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DEPENDENCE RELATIONSHIP BETWEEN THE CRITICAL QUALITY FACTORS AND SOCIAL IMPACT

Relação de dependência entre os fatores críticos de qualidade e impacto social

Relación de dependencia entre los factores críticos de la calidad e impacto social

JOSÉ ÁLVAREZ GARCÍA
pepealvarez@unex.es
Professor at Departamento de Economía Financiera y Contabilidad, Universidad de Extremadura - Extremadura, Spain

MARÍA DE LA CRUZ DEL RÍO RAMA
delrio@uvigo.es
Professor at Departamento de Organización de Empresas y Marketing, Universidad de Vigo – Ourense – Galicia, Spain

MERCEDES VILA ALONSO
mvila@uvigo.es
Professor at Departamento de Organización de Empresas y Marketing, Universidad de Vigo - Ourense - Galicia, Spain

JOSÉ ANTONIO FRAIZ BREA
jafraiz@uvigo.es
Professor at Departamento de Organización de Empresas y Marketing, Universidad de Vigo - Ourense - Galicia, Spain

ABSTRACT

This paper shows the results of the empirical study conducted in 186 tourist accommodation businesses in Spain certified under the "Q for Tourist Quality", own System Quality Management. It was raised with the purpose of analyzing the structure of the relationship between critical quality factors and results-social impact, how they operate and the level of their influence on obtaining these results within the company. Starting from a deep theoretical revision we propose a theoretical model together with the hypotheses to be tested, and we proceed to validation using the technique of Structural Equation Models. The results obtained show that companies wishing to improve their social impact should take into account that leadership is the most important factor to achieve it. Leadership indirectly affects the social impact through its influence on alliances and resources, quality policy/planning, personnel management and learning.

KEYWORDS | Quality management, "Q for Tourist Quality", social impact results, accommodation businesses, causal model.

RESUMO

Este artigo apresenta os resultados do estudo empírico realizado em 186 empresas de alojamento turístico na Espanha, certificadas de acordo com "Q de Qualidade Turística", Sistema de Gestão da Qualidade próprio. Foi criado com a finalidade de analisar a estrutura da relação entre os fatores críticos de impacto de qualidade e resultados – impacto social, como se operam e do nível da sua influência sobre a obtenção destes resultados dentro da empresa. A partir de uma revisão teórica integrante propomos um modelo teórico juntamente com as hipóteses a serem testadas, e procedemos à validação usando a técnica de modelos de equações estruturais. Os resultados obtidos mostram que as empresas que desejam melhorar seus resultados e impacto social deve levar em conta que a liderança é o fator mais importante para tal. A liderança afeta indiretamente o impacto social através de sua influência sobre alianças e recursos, política de qualidade e planejamento, gestão de pessoal e de aprendizagem.

PALAVRAS-CHAVE | *Gestão da Qualidade, "Q de Qualidade Turística", resultados do impacto social, empresas de hospedagem, modelo causal.*

RESUMEN

Este artículo presenta los resultados de un estudio empírico realizado en 186 empresas de alojamiento turístico en España, certificadas de acuerdo con la marca "Q de Calidad Turística", un sistema de gestión de la calidad propio. Fue elaborado con la finalidad de analizar la estructura de la relación entre los factores fundamentales de la calidad y los resultados –el impacto social–, cómo se operan y el nivel de su influencia sobre la obtención de dichos resultados dentro de la empresa. A partir de una revisión teórica integrada, proponemos un modelo teórico junto con las hipótesis que se han de probar y procedemos a su validación usando la técnica de los modelos de ecuaciones estructurales. Los resultados obtenidos muestran que las empresas que desean mejorar sus resultados y el impacto social deben tener en cuenta que el liderazgo es el factor más importante para ello. El liderazgo afecta indirectamente el impacto social a través de su influencia sobre alianzas y recursos, política de calidad y planificación, gestión del personal y del aprendizaje.

PALABRAS CLAVE | *Gestión de la calidad, "Q de Calidad Turística", resultados del impacto social, empresas de alojamiento, modelo causal.*

INTRODUCTION

Quality Management is used by companies as a way to improve their activities (internal quality) and their performance (external quality) (Kaynak, 2003), which allows them to achieve a significant improvement in satisfying customers, employees and business performance (Ghobadian & Gallear, 1996). Similarly, quality will allow them to differentiate and compete in the current context, characterized by rapid changes in supply and demand (Casadesus, Marimon, & Alonso, 2010). For this reason, research in the quality management field is necessary and relevant due to its impact on business operations.

The review of previous literature has enabled us to detect that quality management has been widely studied in the industrial sector (Selles & Trigueros, 2008), but there are very few studies in the tourism sector (Harrington & Akehurst, 2000), a sector with unique and very different characteristics. On the other hand, studies in the quality management area have been conducted mainly in the insurance field, based on ISO 9001 or on Total Quality Management, EFQM Excellence Model.

The relevance of our study is based primarily on the selected target population, tourism businesses that have the Q for Tourism Quality Label, own brand of the sector in Spain and unique in the world. It will enable us to close the existing gap in:

1. Studies in tourism sector, considered by the Government as a strategic mainstay for economic recovery under the National and Integral Tourism Plan 2012-2015 (PNIT). The 2012:3 PNIT states that Spain is *"the world's first destination in holiday tourism, the second country in tourism expenditure and the fourth in number of tourists. The tourist activity makes up for more than 10% GDP, creates 11% employment and counteracts, to a great extent, our trade deficit. It is an important asset for the creation of wealth and employment, performing with great dynamism even in times of crisis and has a great stimulating ability on other productive sectors"*.

2. Studies on the tourism sector are necessary because in practice quality of services cannot be managed in the same way as in industrial enterprises, due to special characteristics of services as opposed to products (intangibility, inseparability of consumption production, etc.).

3. Studies in Spanish tourism companies with a quality management system based on the UNE 182001:2008, norm "Q for Quality" mark of hotels and tourist apartments. Legislation is at an intermediate level between ISO 9001 (quality assurance) and the EFQM Model (Total Quality).

Secondly, the analysis of interrelations structure between the different critical quality and results, are of vital importance when managing total quality in an organization. The knowledge of these internal relationships enables an organization to know which critical factors it must focus its efforts on and which have a greater effect on improving the performance of a particular interest group.

Therefore, the objective of this paper is to analyze the relationship structure between the critical quality factors and results/social impact (corporate social responsibility, including environmental actions, social, ethical and expectations of society regarding organizations at a specific moment of time (Carroll & Sabana, 2010). This will enable companies to know which key factors they should focus their efforts on, in order to improve the results in society, i.e., those management quality practices that help to develop elements of corporate social responsibility. According to the literature reviewed, we propose a theoretical model that enables us to analyze whether continuous improvement and process management can be considered antecedents of results/social impact. We also want to contrast leadership influence through alliances and resources, quality policy/planning, employee management and learning on the antecedents of results/ social impact.

To respond to the objectives, the work is divided into several sections. Firstly, establishing the theoretical framework used to conduct research and, from the theoretical review, a theoretical model and hypotheses are established. The second section describes the methodology used, while the third includes the analysis of the results. The final section presents the main conclusions and implications of the work and future lines of research.

THEORETICAL FRAMEWORK AND HYPOTHESES

The basic framework for this study is TQM and the mark "Q for Tourist Quality". Quality has now become one of the key variables of competitiveness that companies should incorporate into their corporate strategy. Kanji (1998) determined that the principles or critical success factors are the key areas of the organization which, when properly managed, ensure improvement of competitiveness and business excellence. In the literature on the subject, it has been shown that for a Total Quality Management implementation to be successful, the principles of quality or critical factors must be taken into account (Zhang, 2000).

The critical factors identified by researchers vary from each other, since each researcher points out from his point of view, which ones are essential to properly manage the orga-

nization, improve competitiveness and business excellence. However, it is necessary to reach consensus on those quality management principles.

Many researchers conducted research in this direction (Saraph, Benson, & Schroeder, 1989; Conca, Llopis, & Tarí, 2004; among others). After this compilation of studies, it is clear that the TQM principles considered are different among different researchers, and vary in number. Ritchie and Dale (2000) state that despite the differences between them, there are a number of common elements. In our research, the critical factors considered are: leadership, quality policy/planning, alliances and resources, employee management, learning, process management and continuous improvement.

With respect to the mark "Q for Tourist Quality", it has originated in the commitment by the Spanish tourism industry in the early 90's to implement quality standards. This quality management system has four components (Casadesús, Marimon, & Alonso, 2010, p. 2459): (1) quality standards specific for each of the tourism sub-sectors, which define the process, service standards and quality requirements thereof; (2) a certification system whereby an independent third party ensures that companies comply with the rules, (3) the Q Mark for Quality Tourism, (4) a management body, known as the ICTE that promotes the system and is responsible for its execution, integrity and dissemination.

Its standards are at an intermediate level between ISO 9001 and EFQM Model, so that its implementation is perfectly compatible with ISO 9001 certification and excellence and the difference between the two certifications meet the requirements and the level of demand for reference standards.

Although "Q for Quality" and ISO 9001 are compatible, they are not two identical systems. In this regard, Camisón, Cruz, and González (2007, p.618) identifies a number of differences between them: ISO 9001 is specific for implementation of a Quality Management System, while ICTE standards include service specifications that should be implemented by the enterprise, ISO 9001 is more versatile and applicable to any organization while ICTE norms apply only to tourism. ISO 9001 certification does not guarantee a particular quality level but the service will meet the specifications recommended by the establishment.

Once defined the theoretical framework, we consider the hypotheses to be tested in order to respond to the objective stated in our theoretical model, in which we analyze the structure of relationships between critical factors/quality elements and results/social impact, i.e. how they perform and their level of influence on the results in society and the interrelationships between them. This will enable companies to know what key factors they should focus their efforts on, in order to improve social impact.

Relationship of leadership with alliances and resources, quality policy/planning, employee management and learning

Leadership management is the most important factor to successfully implement Quality Management principles; this statement is corroborated by numerous studies carried out by Saraph, Benson, and Schroeder (1989), among others. Therefore, leadership is considered to be one of the most important factors for the success of TQM (Fotopoulos & Psomas, 2010).

Leadership should be visible, permanent, effective and be extended to all executive levels (Waldman, 1994) because it acts as a guide and drive of Quality Management implementation process, creates and disseminates this management philosophy values and should show his involvement through: (1) investment in human, material and financial resources to support the achievement of objectives and continuous improvement which causes a positive effect on the organization strategic resources management (Tutuncu & Kucukusta, 2007), (2) training of employees and encourage their involvement in quality management as one of the factors influencing the successful implementation of TQM (Claver, Tarí, & Molina, 2003; Jiménez & Martínez, 2009).

Based on the above, it can be said that leadership is positively associated with quality planning, employee management, learning, and alliances and resources. Therefore, we propose the following hypotheses:

H1: Top management leadership has a positive and significant influence on alliances and resources.

H2: Top management leadership has a significant and positive influence on quality policy/planning.

H3: Top management leadership management has a significant and positive influence on personnel management.

H4: Top management leadership has a positive and significant influence on learning.

Relationship between alliances and resources, quality policy/planning, employee management and learning with process management and continuous improvement

Each of the critical factors directly influenced by leadership, in turn influence the management of processes and continuous improvement.

How the organization plans and manages its external alliances and internal resources to support its policy and

strategy and effective process operation, is an aspect which is frequently dealt with in the literature on quality management (Curkovic, Melnyk, Calantone, & Handfield, 2000). Some authors like Eskildsen and Dahlgaard (2000), Valmohammadi (2011) and Heras, Marimon, and Casadesús (2012) have performed empirical analyses of the EFQM model, in which they found a positive and significant relationship between management of alliances and resources and management of key processes. This collaboration contributes to excellence in service delivery and generates customer value (Criado & Calvo-Mora, 2009).

Thus, good relationships with suppliers can have a positive effect on process management (Kaynak, 2003), as well as other practices such as quality planning, human resource management, customer focus (Samson & Terziovski, 1999) and learning (Anderson, Rungtusanatham, & Schroeder, 1994). As a result, quality planning, human resource management, learning, supplier management and customer focus are positively related to process management. Companies, like any organization, must optimize their scarce resources and properly manage suppliers of certain inputs that are a major expense in the budget, which will lead to better and more efficient performance of their processes or key activities (Osseo-Asare & Longbottom, 2002; Ward & Chandler, 1999).

This leads us to propose the following hypotheses:

> H8: The management of alliances and resources has a significant and positive influence on process management.

> H9: The management of alliances and resources has a significant and positive influence on continuous improvement.

The last criterion directly affecting process management and continuous improvement is quality policy and planning. According to Winn and Cameron (1998), policy and strategy should be implemented through the deployment of key processes, adequate policy and personnel management, and by establishing alliance. According to Samson and Terziovski (1999), planning can impact on process improvement.

In a work developed by Eskildsen and Dahlgaard (2000), it was shown that the policy and strategy defined by management conditions personnel and resource management. It also verifies that the process depends on people and resources management and the definition itself of policy and strategy. In the same vein Reiner (2002), in his study, confirms that the policy and strategy has an influence on leadership and management processes. Leadership is also related to resources and determines management processes.

The above leads us to consider the following hypotheses:

> H5: Quality policy/planning have a positive and significant effect on alliance and resource management.

> H6: Quality policy/planning have a positive and significant effect on personnel management.

> H10: Quality policy/planning have a positive and significant effect on process management.

> H11: Quality policy/planning have a positive and significant effect on continuous improvement.

There are very few empirical studies that analyze the relationship between employee management and process management. Wilson and Collier (2000) demonstrate how human resource management is significantly and positively related to process management, as the work of Kristensen, Juhl, and Eskildsen, 2001 and Eskildsen, Kristensen, and Juhl, 2002, who claim that personnel management has a direct relationship with process management, since processes are influenced by human resource management. This research confirms that those organizations that do not strive to motivate their employees to solve problems, will not achieve full involvement of their employees in process improvement, nor effective knowledge transfer which will affect process management.

According to Ahmad and Schroeder (2002) and Jiménez and Martínez-Costa (2009), personnel management is one of the most important parts for Total Quality Management success, since quality improvement process is an organizational learning process, based on individuals. Thus, one of the best practices used in this sense, is empowerment, which consists of delegating employees the authority to evaluate, implement and control processes.

This leads us to propose the following hypotheses:

> H12: Employee management has a positive and significant influence on process management.

> H13: Employee management has a positive and significant influence on continuous improvement management.

> H7: Employee management has a positive and significant influence on learning.

In this sense, other practices that can have positive effects on process management are customer focus (Samson & Terziovski, 1999) and learning (Anderson, Rungtusanatham & Schroeder, 1994; Claver, Tarí, & Molina, 2003; Criado & Calvo-Mora, 2009). Learning and training can have a positive effect on continuous improvement. This is due to the fact that continuous improvement is based on a constant learning orientation, which should include investment in training (Hackman & Wageman, 1995). Thus, we propose the following hypothesis:

H14: Learning has a positive and significant influence on process management.

H15: Learning has a positive and significant influence on continuous improvement.

In this context, process management contributes to continuous improvement (Anderson, Rungtusanatham & Schroeder, 1994), so we pose the following hypothesis:

H16: Process management has a positive and significant effect on continuous improvement.

Relationship of process management and continuous improvement with social impact results

In the EFQM model, process management is the link between the agents and results. So, proper process management and continuous improvement is positively related to the results of the organization, employees and customers (Bou-Llusar, Escrig-Tena, Roca-Puig, & Beltrán-Martín, 2009; Gómez, Martínez, & Martínez, 2011; Heras *et al.*, 2012).

Quality as excellence is not only intended to achieve key business outcomes, but also internal customer (employee) and external (consumers and / or users) satisfaction, as well as satisfaction of the society in which the firms carry out their activity (Nabitz, Severens, Van Der Vrink, & Cansen, 2001, p. 70). In this sense, Tarí and García (2011, p.77) demonstrated in their study "*that companies with a higher level of quality management show, at the same time greater awareness for certain dimensions of social responsibility*."

Some authors, considering numerous studies (Curkovic, 2003; Witanachchi, Handa, Karandagoda, Pathirage, Tennakoon & Pullaperuma, 2007) that analyze how quality management can facilitate the development of social responsibility and environmental management, support the idea that the development of critical quality factors drives the development of corporate social responsibility (McAdam & Leonard, 2003; Witanachchi, Handa, Karandagoda, Pathirage, Tennakoon & Pullaperuma, 2007). Considering these studies we pose the following hypothesis:

H17 (3): Process management has a positive and significant influence on the social impact results.

H18 (3): Continuous improvement has a positive and significant influence on social impact results.

To summarize, in Figure 1 a sequence diagram or "path diagram" is shown with all the first-order latent variables, including the hypotheses to be contrasted, which make up the theoretical model to be tested in this research. In Table 1, we collect the existing sources of scientific information on the proposed theoretical model.

Figure 1. **Representative diagram of the proposed Structural Model**

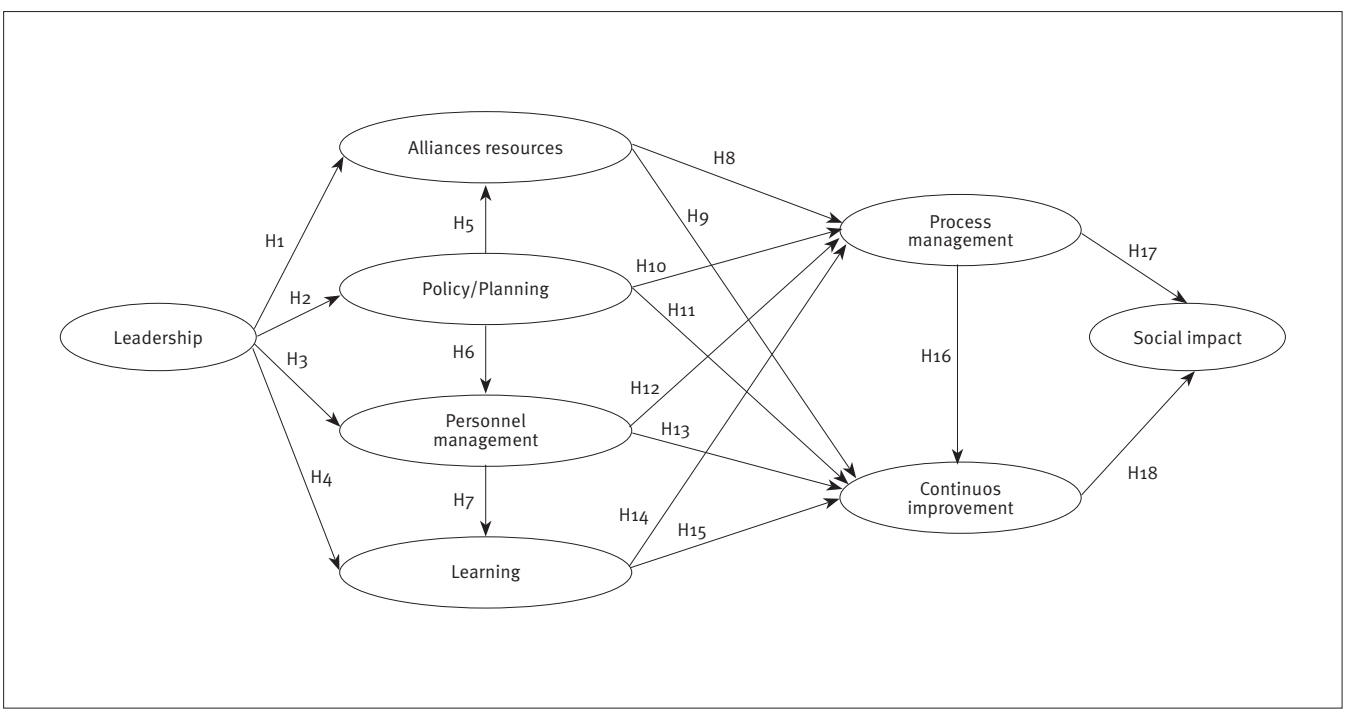


TABLE 1. **Reference studies**

Construct	Reference Studies
Leadership	Dean and Bowen, 1994; Ahire *et al.*, 1996; Yusof and Aspinwall, 1999.
Employee Management	Flynn *et al.*, 1994; Ahire *et al.*, 1996.; Wilson and Collier, 2000; Ahmad and Schroeder, 2002.
Quality policy/planning	Saraph *et al.*, 1989; Porter and Parker, 1993; Black and Porter, 1996; Win and Cameron, 1998; Quazi *et al.*, 1998; Ravichandran and Rai, 2000; Wilson and Collier, 2000.
Alliances and resources	Ward and Chandler, 1999; Eskildsen and Dahlgaard, 2000; Curkovic *et al.*, 2000 ; Osseo-Asare and Longbottom, 2002.
Processes and continuous improvement	Wilson and Collier, 2000; Eskildsen and Dahlgaard, 2000; Curkovic *et al.*, 2000; Pannirselvam and Ferguson, 2001.
Learning	Anderson *et al.*, 1994; Hackman and Wageman, 1995.
Processes and continuous improvement-Results	Nabitz *et al.*, 2001; Westlund, 2001; Reiner, 2002.
Critical factors-Results	Boje and Winsor (1993); Mann and Keohe (1994); Spector and Beer (1994); Flynn *et al.* (1995); Powell (1995); Adam *et al.* (1997); Taylor and Wright (2003).

METHODOLOGY

To contrast our theoretical model, we have chosen the tourist accommodation sector in Spain "Q for Quality" certified. This decision is justified by the three reasons already mentioned in the introduction of this work. Thus, the sample studied was composed of 566 companies. The database was developed from information found on the website of ICTE-(Institute for Spanish Tourism Quality- www.icte.es). 186 companies responded to the questionnaire representing a 32.86% response rate and 6.01% margin of error (Table 2).

TABLE 2. **Technical information of study**

Technical data	
Target Population	Tourist accommodation companies, certified under the mark "Q for Tourist Quality"
Geographical Location	Spain
Population	566 companies
Sample size	186 valid questionnaires
Response rate	32.86%
Sampling error	$\pm$ 6.01%
Confidence level	95 % Z= 1.96 p=q=0.5
Method of data collection	e-mail
Date of collection period	April-May 2010

Regarding the sample profile, if we analyze the size of the establishments, 100 of them (53.8%) correspond to small businesses (0-49 employees) and 86 to medium-sized enterprises representing 46.2% (50 to 249 employees). There are 65 (34.9%) firms which have been certified with the UNE 182001:2008 and UNE186001: 2009 (hotels and apartments, spas) for 3 years and under, 77 (41.4%) firms for more than 3 years and up to 6 years and 44 enterprises (23.7%) with over 6 years.

In developing the measurement scales used to assess each of the proposed constructs, some of the most relevant scales in the literature have been used as a reference and adapted to the specific characteristics of the tourist accommodation sector (Grandzol & Gershon, 1998, EFQM, 1999, among others).

DATA ANALYSIS

Test for reliability and validity

We begin our analysis by checking whether the measuring instruments of our model variables have been adequately measured through the proposed items in the survey. We have followed Anderson and Gerbing (1988) methodological recommendations, to validate measurement scales, by assessing their psychometric properties: reliability, unidimensionality and validity.

We have developed this process in two phases: one with an exploratory nature, by using an exploratory factorial analysis and another one in which we carry out a Confirmatory Factorial Analysis of first order for each of the scales, trying to edit more the observable variables and maintain those items that best represent the latent concept.

Estimation of the measurement model (reliability, unidimensionality and validity)

In order to test the scale reliability, the following analysis (internal consistency method or method of Kunder Richardson) was carried out: we check that all the scale items have an acceptable item-total correlation (above 0.3), and analyze Cronbach α together with the Standardized Cronbach α, proving that they exceed the minimum allowable limit of 0.8. This process enables us to define the number of items measuring each concept (Table 3).

TABLE 3. **Reliability of measurement scales, critical factors and results/social impact**

ITEM	CRONBRACH´S ALPHA	ITEMS ELIMINATED	FACTORS IDENTIFIED	% EXPLAINED INFORMATION
LEADERSHIP	a = 0.912; a standardized = 0.915	Do not delete any item	LE: Leadership	63.575%
QUALITY POLICY/ PLANNING	a = 0.920; a standardized = 0.929		PO: Quality policy/ planning	70.411%
ALLIANCES AND RESOURCES	a = 0.879; a standardized = 0.884		AL: Alliances and resources	59.568%
PERSONNEL MANAGEMENT	a = 0.923; a standardized = 0.934	Eliminates 1 item	PM: People management	63.451%
LEARNING	a = 0.935; a standardized = 0.940	Do not delete any item	LA: Learning	67.933%
PROCESS MANAGEMENT	a = 0.891; a standardized = 0.895		PG: Process management	65.605%
CONTINOUS IMPROVEMENT	a = 0.845; a standardized = 0.882		CI: Continous improvement	52.668%
RESULTS/SOCIAL IMPACT	a = 0.924; a standardized = 0.924	Eliminate 2 items	RSI: Results/social impact	72.905%

Measurement scales reliability analysis in the case of critical factors has enabled us to verify that there is an item in the employee management scale, which shows an item-total correlation below the recommended minimum (Nurosis, 1993) 0.3, which was removed to improve Cronbach's alpha and in the case of the social impact result scale, 2 items were removed. After editing the scales, Cronbach's alpha coefficient takes values above 0.8 recommended by Grande and Abascal (1999), which indicates the internal consistency of all scales analyzed.

In a previous factorial analysis, we found that process management was not unidimensional, but was made up of two factors which we have identified as processes and continuous improvement. We then carried out a confirmatory factorial analysis to confirm the existence of a single underlying concept. We have developed a rivals model strategy, in which we proposed a first-order factorial model where the different dimensions were not differentiated, but where the items loaded on one only factor which is compared with a first-order model, where the critical dimensions are shown with their corresponding items. We confirm that the most appropriate model was one in which we proposed two critical dimensions and then proposed a 2nd order model that enabled us to prove that there were two distinct dimensions, processes and continuous improvement and that the process management construct is not made up of two critical dimensions. In this sense, what Saraph, Benson & Schroeder (1989) stated in their research is confirmed; process management is not unidimensional, and future studies should consider that critical factor management processes should be divided into two separate constructs. Therefore, in this research, from the start, it was decided to consider two different constructs, process management and continuous improvement.

To confirm unidimensionality, we conducted an Exploratory Factorial Analysis of principal components with varimax rotation, in order to identify the underlying dimensions in each of the constructs when dividing the variance between the different factors (Table 4). The application of the factorial analysis did not imply removing any items as shown in Table 3, in all cases the factorial loadings are above 0.5 (except 1), and factor loadings lower than 0.3 were not considered significant (Hair, Anderson, Tathaman & Black, 1999). In all scales the cumulative percentage of variance explained exceeds 50%.

Thus, from the data obtained in the analyzes performed to verify reliability, once removed the item GEM8, RSS1, RSS2, we can conclude that the proposed scales are highly reliable, being therefore free of random errors and able to provide consistent results, also proving that all the measurement scales are unidimensional.

TABLE 4. **Table 4- Indicators of the degree of association between variables**

INDICATOR / SCALE	Correlation matrix	Correlation matrix determinant	Bartlett's Test of Sphericity	Measure of adequacy of the sample	Index KMO
Leadership	Variables Correlated	0.004	1015.707 sig. 0.000	(0.821- 0.929)	0.876
Quality policy/ planning		0.005	961.615 sig. 0.000	(0.934- 0.920)	0.920
Alliances and resources		0.018	726.805 sig. 0.000	(0.839- 0.842)	0.864
Personnel management		0.001	1481.064 sig. 0.000	(0.931- 0.847)	0.914
Learning		0.001	1455.752 sig. 0.000	(0.901- 0.893)	0.896
Process management		0.034	613.370 sig. 0.000	(0.929- 0.852)	0.875
Continous improvement		0.003	1028.093 sig. 0.000	(0.854- 0.768)	0.838
Results/social impact		0.005	951.027 sig. 0.000	(0.905-0.884)	0.854

Confirmatory factorial analysis - an estimate of the measurement model

In the second phase of editing scales, we submit the factorial solutions to validation by the Confirmatory Factorial Analysis technique, examining the measurement model, the structural model and the global model, which guarantees the validity and reliability of measurement scales and editing them more, if necessary.

Firstly, in this process of editing measurement scales, we have reviewed the infringed estimation, trying to identify those coefficients whose values are outside acceptable limits (Hair, Anderson, Tathaman & Black, 1999, p. 637): (1) negative or non-significant error variances, (2) standardized coefficients exceeding or very close to 1.0, and (3) very high standard errors associated with any estimated coefficient.

To adjust the structural measurement model, we consider the following indicators: (1) the t value for each standardized critical coefficient must exceed ± 1.96 and the standardized factorial loadings of the different variables must be greater than 0.05 (Steenkamp & Van Trijp, 1991), (2) the parameter R^2, which measures the individual reliability of each indicator, will take a value of 0.5 recommended by Sharma (1996). Not meeting the limits set for these indicators, will imply the removal of measurement scale indicators and re-estimating the model. And finally we must evaluate the global model. We determine the goodness-of-fit of the model, without having a set of generally accepted measures when considering together the measurement and structural model.

To continue the analysis, we propose the following confirmatory factorial analysis for the different measurement scales separately (Table 5). The criteria used to judge the appropriateness of removing items were Lambda estimator (›0.5) value, the corresponding "Student t-test" statistic and R^2 coefficient test, which measures each indicator's reliability. On the other hand, every model has good absolute, incremental and parsimony fit measures, as can be seen in Table 5, since all indicators have values within the limits generally accepted and the probability associated $\chi 2$ is above the recommended 0.05, except for the allianc-es and resources scale with a very close value ($\chi 2 = 0.042$).

Continuing the measurement model assessment, we have finally conducted the scales reliability study, for which Composite Reliability Coefficient and Variance Extracted were considered. In the case of reliability, it should take a minimum value of 0.7, although it is not an absolute standard and there are researchers who argue that values above 0.6 are sufficient (Bagozzi & Yi, 1988). In turn, the variance extracted (AVE), reflects the total amount of indicators variance, shown by the latent construct, and the higher the values, the more represented are the critical dimension on their loading indicators, which must be greater than 0,5 (Hair *et al.*, 1999). In our case, both tests of reliability, as shown in Table 6, exceed in all scales, the optimum values accepted.

Finally, to assess the validity, the content validity is studied (supported by the literature review); the validity of concept measured through convergent validity (for which we examine whether the standardized loadings are › 0.5 and factorial loadings › + -1.96), occurring in all cases (table 5).

TABLE 5. **Results of the confirmatory factorial analysis**

VARIABLE	ESTIMATES	T-STUDENT	R2	GOODNESS FIT	VARIABLE	ESTIMATES	T-STUDENT	R2	GOODNESS FIT
LEADERSHIP					**LEARNING**				
LE3	0.691	------	0.478	x^2= 9.275 (P = 0.099)	LA4	0.841	------	0.707	x^2= 2.554 (P = 0.279)
LE5	0.902	11.135	0.814	GFI =0.981	LA6	0.823	13.387	0.677	GFI =0.993
LE6	0.873	10.849	0.762	AGFI = 0.944	LA7	0.859	14.292	0.738	AGFI = 0.965
LE7	0.728	9.208	0.530	CFI = 0.993	LA8	0.882	14.847	0.779	CFI = 0.999
LE8	0.827	10.351	0.684	(x^2/df) = 1.875					(x^2/df) = 1.277
QUALITY POLICY/ PLANNING					**PROCESS MANAGEMENT**				
PO1	0.787	------	0.620	x^2= 11.862 (P = 0.221)	PG1	0.716	------	0.512	x^2= 5.257 (P = 0.385)
PO3	0.746	10.955	0.556	GFI = 0.978	PG2	0.858	10.973	0.737	GFI = 0.989
PO4	0.641	9.134	0.412	AGFI = 0.948	PG3	0.864	11.036	0.747	AGFI = 0.967
PO5	0.823	12.425	0.677	CFI = 0.996	PG4	0.791	10.171	0.625	CFI = 0.999
PO6	0.914	14.239	0.836	(x^2/df) = 1.318	PG5	0.647	8.344	0.518	(x^2/df) = 1.051
PO7	0.863	13.232	0.745						
ALLIANCES AND RESOURCES					**CONTINUOUS IMPROVEMENT**				
AL4	0.623	------	0.388	c2= 6.332 (P = 0.042)	CI12	0.586	------	0.344	x^2= 2.521 (P = 0.284)
AL5	0.820	9.002	0.672	GFI = 0.984	CI13	0.796	8.463	0.634	GFI = 0.993
AL6	0.920	9.628	0.846	AGFI = 0.921	CI14	0.961	9.423	0.924	AGFI = 0.966
AL7	0.878	9.417	0.771	CFI = 0.990	CI15	0.965	9.435	0.931	CFI = 0.999
				(c2/df) = 3.166					(x^2/df) = 1.260
PERSONNEL MANAGEMENT					**RESULTS/SOCIAL IMPACT**				
PM1	0.825	------	0.681	x^2= 14.613 (P = 0.102)	RSI3	0.672	------	0.452	x^2= 3.732 (P = 0.155)
PM2	0.785	12.443	0.619	GFI = 0.973	RSI6	0.993	11.846	0.985	GFI = 0.990
PM5	0.824	13.365	0.679	AGFI = 0.938	RSI7	0.928	11.523	0.862	AGFI = 0.952
PM6	0.901	15.325	0.811	CFI = 0.993	RSI8	0.719	9.4221	0.515	CFI = 0.997
PM7	0.875	14.657	0.766	(x^2/df) = 1.624					(x^2/df) = 1.866
PM10	0.660	9.838	0.436						

TABLE 6. **Analysis of reliability and validity of scales**

SCALE	RELIABILITY	CONVERGENT VALIDITY (see Table 4)	SCALE	RELIABILITY	CONVERGENT VALIDITY (see Table 5)
LEADERSHIP	Comp. reliability = 0.87 AVE= 0.58	Optimal values t-Student ›+-1.96 λ est›0.5 In all cases greater than the minimum values set	LEARNING	Comp. reliability = 0.87 AVE= 0.62	Optimal values t-Student ›+-1.96 λ est›0.5 In all cases greater than the minimum values set
QUALITY POLICY/ PLANNING	Comp. reliability = 0.84 AVE= 0.57		PROCESS MANAGEMENT	Comp. reliability = 0.88 AVE= 0.60	
ALLIANCES AND RESOURCES	Comp. reliability =0.87 AVE= 0.63		CONTINOUS IMPROVEMENT	Comp. reliability = 0.93 AVE= 0.78	
PEOPLE MANAGEMENT	Comp. reliability = 0.90 AVE= 0.67		RESULTS/SOCIAL IMPACT	Comp. reliability = 0.82 AVE= 0.53	

Causal model estimation and analysis of results

In this last phase of the analysis, the aim is to estimate the global model in order to contrast the different hypotheses, based on the theory. We contrasted the relationship between the latent variables to see how the critical factors affect the results in society, that is, to see if in fact, continuous improvement and process management can be considered antecedents of social impact. We also want to test whether leadership has an influence through alliances and resources, quality policy/planning, employee management and learning on the antecedents of social impact, and therefore affect the results.

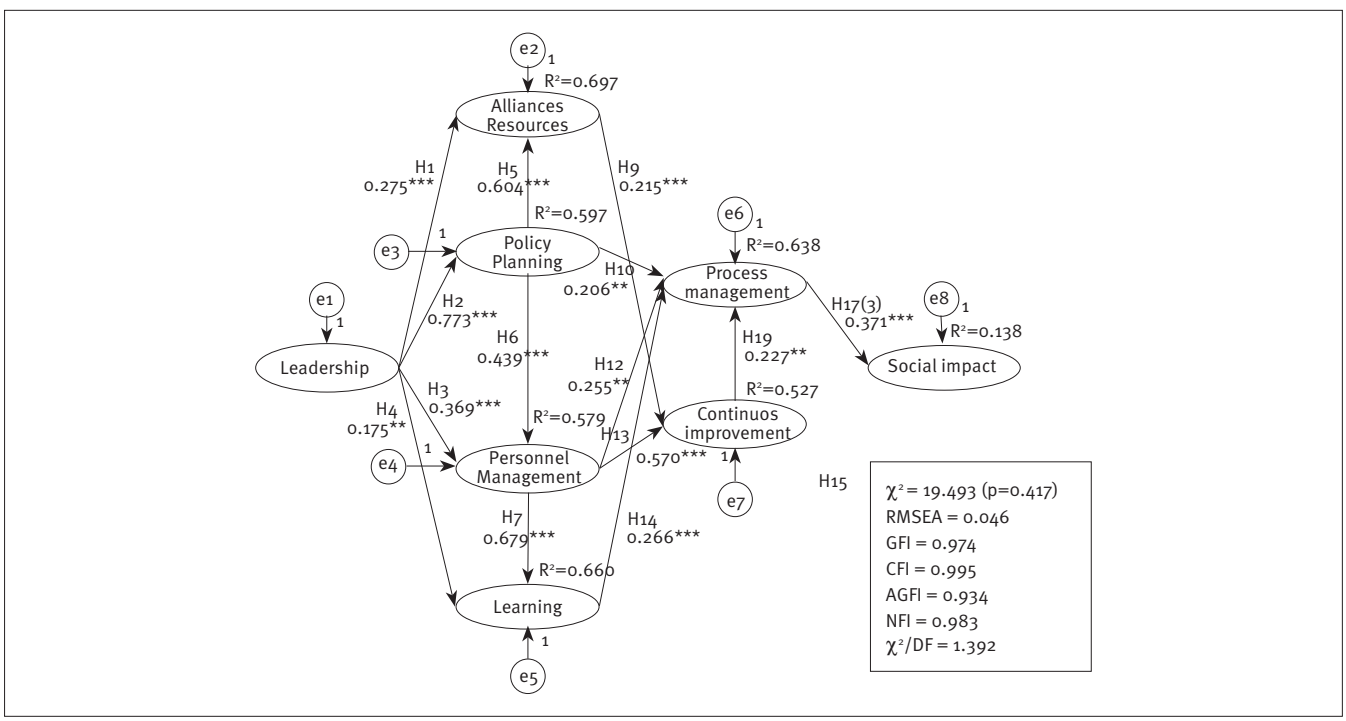
To estimate the global latent model, we have used the structural equation model, and more specifically the Confirmatory Factorial Analysis, considering the models previously obtained as a result of the editing scale. We opted for the strategy development model, where we propose an initial model (Figure 1) based on the theory and which we aim to support empirically. With this strategy of analysis, if the proposed model is not well adjusted to the data, it is successively modified until it reaches a good adjustment.

The estimation technique applied is the maximum likelihood method, using the bootstrapping process with 200 samples, choosing the aggregation of all the different items of the different observable variables into a single one, which we did by calculating the average of items measuring each latent variable, representing each critical dimension or latent variable by that average. As a preliminary step, we have tested the scale unidimensionality, an indispensable condition for this procedure to be correct (Anderson & Gerbing, 1988; Baumgartner & Homburg, 1996).

Luque (2000) recommends paying attention to the estimated structural model, regardless of the global adjustment measures indicating acceptable values. So, the first thing to evaluate is the significance attained by the estimated coefficients, so that the parameter estimates are statistically different from zero, ie, for a significance level equal to 0.05, the value of "t" must reach 1.96. If a parameter does not reach that level, it means that the relationship does not have a substantial effect and should be eliminated and the model reformulated.

Three of the relationships proposed in the model have a significance level below the required minimum of + -1.96: H8 "alliances_resources "process management" (T-Student = 1.084), H11 "policy planning " continuous improvement" (T-student = 1.219), H15 "learning "continuous improvement" (T-Student = -0.950). After removal of non-contrasted causal relationships, we proceed to the re-specification of the model. Final structural model results confirm the proposed relationships, being the standardized critical coefficient loadings, in all cases significant (Figure 2).

Figure 2. **Final structural diagram model**



*p<0.05 ; **p<0.01; ***p<0.001

The results of the final structural model confirm the proposed relationships, being the critical coefficients of the standardized loadings in all cases significant. The R^2 measure, that indicates the amount of variance of the construct, which is explained by the model, ie, provides useful information to evaluate, to what degree, the model latent variables are explained by their corresponding predictors, in the case of the structural model, shown in Figure 2, and can be regarded as acceptable.

Thus, the model has the ability to explain social impact results by using the direct effect of process management plus the indirect effect of other critical factors specified in the model. The probability associated with χ^2 is 0.149, exceeding the recommended 0.05 along with the goodness-of-fit indexes, makes us consider the model as appropriate, as they are within the recommended levels (Figure 2).

In order to examine more in-depth the effects of the variables included in the model, we have taken into account the direct, indirect and total effects of critical factors on the variable results/social impact (Table 7).

TABLE 7. **Effect on endogenous variables**

Effects			2.	3.	4.	5.	6.	7.	8[a].
1.	LEADERSHIP	Direct effect	0.773	0.369	0.275	–	0.175	–	–
		Indirect effect	–	0.339	0.467	0.563	0.481	0.620	0.230
		Total effect	0.773	0.708	0.742	0.563	0.656	0.620	0.230
2.	POLICY_PLANNING	Direct effect	–	0.439	0.604	–	–	0.206	–
		Indirect effect	–	–	–	0.380	0.298	0.263	0.174
		Total effect	–	0.439	0.604	0.380	0.298	0.468	0.174
3.	PERSONNEL MANAGEMENT	Direct effect	–	–	–	0.570	0.679	0.255	–
		Indirect effect	–	–	–	–	–	0.288	0.201
		Total effect	–	–	–	0.570	0.679	0.543	0.201
4.	ALLIANCES_RESOURCES	Direct effect	–	–	–	0.215	–	–	–
		Indirect effect	–	–	–	–	–	0.040	0.015
		Total effect	–	–	–	0.215	–	0.040	0.015
5.	CONTINUOUS IMPROVEMENT	Direct effect	–	–	–	–	–	0.188	–
		Indirect effect	–	–	–	–	–	–	0.070
		Total effect	–	–	–	–	–	0.188	0.070
6.	LEARNING	Direct effect	–	–	–	–	–	0.266	–
		Indirect effect	–	–	–	–	–	–	0.099
		Total effect	–	–	–	–	–	0.266	0.099
7.	PROCESS MANAGEMENT	Direct effect	–	–	–	–	–	–	0.371
		Indirect effect	–	–	–	–	–	–	–
		Total effect	–	–	–	–	–	–	0.371

[a] Results/Social Impact

The data in this table show that process management is the only variable with direct effect on the social impact results. The greatest indirect effect on social impact results comes from leadership, produced through multiple channels of influence (alliances and resources, quality policy and planning, employee management, learning and management processes).

In summary, the critical factors that influence social impact results are management processes along with leadership (λest=0.371 y λest=0.230 total effect), both very weak effects which makes us assume that there are missing explanatory variables in the social impact results model.

CONCLUSIONS, LIMITATIONS AND FUTURE LINES OF RESEARCH

The structural model analysis proposed have enabled us to study how the critical factors operate and their level of influence on the results in society and the interrelationships between them. In this sense, Tarí (2011, p.623) stated that *"Quality management and social responsibility are two important topics that have been analyzed in the literature, and which may be related. Different scholars suggest that quality management practices facilitate the development of environmental manage-*

ment (Curkovic, 2003)*, require ethical behaviour* (McAdam & Leonard, 2003)*, need a stakeholder focus (Waddock and Bodwell, 2004), and may facilitate the development of activities that are socially responsible* (Withanachchi, Handa, Karandagoda, Pathirage, Tennakoon & Pullaperuma, 2007)*"*.

The data show the importance of the top management leadership factor in achieving social impact results, while this factor is directly related to alliances and resources, quality policy/planning, employee management and learning. Thus, leadership drives the Total Quality Management process, a claim which is supported by this variable effect on the rest of the critical factors taken into account. These relationships have been confirmed in other studies carried out in different sectors of tourism and based on different models of Total Quality implementation, like the work of Ahire, Waller & Golhar (1996), Winn and Cameron (1998), Eskildsen and Dahlgaard (2000), or Wilson and Collier (2000), Calvo-Mora, Leal, and Roldán (2005), Carmona, Rivas, and Martín (2010), Heras, Marimon, and Casadesús (2012). In turn, the largest indirect effect on customer results comes from leadership.

Process management is directly influenced by three variables which are employee management, quality policy/planning and learning, and in turn acts directly on the social impact results and is indirectly influenced by alliances and resources through continuous improvement. Therefore, the relationship between policy and planning with managing people and resources is confirmed, which was also confirmed by Ahire,Waller and Golhar (1996), Eskildsen and Dahlgaard (2000), Wilson and Collier (2000), Calvo-Mora, Leal, and Roldán (2005), Carmona, Rivas, and Martín (2010).

In the structural model proposed it can be observed that personnel management is a key factor, due to its influence on process management and continuous improvement. These results partially corroborate those obtained by Tarí, Molina, and Castejón (2007) which did find a relationship between personnel management and process management, but not with continuous improvement, establishing an indirect link through learning and process management.

In summary, the critical factors with greatest influence on social impact results are process management along with leadership, both very weak effects, which makes us assume that there are missing explanatory variables in the social impact results model, as this can only be explained by 13.8% of the critical factors that we have included in the model.

Thus, the model has low explanatory power for the results in society into the context analyzed (tourist accommodation sector), and puts in evidence that there are external factors which influence those results and that it would be of great interest to investigate (Carmona, Rivas & Martín, 2010).

In the work done by Tarí and García (2011, p.80), one of the few studies that relate the quality and social responsibility; the review of the literature suggests that "*there are parallels between the two, what justifies a mutually supportive; companies with quality systems can more easily adopt environmental aspects* (Corbett & Kirsch, 2001; Marimon, Heras & Casadesús, 2009.), *ethical* (Ahmed & Machold, 2004) *and social* (McAdam & Leonard, 2003; Withanachchi et al., 2007); *the practices of quality management help develop elements of social responsibility*."

We believe that the model low predictive power, considering the evidence provided by the literature which claims that critical implementation factors of quality can facilitate the development of social responsibility practices (Tarí & García, 2011), is due to the low involvement of leadership in the development of a culture of social responsibility for the organization. In this sense, the main implication for the management of tourist accommodation businesses is that would be recommended is that the leadership of top management in addition to promoting a culture of quality (development of quality management practices), would show a greater commitment of social responsibility dimensions (environmental, social and ethical) focusing its efforts on the development and promotion of a socially responsible culture within the organization.

The first limitation of this research is derived from the realization of the study and the specific characteristics of the analyzed subsector "tourist accommodation". The generalization of its conclusions must be analyzed with caution and always from a previous analysis of the characteristics of the sector to be studied.

On the other hand, the data were obtained from perceptions of quality managers, which implies the risk of receiving biased responses by the person involved, and therefore interested in the processes which are to be assessed, as objectively as possible. Therefore, we thought it would important to perform the same study taking into account, not only the response of the person responsible for quality but also of the different human resources belonging to the company, which would provide different viewpoints. A third limitation is related to the cross section thereof, as this paper has analyzed the relationship in a specific moment in time.

Finally, with regard to future proposals for research, these are aimed at expanding the size of the study: we plan to conduct further research to enable us to identify the set of external factors that affect social impact results, as we have proven in our research that the variance explained of social impact is very low.

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