Company Results	1	4	12	Influence
Product quality	4	4 "Everybody knows now how to do things."	5	High
Customer service	4	1 "We had a fast response before."	5	High
Fast response	4	1	5	High
Competitiveness	4	2	5	High
Fewer customer claims	2 "Now complaints are more visible."	2 "Customer is more exigent now."	5	Low
Customer satisfaction	5	5	4 "Customer is never completely satisfied."	High
Employee satisfaction	5 "There is more empowerment."	2	4	High
Productivity	3 "Procedures have much to do with it."	1	5	No evidence
Employee turnover	2	1	3 "We have never had this problem."	Low
Employee motivation	4	4 "Definitely yes."	4 "They were motivated before."	High
Decrease in inspection costs	1	1	5	Low
Decrease in prevention costs (Control question)	1 "They have increased."	3 "The reason was the budget restriction."	1 "It is an investment, not a cost."	Low
Fewer defects	3	4 With a better organized production process."	5	High
Decrease in warranty costs	— "I don't have that information."	2 "The majority of the cost comes from the wrong use of product."	5	No evidence
Increase in exports	5	1 "We have shared the market within the company."	2 "Central company establishes what we can export, we do not make that decision."	Low
Product innovation	3	1 "The customer specifies exactly what he wants."	5	No evidence
Market share	3 "Slightly"	2 "It is a customer requirement."	3 "We had a high market share before."	Medium
Revenue	3	1	4 "In some places we are a monopoly."	No evidence
Lower expenses	2	1	4	Low
Profit before taxes	3	1	5	No evidence
Stock price	4	1	5	High

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According to these responses, the main dimensions of TQM for getting better results are employees' participation, motivation, and leadership. Finally, it is interesting to note that in the case of company 4, TQM was implemented because of external pressures (customer requirements). It was seen that, in general, the influence that TQM had on performance was lower than in the other two cases. Only customer satisfaction and defect rate had high values, which is logical considering that the customer required the company to implement the system and also considering that this company was at a lower stage of quality management before.

### Effects of ISO 9000 on Company Performance

Quality managers were also asked about the influence that ISO 9000:1994 registration has had on the same aspects of company results that were considered for TQM. They were asked to give a score from 1 to 5 (1 = no influence, 5 = very strong influence). Table 3 shows the results.

The global influence that ISO 9000:1994 has had over each variable, evaluated according to the majority of responses, is presented in the final column of Table 3. As can be seen, the only aspect that clearly improved from the date of certification was product quality. One manager said this was because they had to create procedures and reduce variability in the production process because of ISO implementation. All of them agreed that the product was the same as before certification. The only difference was that after ISO implementation it was more controlled. The defect rate had consequently decreased as well.

The effect on both customer satisfaction and competitiveness was medium. It is worth explaining that when the quality manager considered that certification could improve these variables, he always explained that "customer satisfaction" was derived from the accomplishment of a previous requirement from him: to attain certification. Some other managers pointed out that this satisfaction could be due to improvement in claims management. When ISO 9000 was first created, being a certified company was a competitive

advantage. Today this advantage has disappeared and it has become a requirement to compete in the market.

The effect on customer service was also medium. In this sense, ISO 9000 certification has been useful to organize the claims management system. Each claim must be registered and evaluated. There must exist a procedure to solve claims.

Regarding the employees, the ISO 9000 system improved their productivity and their interest in quality problems. Improvement in productivity is again explained by better procedures and work instructions. However, many managers have confessed that employee satisfaction worsened because of the bureaucracy of the system. The documentation needed to sustain the system increased their workload.

The remaining variables are not considered to have any impact on results. Note that the financial measures were not influenced by the implementation of the standard.

When managers were asked about the main advantages and disadvantages of certification, they agreed that certification is helpful to organize the production system through procedures and work instructions. The paperwork generated was identified as the most negative consequence. After asking if certification was profitable, the majority answered that "it had to be," pointing out that nowadays it is a basic requirement. "If we did not have it, we couldn't sell," they affirmed.

### ISO 9000 and TQM

If data on the companies that had implemented TQM (1, 4, and 12 in Table 3) are analyzed, it can be seen that certification had less impact on nearly all results. The first company shows higher marks in some variables. This company was the only one that started the quality journey by implementing ISO 9000 first and then TQM. It would explain the fact that the ISO standard could help managers organize the production process when quality management was at an initial stage. In fact, the manager of this company stated that formalization was useful for learning and for having criteria for future comparisons. The other two managers of companies applying TQM did not find any impact, although they suggested that the certification

**Table 3** Influence of ISO 9000:1994 on the company's results.

Company Results	1*	2	3	4*	5	6	7	8	9	10	11	12*	13	14	Influence
Product quality	5	4	4	5	4	3	1	5	1	2	3	3	4	4	High
Customer service	2	4	1	1	3	4	1	5	1	4	3	3	3	4	Medium
Fast response	2	1	1	1	3	2	1	5	1	1	1	2	3	5	Low
Competitiveness		4	1	5	3	5	5		1	3	2	3	3	5	Medium
Fewer customer claims		3	1	1	2	1	5	5	1	2	1	3	2	4	Low
Customer satisfaction	3	5	5	3	3	4	5	5	1	5	1	2	2	5	Medium
Employee satisfaction	3	1	5	1	2	3	1	1	1	1	1	2	1		Low
Productivity	4	4	5	1	1	4	1	1	3	1	3	2	2	5	Medium
Employee turnover		1	1	1	1	1	1	1	1	1	1	2	1	3	Low
Employee motivation		3	5	1	4	4	5	1	3	3	1	2	2	4	Medium
Decrease in inspection costs	5	4	1	1	4	1	2	1	1	3	1		1	4	Low
Decrease in prevention costs		1	1	1	2	1	1	1	1	1	1		1	4	Low
Fewer defects	5	5	5	1	4	5	3	1	1	3	3	3	3	5	Medium
Decrease in warranty costs		5	1	1	4	1	4	1	1	1	1	3	1	4	Low
Increase in exports	2	5	1	1	1		5	4	1	1		1	2	5	Low
Product innovation		1	1	1	1	1	1	1	1	1	1	1	1	5	Low
Market share		1	1	1	3	4	3		1	2	2	1	4	5	Low
Revenue	2	1	1	1	2	4	1		1	1	2	2	4	5	Low
Lower expenses	1	1	1	1	3	1	1		1	1	3	3	1	4	Low
Profit before taxes	2	1	1	1	3	4	1		1	1	1	2	4	3	Low
Stock price		1		1	1	1	1		1	1	1	1			Low

(\* ) indicates that the company has implemented a TQM system

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could help in some cases when companies had problems regarding process management.

Again, it seems that the only positive aspect of the norm is the process management focus, but are these results worthwhile enough to decide if the company should implement the standard? Managers agree that there is still a long journey from ISO to TQM. Everybody must be motivated and all departments integrated into the system, not only the production process. However, the most important revelation regarding this aspect was what was stated about the joint implementation of ISO

and TQM. Managers of these companies declared that they implemented the registration mainly because it was compulsory in order to be in the market. Registration for them means only that a person goes into the plant and disturbs everybody. Their quality system is strong enough to ensure customers' product quality. They deliberately keep the ISO voluntary requirements to a minimum. Despite the fact that they have a more developed quality system, their ISO 9000 quality manuals are very "basic," they claimed to have "two parallel systems" in order to avoid the auditor

exploring the normal running of their quality system and slowing down the whole system. One manager affirmed that auditors are not really prepared to understand how their quality system works; he said: “The auditor has had many problems trying to understand that we do not need any intermediate control.”

Finally, as an interesting note, one of the managers was worried about the new version of the standard, ISO 9000:2000. As explained before, managers try to establish minimal requirements in the quality manual to avoid what they believe as disturbances in their normal work. In his opinion, the new version represents a higher level of a quality system, is more demanding, and tries to incorporate some points more in line with the TQM system. It would mean that the auditor should have access to new fields in his or her company, and they would have to allow him or her to interrupt many aspects of the process. It could mean that the company worked less well than before.

## CONCLUSIONS

The authors asked quality managers of 14 companies about their experience with both ISO 9000:1994 implementation and TQM. Only three of the 14 companies had implemented TQM. Those companies have had improvements in performance as a result. These were mainly in product quality, customer and employee satisfaction, and competitiveness. When asked about the most important dimensions of TQM for getting these better results, managers agreed on leadership and employee participation.

Regarding ISO 9000, the results show that the only clear improvement is in product quality. Managers agree that certification was useful in the initial stages of quality system implementation, mainly because they improved their production process through the development of work procedures, creating an atmosphere in which quality played an important role and defining responsibilities and duties. Initially, ISO 9000 certification was a competitive tool because it was still a novelty. However, today, certification is no longer a competitive advantage, but a prerequisite to play in the market.

The authors have detected that companies that are applying TQM have fewer improvements in

performance when ISO 9000 was implemented than the others. One of them presents slightly higher values, and, by coincidence, it is the only one that was ISO 9000 registered before implementing TQM. This could give the impression that the standard could be a good first step toward TQM implementation. However, a more in-depth interview with managers changed the authors' point of view. The managers point out that the ISO standard can be an obstacle when implemented jointly with a TQM system, interfering in the normal operation of the business and allowing the auditor to “inspect” too many aspects of the quality system and slowing it down. The solution to this problem provided by some of the Spanish managers interviewed was to completely separate implementation of a TQM system from the ISO 9000 system. Within other business culture contexts, the solution could well be different. Those companies that decided to apply the ISO regulations more strictly introduced all those aspects related to GCT in the manual. Then, the auditor will have a more important role and his or her understanding of what TQM is will be more important in these cases. Therefore, the effect of ISO 9001:2000 on company results will also depend on two factors: 1) the managers' fulfilment of norms, and 2) the auditors' understanding of TQM. Differences among countries due to different management cultures will then be a cause of differences in ISO 9001 effects and an interesting topic of analysis.

The new version of the standard is closer to a TQM system. In particular, it tries to improve human resource management, customer focus, and leadership. According to managers, and supported by the conclusions of previous authors, the “soft” variables of TQM are responsible for the improvement in results derived from TQM implementation. It is an opportunity for companies to achieve better performance by applying the new version adequately. This new standard could also be a good first step toward a TQM system. Further research in this sense would be interesting to help managers attain more benefits from certification.

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## APPENDIX I

### Interview protocol checklist for companies

#### Position in the company:

1. President or general manager
2. General manager in Spain (for multinationals)
3. Plant manager
4. Quality department director
5. Operations/production department director
6. Adviser
7. Quality department member
8. Operations/production management member
9. Other

#### Company:

- Average employees number
- Nationality of the most important shareholders
  1. Spanish
  2. EU other countries different from Spain
  3. Europe different from EU
  4. United States
  5. Japan
  6. Other
- Main activity

#### Total quality management

- Is your company applying a TQM system?
- Year of implementation (approximate)
- Reasons for implementation

## ISO 9000 as a Tool for TQM: A Spanish Case Study

- Time required
- Since TQM implementation, have you detected any improvement in performance due to it?
- Please indicate the improvements in the following measures of performance on a 1 to 5 scale (1 = no influence at all; 5 = it has definitely improved it).

Product quality	1	2	3	4	5
Customer service	1	2	3	4	5
Fast response	1	2	3	4	5
Competitiveness	1	2	3	4	5
Fewer customer claims	1	2	3	4	5
Customer satisfaction	1	2	3	4	5
Employee satisfaction	1	2	3	4	5
Productivity	1	2	3	4	5
Employee turnover	1	2	3	4	5
Employee motivation	1	2	3	4	5
Decrease in inspection costs	1	2	3	4	5
Decrease in prevention costs					
Fewer defects	1	2	3	4	5
Decrease in warranty costs	1	2	3	4	5
Increase in exports	1	2	3	4	5
Product innovation	1	2	3	4	5
Market share	1	2	3	4	5
Revenue	1	2	3	4	5
Lower expenses	1	2	3	4	5
Profit before taxes	1	2	3	4	5
Stock price	1	2	3	4	5

- Which aspects of TQM do you consider to be the most responsible for improvements in performance?

### ISO 9000:1994

- Date of implementation
- Norm: 9001, 9002
- Is the design done at your company? And production?
- Reasons for implementation
- Did you need consultancy aid?
- In your opinion, did the ISO 9000 implementation improve benefits?
- Select on a 1 to 5 scale the possible influence that the ISO implementation had over these measures (1 = no influence at all; 5 = it has definitely improved it).

Product quality	1	2	3	4	5
Customer service	1	2	3	4	5
Fast response	1	2	3	4	5
Competitiveness	1	2	3	4	5
Fewer customer claims	1	2	3	4	5
Customer satisfaction	1	2	3	4	5
Employee satisfaction	1	2	3	4	5
Productivity	1	2	3	4	5
Employee turnover	1	2	3	4	5
Employee motivation	1	2	3	4	5
Decrease in inspection costs	1	2	3	4	5
Decrease in prevention costs					
Fewer defects	1	2	3	4	5
Decrease in warranty costs	1	2	3	4	5
Increase in exports	1	2	3	4	5
Product innovation	1	2	3	4	5
Market share	1	2	3	4	5
Revenue	1	2	3	4	5
Lower expenses	1	2	3	4	5
Profit before taxes	1	2	3	4	5
Stock price	1	2	3	4	5

- What were the main advantages and disadvantages from ISO implementation? Which point was more useful?
- What were the main inconveniences? Which point of the norm is the most useless?
- Is ISO 9000 profitable?

### ISO 9000:1994 AND TQM

- Do you consider the ISO 9000:1994 a good first step toward a TQM system?
- According to your experience, which aspect of the standard does favor the TQM implementation?
- Which aspects of quality management are necessary to improve after getting the registration to implement a TQM system?
- Some points of the standard could contradict some TQM principles (too much bureaucracy, excessive inspection and final controls, and so on). How does your company manage the quality system in order to avoid those problems?