

TQM and ISO 9000 versus business income: an empirical study

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Resumo: Este artigo, tem como enfoque principal a possível correlação entre a qualidade e os benefícios que proporciona, tanto humanos, económicos e tecnológicos, materializados num aumento dos resultados empresariais, permitindo que determinadas empresas possam dar resposta aos diversos desafios e oportunidades no mundo actual, cada vez mais interligado. O objectivo desta investigação é contribuir para o conhecimento da relação existente entre a implementação de sistemas de gestão de qualidade, medição dos custos da qualidade e os resultados da empresa, baseada num estudo empírico, desenvolvido no contexto português, junto das empresas certificadas pela ISO9001. Os nossos resultados são coerentes com estudos anteriores, assim, a constatação central é a de que a certificação ISO9000 mostrou ter um efeito positivo nos resultados empresariais.

Palavras-chave: ISO 9000, Qualidade, TQC, TQM.

Abstract: This research focuses mainly on quality and its correlation with entrepreneurial benefits at the human, economic and technological levels. These benefits are deemed to materialize through an increased business income, allowing companies to respond to different challenges and opportunities in the modern world, which, as we know, is becoming more and more interconnected. The aim of the current research is to contribute to the understanding of the relationship between the implementation of quality management systems, measuring quality costs and business results based on an empirical study conducted in the Portuguese context targeting enterprises certified by ISO9001. Our results are consistent with previous studies; thus, the central finding was that the ISO9000 certification had a positive effect on the business results of the responding companies.

Keywords: ISO 9000, Quality, TQC, TQM.

1. Introduction

The Total Quality philosophy has been evolving since its appearance in the early 20th century as companies feel the need to increase their level of competitiveness within the market in order to secure their continuity. This has been driven by increasingly globalized markets which in turn bring greater competences into the entrepreneurial environment and an increasing number of customers demanding higher quality product.

In today's globalized market, where dealings with international customers and suppliers are the norm, it is not enough for companies simply to launch products or services of high quality on the market. They must ensure that these meet standards and requirements that assure clients of their reliability. This sophisticated demand has led to our reflection on the importance of implementing a management system that is entirely quality oriented, *i.e.* a total quality management system.

Customers are now much better informed and are increasingly demanding. They confirm whether a product of a particular brand is certified so as to ensure its quality. Over the last few years, there has been a surprising increase in the use of quality management systems by companies. This obviously implies a rise the overall level of competitiveness. Because of its growing widespread acceptance, ISO9000 is becoming an important factor in international trade, almost an imperative for companies that export to the European Union (EU) where buyers often explicitly request ISO9000 certification (Erel and Ghosh, 1997).

Therefore, in 1987 the International Organization for Standardization (ISO) based in Geneva published a harmonized set of standards ensuring quality, known as ISO9000, and a large number of companies around the world have introduced the basics of quality management. Accordingly, and in line with the ISO Survey 2008, the total number of ISO 9001certificates issued worldwide was 982 832 in 176 countries, representing an increase of 31 346 certificates, 3% more than the previous year.

China currently has the largest number of certified companies. Curiously, American companies do not seem to be as interested in obtaining ISO certifications as there European competitors; Italy, Spain, Japan, Germany and even England and India have more have more certifications than the USA. Nevertheless, it should be noted that the USA, together with Japan, was a pioneer in the application of Total Quality Management and it focuses more on this system than on the ISO standards created in Europe due to its history in terms of quality management, (Sun, 2000).

Accordingly, «the requirements of ISO 9001 quality system focus exactly on those issues; project and maintenance of the quality system, manager's responsibility to lead the process of quality management; human and material resources management, quality management in the product's accomplishment, measurement, analysis and improvement of products and procedures. When a company gets a ISO 9001 certificate, it means that it was assessed by a certification body, which verified that the company's practices of quality management comply with the requirements on quality management established by the ISO 9001 standard» (Carpinetti *et al.*, 2007:2).

2. Literature review

In recent years, alongside the growing interest expressed by many firms in the ISO9000 family of standards, there has been an explosion of published works on various issues associated with ISO9000 registration (Ebrahimpour, Withers, and Hikmet, 1997). Many surveys have been conducted on the advantages or disadvantages of its implementation and its impact on entrepreneurial profitability, but most of these can be classified as narrative, *e.g.* Rayner and Porter (1991), Askey and Dale (1994), Brecka (1994), Vloeberghs and Bellens (1996), Meegan and Taylor (1997); Brown *et al.* (1998), Sun (2000); Withers and Ebrahimpour (2000); Gotzamani and Tsiotras (2002). Some surveys also take quality costs into account, *e.g.* Teixeira (1992), Youngdahl and Kellogg (1997), Sansalvador *et al.* (2004) Sansalvador and Rubio (2005). However, other surveys relate ISO 9001 specifically to entrepreneurial profitability, namely Terziovki and Samson (1997), Casadesús and Giménez (2000), Romano, (2000), Yamada (2001), Withers and Ebrahimpour (2000), Heras *et al.* (2002), Corbett *et al.* (2005), Terziovski and Samson (2008), Teixeira and Justino (2008), Benner and Veloso (2008).

According to Tsiotras and Gotzamani (1996), there are essentially four main reasons that explain why companies implement a total quality management and cost system: improving the company's image and reputation abroad, meeting foreign demand and market pressures, facilitating and simplifying procedures and contracts between the company and its customers, and ultimately increasing productivity and the company's internal control and existing systems of quality management that the company may have implemented.

Nevertheless, it is common to find some confusion in the literature between the implementation of ISO9000 and TQM as they have some points in common. Howe-

ver, the ISO9000 is a testament to others that the company follows general standardization procedures, while TQM is intended to be a management system that improves quality internally (Martinez-Costa and Martínez-Lorente, 2004).

As stated above, there are numerous studies on what motivates companies to apply TQM in an effort to improve performance and obtain business results.

For Terziovski and Samson (1997), the principal motivation to pursue ISO9000 certification comes from the customers. Youngdahl and Kellog (1997) analyze the relationship between customer service, quality assurance behaviors, satisfaction, and effort from a cost of quality perspective; they found that this typology provides important capabilities to the service design and implementation. Thus, the cost of quality concept predicts that as quality increases the total cost of quality decreases (Hendricks and Singhal (2001).

The internal and managerial motivation to adopt ISO9000 often has a positive affect on the likelihood of a certified organization achieving a better-performing effectiveness configuration (Boiral and Amara, 2009). One of the benefits attributable to the standard is that it constitutes a good first step towards a TQM system; creating consciousness about quality amongst workers and a good climate for its implementation (Sun, 2000; Escanciano *et al.*, 2001).

Terziovski and Samson (1997) published one of the most rigorous studies on the relationship between the ISO9000 certification and performance. They found that although ISO9000 had little or no impact on company performance, it can contribute to organizational performance if a climate of change is created. However, leadership, management of people, and customer focus were the strongest significant predictors of performance (Samson and Terziovski, 1999). Similarly, Sun (1999), found that TQM practices such as quality leadership, human resource development, and quality information contributed to an increase in customer satisfaction and business performance.

The time and cost of implementing TQM can vary across firms, the extent of potential gain from implementing TQM can be impacted by a firm's technology, and the synergies in implementing TQM can be dependent on the number of different markets in which a firm operates (Hendricks and Singhal, 2001). Benner and Veloso (2008) state the importance of firm-specific capabilities in sustaining a competitive advantage. If an organizational practice is firm-specific, valuable, and difficult to imitate, it may lead to a sustainable competitive advantage (Peteraf, 1993). Financial performance advantages enjoyed by early adopters can disappear for the late adopters as more adopt and achieve similar generic improvements (Benner and Veloso, 2008). Moreover, as per Heras *et al.* (2002), good quality control is related to competitive advantage.

It takes time for a company to reap the benefits from an ISO9000 quality management system and it is most unlikely to cause a swift reversal in a company's commercial or financial results (Heras *et al.*, 2002). Consequently, these results provide support for the findings of Lloyd's Register of Quality Assurance Ltd (1996) and Haversjo (2000) on the link between quality certification and better financial performance. For Casadesús and Giménez (2000), the ISO9000 certification process represents an evolution in how a company and quality system should be managed and it is the key to the success of business management. Consistent implementation of a quality management system contributes significantly to a better financial performance (Corbett *et al.*, 2005). Easton and Jarrel (1998) findings suggest that performance measured by both accounting variables and stock returns improves for firms adopting TQM. The improvement is consistently stronger for firms with more advanced TQM.

According to Martínez-Costa and Martínez Lorente (2008:10), «...certification has a positive effect on the entrepreneurial profitability. Nonetheless, there is a need to perform more surveys of this kind to empirically reinforce the conclusion of an attained profitability».

We address this subject by striving to answer the following research question: «Do companies that implement a total quality management system and a quality costs system improve their income as a consequence of this?»

3. Objective and research hypotheses

The core objective of this research is to understand the importance of implementing total quality and quality costs management systems for the company's sound management. Does it increase its profitability?

In table 1 we present our research hypotheses and their objectives:

Hypotheses	Objectives
<p>Hypothesis I – By certifying, the company satisfies the customers' expectations and secure their loyalty.</p>	<ul style="list-style-type: none"> • Verify whether companies which have implemented and accredited a quality management system understand it or at least use it. • Investigate whether companies can more easily win their customers' loyalty by implementing a quality management system.
<p>Hypothesis II – Certification provides companies with more productive quality management in purchasing with emphasis on internationalization and outsourcing.</p>	<ul style="list-style-type: none"> • Verify whether quality management in accredited companies becomes more productive by making supplying and purchasing more efficient with emphasis on internationalization. • Verify if there is a perceived need to reduce the development period for new products or services in these companies.
<p>Hypothesis III – As a result of certification, employees became more motivated, received more training and gained more skills, increasing their responsibility within the company.</p>	<ul style="list-style-type: none"> • Verify whether the motivation for quality causes the existing human resources to support those initiatives and recognize their importance. • Verify whether the increased individual training of the company's employees is significantly apparent in the products of accredited companies, in terms of quality and cost.
<p>Hypothesis IV – By certifying the company, quality costs started to be controlled, measured and analyzed, helping the company to prevent errors.</p>	<ul style="list-style-type: none"> • Show the advantages of adequately measuring, analyzing and controlling quality costs through the implementation of quality costs management systems. • Establish the need to measure quality costs to improve companies and as an execution, planning and control instrument. • The quality costs will measure the cost of the customer dissatisfaction, as well as the cost of lost opportunities. In fact, how much is the company losing due to lack of quality.
<p>Hypothesis V – The new character of strategic leadership, such as the leadership of quality management, makes companies more competitive.</p>	<ul style="list-style-type: none"> • Make quality one of the strategic goals of the company and learn how much the company invests in the different categories of quality costs. • Improve performance assessment and make greater use of strategic alliances, developing new business areas.

Source: Own elaboration.

4. Methodology and design of the research

The methodology used in this research can be described as quantitative, «we will use data collection to test the hypotheses, based on numerical measuring and statistical analysis, in order to establish behaviour patterns and prove theories.» (Hernandez *et al.*, 2006:5). Given the characteristics of our research, our research design can be described as non-experimental, that is, «in a non-experimental research, no situation is created, we only observe situations that already exist, which were not intentionally triggered in the research by whomever is performing it.» (Hernandez *et al.*, 2006:205). Non-experimental research involves variables that cannot be manipulated as we have no direct control or influence over them because they have already happened.

5. Sample definition and selection

According to Hernandez *et al.*, (2006: 236): «Sample is a subgroup of the population from which data was collected and it should be representative of that population». That is, the sample must be statistically representative of the population subject to the survey.

Therefore, our universe (unit of analysis) and object of study in this paper is certified companies with a Total Quality Management System, accredited through NP EN ISO 9001:2000, in a Sub-region of Portugal (Médio Tejo, Santarém).

Following the definition of the unit of analysis, we have to delimit the population to be studied from which the results can be extrapolated. In accordance with Selltiz (1989), «Population is the group of all the cases that agree with a series of specifications», our total universe comprises 166 companies [taken from a list provided by IPAC – Instituto Português de Acreditação (Portuguese Institute of Accreditation), in 26/03/2008].

There was no strict dimensioning of our sample due to the small size of the universe (166 companies) and an attempt was made to obtain the maximum possible number of responses. As for data collection, our survey was sent by e-mail to all these companies, and this was followed up by a telephone contact. Data was collected between 2nd April 2008 and 25th July 2008, after which our total sample comprised of 39 companies.

For reference purposes, this sample can be said to involve an absolute error of 14.0% for a proportion of 166 companies, and of 0.31% on average (*i.e.* the average varies around 0.31 of the absolute value), assuming a reliability level of 95.45%. In order to generalize the results obtained from the sample to the whole population, Pestana and Gageiro (2005) state that a normal adherence test must be undertaken because the variables are quantitative.

Therefore, we start by checking the normal distribution of the variables using the Kolmogorov-Smirnov (KS) test. KS test is used to determine whether two distributions of underlying odds differ from each other or if one of the distributions of underlying odds differs from the hypothesized distribution, based on finite samples in both cases.

Accordingly, the following hypotheses are tested:

H₀: Variables have normal distribution

H_a: Variables do not have normal distribution

The results of the KS normal test reveal that no variables (all sig 0.000<0.001 except P7 which has a sig = 0.90), present an adherence to normal distribution; in other words, with the exception of P7, all of them fail the KS normal test, thus limiting the direct use of calculated errors. As we analyze the test applied to normality, we can therefore reject the null hypothesis (H₀) which states that the distribution of the studied variables is normal.

The core objective of this research is to understand the importance of implementing total quality and quality costs management systems for the company's sound management. Does it increase profitability?

6. Quantitative data collection

As research can focus on a variety of phenomena, different methods of data collection are required. According to Polit and Hungler (1995), it is the nature of the problem in research that determines which method of data collection should be used.

Therefore, the data collection method is chosen in accordance with the variables and how they can operate, and it depends on the considered strategy of statistical analysis (Fortin, 1999). The choice of the data collection technique should depend on the goal and kind of research. We use a structured questionnaire in order to address the relevant aspects of the object under study in a comprehensive manner. First, we made an initial telephone contact to explain the nature of the research. We then sent

an e-mail which contained an «Introductory letter» to formalize the request and the actual questionnaire. These questionnaires were sent to the target companies from 2nd April 2008 and when necessary were followed up *i.e.* a number of e-mails were re-sent and a new e-mail mailing was sent 3 (three) months later. Field work was finalized on 25th July 2008.

The questionnaire was designed so that it could allow for an interpretation of the hypotheses presented above. The design took into consideration: the objectives of the research, the collection of data that could enable us to confirm whether the implementation of a total quality management system would increase the company's profitability; and a review of the literature and the relevance of the questions according to whether they are currently pertinent or not.

The Likert scale was used to measure how the companies in our survey perceived the questionnaire. The outline we chose to use in our questionnaire can be summarized in an ordinal scale with five categories, according to the following scale: «1 – Strongly disagree»; «2 – Disagree»; «3 – Neither agree nor disagree»; «4 – Agree»; «5 – Strongly agree».

All the objectives of our study are consistent with the literature review and are covered by the questionnaire sent.

7. Data analysis and result

Hernandez *et al.* (2006: 419) state that «the investigator firstly tries to describe his data and afterwards he performs statistical analysis to relate his variables. That is, he does his descriptive statistical analysis for every variable and then for every variable of the survey and, finally, he applies statistics to prove his hypotheses.» They go on to say that «There are several kinds or methods of quantitative or statistical analysis, but it must be pointed out that each method has its reason to exist and also a specific purpose; therefore, only necessary analyses should be done and no more than those. Statistics is a tool to assess data.»

Our research design determined the inclusion of twenty two variables in the questionnaire: four variables refer to the company's characteristic data and eighteen refer to the respondent's opinions about the impacts of the implementation of quality certification on different aspects of the company's activity and the economic environment.

In addition to the twenty-two variables in the questionnaire, five more variables were created so that the hypotheses defined could be verified directly and easily. These five variables, *i.e.* customer satisfaction, human resources, quality, productivity and competitiveness, correspond to the hypotheses and they are calculated from variables of opinion resorting to the simple average method. As shown in the following table, a number of questions were considered for each hypothesis, and the resulting variable is composed of the simple average of each variable. The results were subsequently rounded up.

Descriptive statistics are used in this paper; the data obtained must be specified before we can describe the distribution of scores or frequencies of each variable.

We used the frequency distribution which can be defined as «a group of ranked scores in their own respective categories» Hernandez *et al.* (2006: 419).

For better analysis and understanding, all the results are presented in charts based on the data obtained from the SPSS program.

7.1. Sample characterization

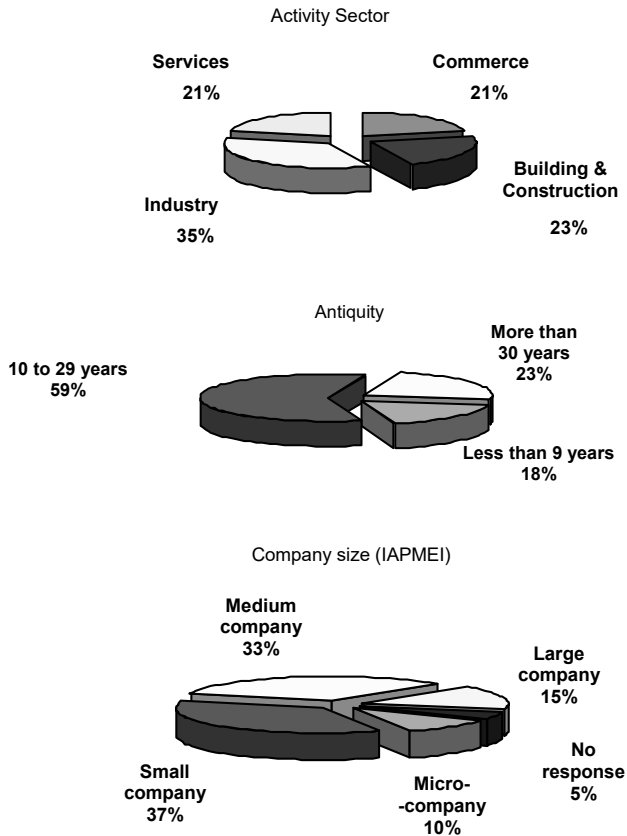
The first part of our questionnaire was composed of questions about the characterization of the companies invited to respond to our questionnaire so we could have a perception of the kind of companies we were analyzing. We now characterize our sample using the results obtained.

According to the list we obtained of companies certified by NP EN ISO 9001:2000 in the Médio Tejo, Region, four sectors of activity are considered. The characterization of the sample is presented in Figure 1 below.

The activity sectors characterizing our sample are distributed in the following manner: 35% in the industrial sector; 23% in the building and construction sector, 21% in services and 21% in commerce.

As for company age, 59% of our sample have been operating for 10 to 29 years, 23% for more than 30 years and 18% for less than 9 years.

We analyze the number of employees and the business volume using the company classification through the criteria established by IAPMEI – Instituto de Apoio às Pequenas e Médias Empresas e à Inovação (Support Institute for Small and Medium Sized Companies and Innovation); this reveals that 70% of our sample are small and medium sized companies (37% are small and 33% are medium), 15% are large companies and 10% are micro-companies.

Figure 1 – Characterization of the Sample

7.2. Opinions of an organizational nature

The following charts demonstrate the descriptive statistics (resulting from the responses to eighteen questions asking for opinions of an organizational nature) for the frequencies of each variable and the respective study hypothesis; they were developed using the frequency tables.

Figure 2 – H1: By certifying, the company satisfies the customers’ expectations and secures their loyalty

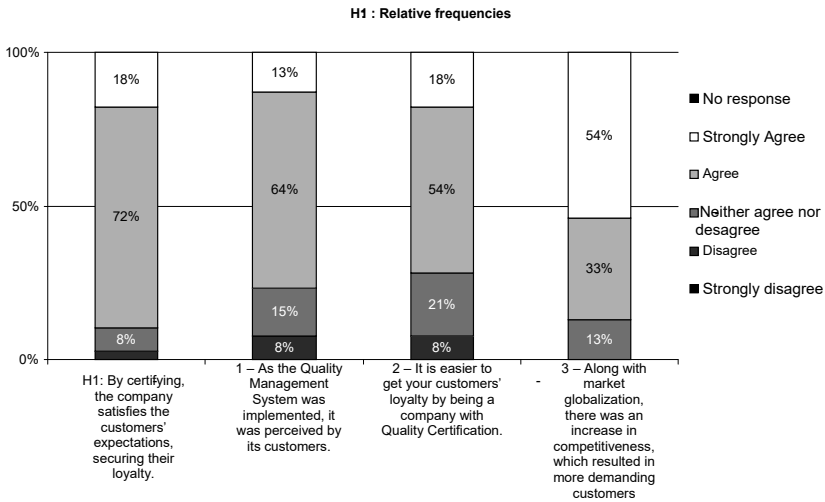
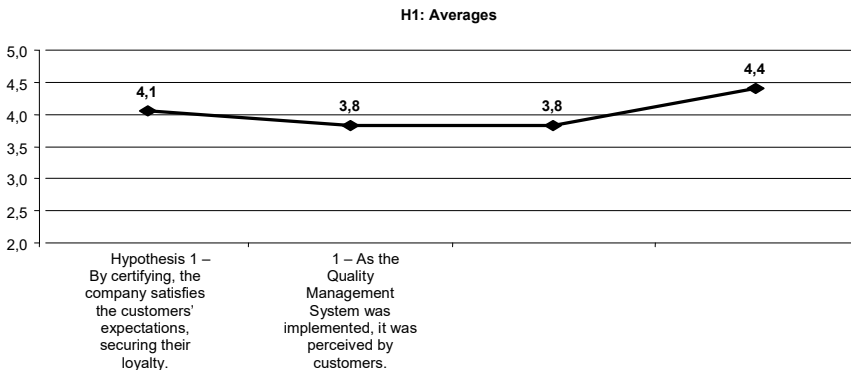


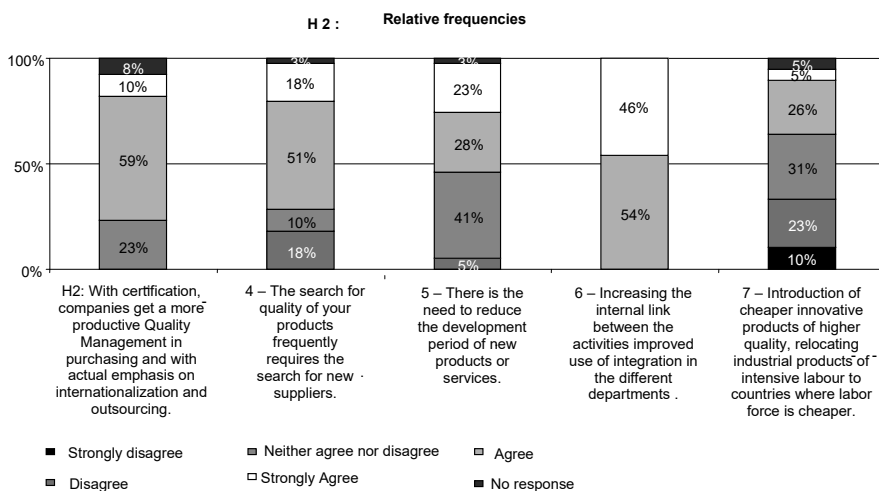
Chart 2 demonstrates that 72% of companies agree that they meet their customers’ expectations and secure their loyalty by certifying the company and only 3% disagree. An analysis of the frequencies on the relevant questions *i.e.* question numbers 1, 2 and 3, reveals that 64% of companies agree with our opinion on question 1, 54% on question 2 and 54% strongly agree with our opinion on question 3.

Figure 3 – Averages: H1



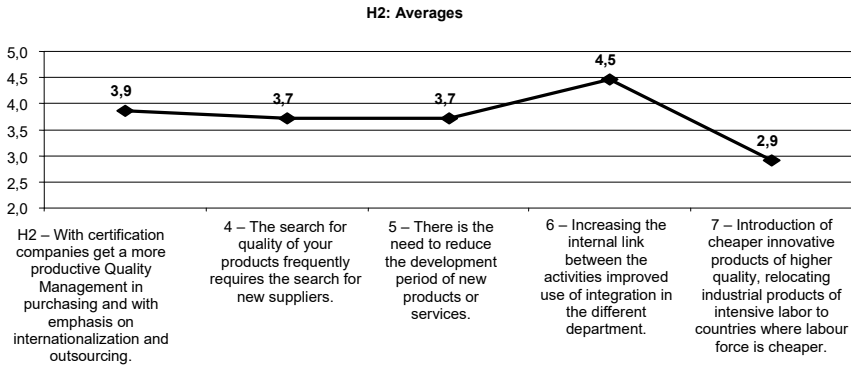
As seen above, our questionnaire uses a scale ranging from 1 to 5. Chart 3 therefore confirms that the same conclusions can be drawn from the averages and from the percentages. That is, the average for Hypothesis 1 is 4.1 on a scale of 1 to 5. It should be noted that question 3 has the highest average *i.e.* there was the most agreement among respondents.

Figure 4 – H2: Certification provides companies with a more productive quality management in purchasing with emphasis on internationalization and outsourcing



With regards Hypothesis 2, figure 4 reveals that 59% of the respondents agree that certification provides companies with a more productive quality management in purchasing with emphasis on internationalization and outsourcing. Question 7 was the source of most disagreement as 31% of the respondents do not have a valid opinion and 23% disagree with our statement.

Figure 5 – Averages: H2



The same conclusion can be drawn from figure 5 where the averages demonstrate the same as the percentages in the previous chart. The average of our hypothesis 2 is 3.9, on a scale of 1 to 5; P7 has an average of only 2.9 thus confirming that our respondents do not agree with the statement, «The introduction of cheaper innovative products of higher quality, by relocating industrial products of intensive labour to countries where labor force is cheaper (e.g. China, Southeast Asia, etc)». This could be associated to the fact that 35% of our respondents belong to the industrial sector and would therefore lose work if labor were transferred to other countries.

Figure 6 – H3: As a result of certification, employees became more motivated, received more training and gained more skills, increasing their responsibility within the company

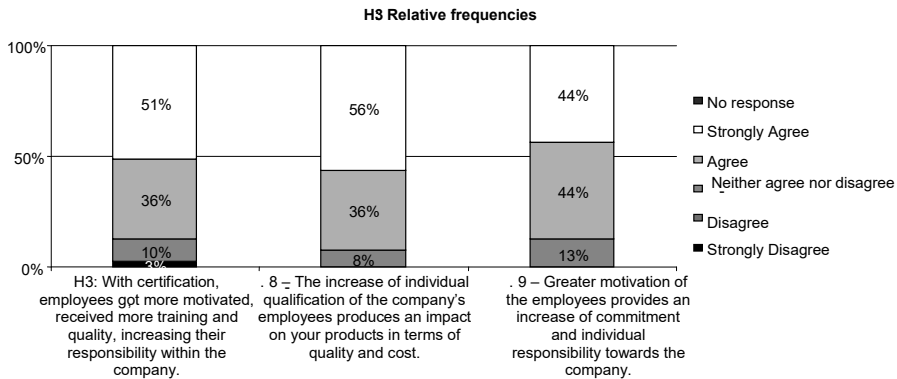


Figure 6, concerning our hypothesis 3, reveals that 51% of the respondents strongly agree and 36% agree, (*i.e.* 87% of agreement) with the statement that as a result of certification, employees became more motivated, received more training and gained more skills, thus increasing their responsibility within the company. We observe that 92% of the respondents (56% strongly agree and 36% agree) concur with the statement that an improvement in individual qualifications of company employees has an impact on the products in terms of quality and cost. Moreover, 88% (44% strongly agree and 44% agree) share the opinion that more motivated employees leads to greater commitment and responsibility towards the company.

Figure 7 – Averages: H3

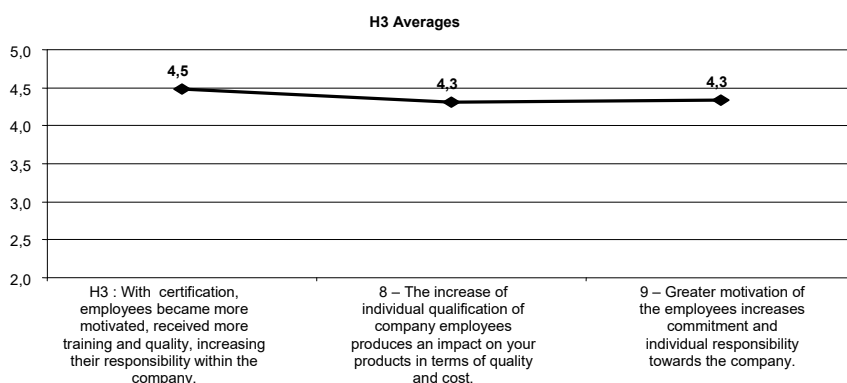
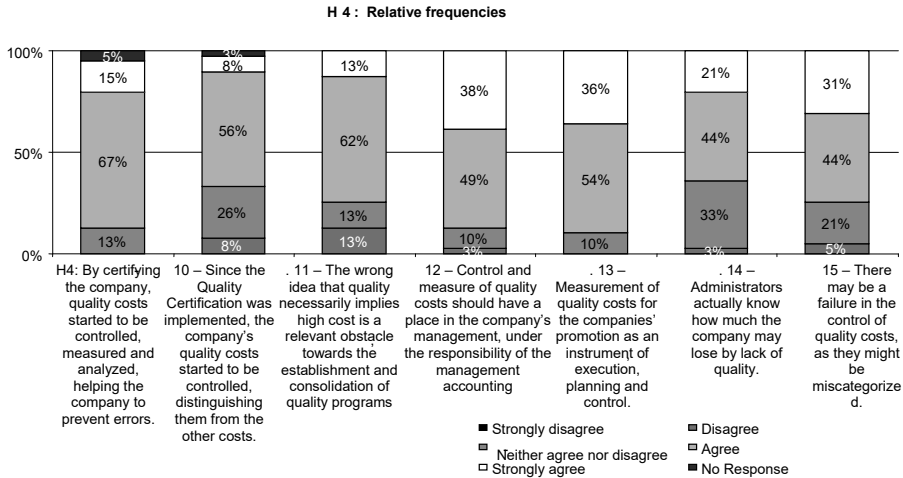


Figure 7 presents the average of the responses to questions on hypothesis 3. Using the same scale of 1 to 5, the average is 4.5, thus reflecting the percentages for relative frequencies. The same occurs for questions 8 and 9, which have an average of 4.3.

Figure 8 – H4: By certifying the company, quality costs started to be controlled, measured and analyzed, helping the company to prevent errors



In Figure 8, we test agreement with hypothesis number 4, «by certifying the company, quality costs started to be controlled, measured and analyzed, helping the company to prevent errors»; responses to our questionnaire show that 70.3% agreed and 16.2% strongly agreed with the statement. However, it should be noted that 26% of our sample have no opinion about the question «since certification, quality costs started to be controlled, distinguishing them from the other costs», while 87% (49% agree and 38% strongly agree) think that these should be measured, have a place in the company's management, and should be the responsibility of management accounting. It is also found that 90% (54% agree and 36% strongly agree) think that quality costs should be measured for the companies' promotion as an instrument of execution, planning and control. On the other hand, 75% think there may be failings in the control of these costs as they might be miscategorized.

Nonetheless, when we state that administrators actually know how much the company may lose by lack of quality, we must stress that 33% have no opinion and only 44% agree with this.

Figure 9 – Averages: H4

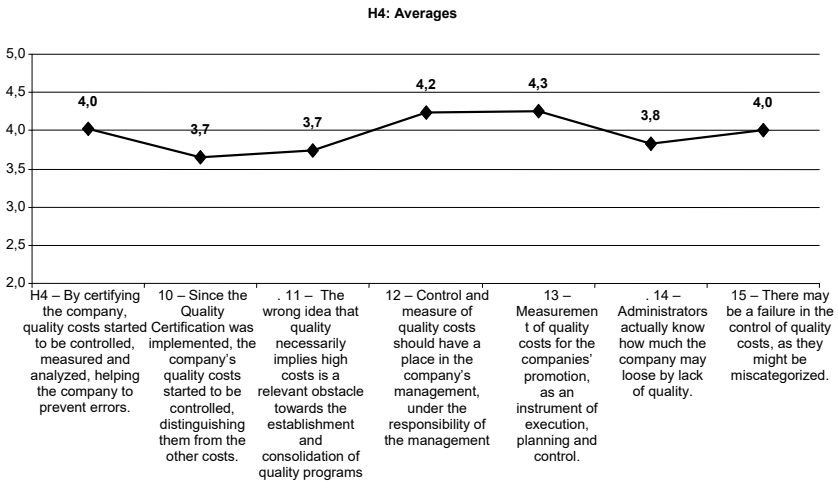
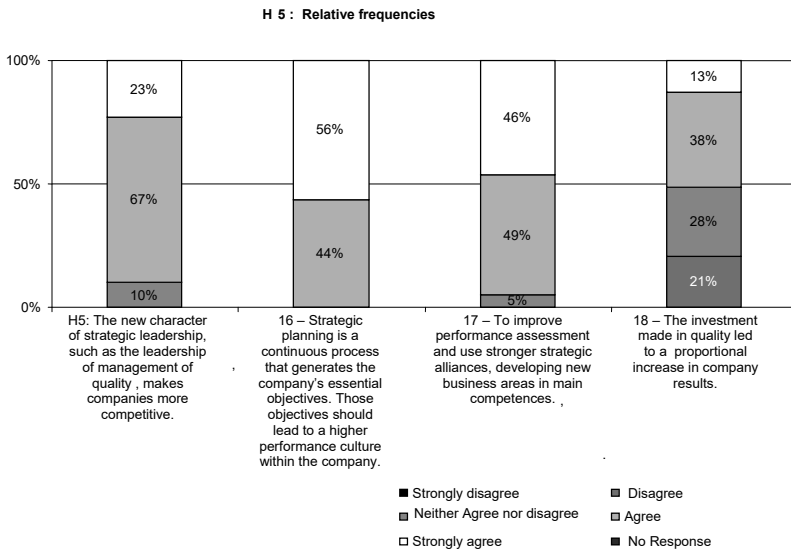


Figure 9 confirms the above. This study hypothesis has an average of 4 using the previously referred scale of 1 to 5. Questions 12, 13 and 15 get a higher average while that of questions 10, 11 and 14 is lower.

Figure 10 – H5: The new character of strategic leadership, such as the leadership of quality management, makes companies more competitive



Finally, Figure 10 presents the results for hypothesis 5 and respective questions. It shows that 90% of our sample agrees that the new character of strategic leadership, the leadership of quality management, makes companies more competitive. An analysis of the relevant questions reveals that all respondents agree with question 16 which states that strategic planning is a continuous process generating the company's essential objectives and leading to a higher performance.

Figure 11 – Averages: H5

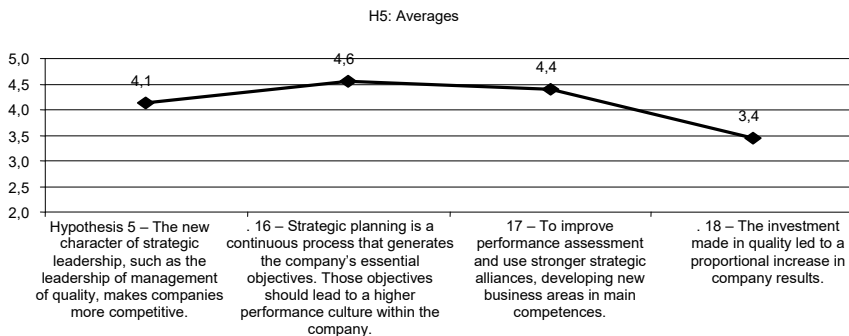


Chart number 11 considers the analysis made of the previous figure though it should be noted that the average for question 18 was 3.4, using the 1 to 5 scale.

8. Conclusions

The aim of this research was to shed light on the importance of the implementation of total quality management and of quality costs management systems for the management of the company, *i.e.* whether or not it affects the company's results.

We sought the opinion of top managers in companies certified by NP EN ISO 9001:2000 standard in the District of Santarém (Médio Tejo). These managers were asked to state their opinion (after certification) on: customer satisfaction, more productive quality management, the quality of employees, the importance of measuring, controlling and analyzing quality costs and, finally, the strategic leadership of the actual management of quality.

Empirical evidence seems to suggest that our hypotheses are confirmed. Our research conclusions suggest:

First: *«As a result of certification, the company meets the customers' expectations and secures their loyalty»*. The results of our questionnaire strongly suggest (around 90% of agreement) that hypothesis I is confirmed.

Nowadays, companies want to understand their target customers' expectations so they plan the competitive value conveyed by the customer, keeping what was promised, with minimum product defects for the customer and with maximum efficiency. This will lead to customer satisfaction and loyalty. Moreover, customers enable organizations to survive and, without them, there are no good entrepreneurial projects or good businesses. Therefore, a good quality management system will have to find the best strategies to deliver products and services that provide customers with maximum satisfaction. Quality, in terms of the value perceived by the customer, has become a global acquisitive objective for both the company and the customer.

Second: *«As a result of certification, companies obtain a more productive quality management in purchasing with emphasis on internationalization and outsourcing»*. The results of our questionnaire suggest (around 69% of agreement) that hypothesis II is confirmed.

On the one hand, measurement of the value conveyed by the customer has become a guideline, and, when necessary, gives rise to new design practices, *i.e.* product development to avoid negative impacts on customer satisfaction. The first conclusion leads to the second, namely, companies are starting to form a new competitive force by means of a more effective quality management in their internationally oriented activities of supply contracts, purchasing and outsourcing.

With regard quality systems engineering, the company should guarantee a clear and precise integration of all the development processes, design, production, supply, delivery and maintenance, intelligence technology, distribution logistics, financial and administrative services, *i.e.*, everything the company buys is important to the quality and hence to better results.

Third: *«As a result of certification, employees became more motivated, received more training and gained more skills increasing their responsibility within the company»*. The results of our questionnaire strongly suggest (around 92% of agreement) that hypothesis III is confirmed.

The best and most consistent motivation of quality for the human resources (employees) represents the fundamental grounding for the leadership of global

quality. The emphasis is based on the administration's support and the personal leadership of the practices that stimulate, develop and use employees' knowledge, abilities and essential attitudes of quality by all organizations, leading to a constant quality improvement.

The new emphasis of quality leadership is on the creation of an environment that is trusting and open with honest communication, so that it becomes easier to stimulate the employees' development, boost entrepreneurship and improve quality at an individual level.

Fourth: *«By certifying the company, quality costs started to be controlled, measured and analyzed, helping the company prevent errors»*. The results of our questionnaire strongly suggest (around 86% of agreement) that hypothesis IV is confirmed.

As the company implements a totally oriented quality management system, it affects all its employees from the beginning, that is, to produce products or services at the minimum possible cost that meet customers' needs and that motivate the company's employees. Calculating quality costs allows the programs implemented in companies to be evaluated. Although quality cost management is vitally important, we believe that the management is often unaware of its economic role. If these costs were systematically measured, they could be methodically administered; this would provide significant market leadership on product quality, as well as on the growth of its profitability.

Fifth: *«The new character of strategic leadership, such as the leadership of quality management, makes companies more competitive»*. The results of our questionnaire strongly suggest (around 90% of agreement) that hypothesis V is confirmed.

Strategic quality management recognizes the utmost importance of the efficiency of management leadership in the commercial area regarding the speed of product development, the integration and quality of the supplier, the company's employees and the measurement of quality costs.

The empirical results corroborate our hypotheses.

Therefore, we are able to answer our initial research question. Quality management can be understood as a competitive strategy and its goal will always be to increase the company's profitability. We can speak about the need to meet customers' requirements as a means of gaining market share. Satisfied customers lead to an increase in sales, good reputation, new requests, new jobs and increases of salary and, consequently, the growth of the company's profitability. Moreover, improving the

efficiency of the business itself will result in a decline in the waste and costs of non-quality products and services. A Total Quality Management System has a direct impact on reducing costs, raising competitiveness, greater gains of market share and consequently on increasing the company's positive results.

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