Critical success factors for a total quality culture: A structural model

Fatores críticos de sucesso de uma cultura da qualidade total: um modelo estrutural

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Abstract

Research on quality based on the cultural perspective claims that, more than an implementation of tools and techniques, quality is the outcome of cultural factors, namely organisational values and practices among which leadership and employee working patterns are of paramount importance. The development of a total quality culture is a strategic issue for the achievement of stakeholder satisfaction and business competitiveness in a highly demanding and uncertain business environment. In this research a model integrating the critical success factors for a total quality culture was tested in organisations of two subsectors of the tourism industry, using the SEM (Structural Equation Models with Latent Variables) approach by means of the PLS (Partial Least Squares) technique. Main findings corroborate that leadership and employee empowerment are key success factors for a total quality culture, thus reinforcing the principle that everyone in the organisation is responsible for quality. However, organisational information and communication practices were not found to be key success factors.

Keywords: Leadership, empowerment, information/communication, total quality culture, PLS.

Resumo

A investigação em torno da qualidade adotando a perspetiva cultural tem vindo a consolidar a noção de que aquela, mais do que fruto da aplicação de técnicas e ferramentas, é resultado de fatores de ordem cultural, como os valores e práticas organizacionais, de que ressaltam os da liderança e os subjacentes às formas de trabalho desenvolvidas em geral na organização e, em particular, pelos colaboradores. O desenvolvimento de uma cultura da qualidade total é entendido como fundamental no sentido de se alcançar a satisfação dos *stakeholders* e a competitividade do desempenho organizacional num ambiente de negócios simultaneamente muito exigente e incerto. Nesta investigação procurou-se testar um modelo que agrega um conjunto de fatores críticos de sucesso para a cultura da qualidade total, tomando como base de análise organizações de dois subsectores do turismo, alojamento e restauração, e recorrendo para o efeito ao método SEM (*Structural Equation Models with Latent Variables*) via abordagem PLS (*Partial Least Squares*). Os principais resultados corroboram a importância crítica da liderança e do *empowerment* numa cultura da qualidade total, reforçando, por conseguinte, o princípio segundo o qual 'todos, na organização, são responsáveis pela qualidade'.

Palavras-chave: Liderança, *empowerment*, informação/comunicação, cultura da qualidade total, PLS.

1. Introduction

Quality orientation has become a key focus in consumer behaviour and business practice (Wang et al., 2012). It is now agreed among managers that quality is a source of competitive advantage in a globalised business environment in which demanding consumers, innovation, knowledge creation, and technology play a decisive role (Hutchins & Gould, 2004; Gretzel et al., 2006).

In the last decade of the 20th century, research on quality attempted to explore new conceptualisations which were expected to uncover dimensions of analysis neglected before (Barrett & Waddell, 2001). The cultural perspective on quality emerged from empirical findings that evinced either the failure of quality programmes implemented without the support of a consistent values system (Barrett & Waddell, 2001) or the existence of contradictory effects in organisations across industries (Cameron & Sine, 1999; Foley, 2000) and problems of a diverse nature (Zu et al., 2010).

Within the cultural perspective, quality is an organisational subsystem (Kujala & Lillrank, 2004), a culture characterised by its values, beliefs, and practices (Michaud et al., 1991; Dodwell & Simmons, 1994; Cameron & Sine, 1999). Values are 'enduring goals that serve as guiding principles in people's lives' and are 'conceptualised as explicit or implicit formulisations of the "desirable" that influence individuals' means and ends of action' (Aktas et al., 2011). Practices are systems and behaviours sustained in an organisation (Asree et al., 2010), and beliefs are shared assumptions on how individuals in the organisation perceive their own environment but also guides to the course of action in concrete situations (Kujala & Lillrank, 2004).

Recent research has highlighted critical dimensions in the cultural change process, such as leadership which starts and conducts this process (Lee-Ross & Johns, 2001), in addition to acknowledged forms of empowerment and the effective management of information and organisational communication as the basis for informed decision making processes (Dodwell & Simmons, 1994; Lenehan & Harrington, 1998).

Quality challenges are perceived as highly important in tourism. On the one hand, tourism is expected to continue to grow in the next two decades, both in terms of international arrivals and receipts (WTO, 2012). On the other hand, the

industry increasingly depends on travel consumers who are behaving more responsibly toward consumption purchases and choices and are highly aware of sustainability issues (Page & Connell, 2006; Crick & Spencer, 2011).

Tourism activities involve the consumption of a holistic product (Weiermair, 1997) and are affected by structural factors (demographic, cultural, economic, scientific, and technological variables) which have an impact on tourism growth and globalisation. In addition, tourism planning is now closely related to concerns about economic, social, and environmental sustainability (Inskeep, 1991; OMT, 1997; Bramwell & Lane, 2000).

A literature review shows that quality issues have been capturing the attention of scholars in the field of tourism (Cluzeau, 1997; Gorga, 1999; Piqueras, 2000; Lee-Ross & Johns, 2001) at the organisation and destination levels alike. The role of quality is also recognised in organisational differentiation in a globalised market, especially in tourism businesses mostly composed of micro companies which find difficulty in competing through price (Lee-Ross & Johns, 2001).

Some authors refer to the importance of the quality culture construct in the context of tourism competitiveness (Cluzeau, 1997; Gorga, 1999; Piqueras, 2000). However, there is still a need to explore its application to the sector, in particular to tourism businesses which present certain specific characteristics (Thomas et al., 2011; Kandampully, 2000).

In the present study, the relevance of organisational practices and values to a total quality culture will be analysed, based on managers' perceptions of two main tourism subsectors: accommodation and food & beverage. Structural equation models with latent variables method (SEM) will be used via the partial least squares (PLS) technique, which is suitable for the study of latent variables.

2. Total quality culture (TQC) critical success factors

Changes that have occurred in research trends on quality – from technical approaches focused mainly on quantitative tools to cultural approaches – are a consequence of empirical findings that evinced the failure of quality programmes that have been implemented in organisations lacking the support of an adequate value system (Zu et al., 2010; Barrett & Waddell, 2001) and contradictory results in the effects of those same programmes (Cameron & Sine, 1999; Foley, 2000).

Theoretical approaches began to explore the integration of quality programmes through a cultural perspective, according to which quality is a set of values, an organisational ideology more than a set of tools and techniques (Cameron & Sine, 1999). Within this view, quality is a culture that strives for perfection and continuous improvement (Dodwell & Simmons, 1994), an organisational experience in which mental attitudes and initiatives are included and objectives of increasing sales profits connect to the strengthening of relationships with customers (Lenehan & Harrington, 1998).

It has been claimed that quality culture is that part of organisational culture related to habits, beliefs, values, and behaviours to improve quality (Gryna, 2001). In a similar way, Cameron and Sine (1999) define it as the subset of overall organisational culture that mirrors the general approach, the values, the orientation towards quality that underlies organisational actions and behaviours. Total quality culture, on the other hand, is meant to denote an orientation towards business excellence. For instance, Batten (1994) uses this construct to represent the focus of every individual and the application of organisational assets and resources in an endless push to improve quality *in every dimension of an organisation*.

Theoretically, cultural change is not a consensual issue (Hildebrandt et al., 1991; Kujala & Lillrank, 2004), nonetheless it is understood as vital in the process of organisational adaptation to the external environment and increasing competitiveness. Leadership, factual knowledge of current quality culture and management of critical success factors of a total quality culture are key elements of the cultural change process (Kanji & Wallace, 2000; Gryna, 2001).

Top management leadership: Leadership motivated by a shared vision and focused on the common good of the organisation is a requisite for a successful implementation of total quality principles (Guillén & González, 2001). Top managers responsible for making the strategic decisions involving their organisations play a key role in culture formation and control (Aktas et al., 2011) and therefore in the way that culture is collectively represented, valued, and practiced. Top management leadership is *critically important* (Barrett & Waddell, 2001) not only to the generation of relevant effects in financial performance but also to the success of overall orientation towards quality. A visible and active leadership is able to deal with resistance to change by adopting a committed attitude to total quality values and practices.

Empowerment (and teamwork): Defined as the individual's capacity to influence and control his own working environment and strive for more self-determination (Gill et al., 2010), empowerment involves the transfer of authority and responsibility in the making decision process from managers to employees (Dimitriades, 2001). Empowerment has become an acknowledged practice as a result of changes occurring in the work environment that eventually led to the flattening of organisational structure, in addition to changes in beliefs about the strategic value of employees to organisations, now recognised as a source of competitive advantage (Pelit et al., 2011).

From a cultural point of view, empowerment is related to organisations that have developed according to a group culture (Zu et al., 2010), or a clan culture (Aktas et al., 2011), in which leadership has adopted a participative style fostering interaction and open communication, team work, respect for employees' creativity, and their needs for personal development and knowledge. Perles (2002) asserts team work has been seen by some authors as a key factor in the achievement of business excellence. Barret and Waddell (2001) concluded in their study that team work positively impacts quality performance, thus organisations that support empowerment and team work obtain higher levels of performance and employee satisfaction. Teams take direct responsibility in the detection and solving of quality problems.

Participation expresses the notion that people are persuaded to adopt new attitudes and mindsets through involvement in activities that imply new behaviours (Gryna, 2001). Within a total quality culture framework, participation of individuals at every organisational level in quality activities is also seen as critical.

Information and communication management: Management by fact (Kanji & Wallace, 2000) includes the performance of activities guided by the continuous improvement principle. Quality does not improve unless it is measured (Reichheld & Sasser, 1990). Such activities, measurement and analysis of process performance, feedback of achieved results and information sharing are the basis of an informed decision (Fife, 2001). Information collection is important in several ways: to identify poor or unsatisfactory performance, to motivate people to improve continually, or to assist in the decision process at all organisational levels in the way relationships with stakeholders should develop (Porter, 1997). Total quality culture is highly dependent on quantitative and qualitative measurement systems and supports the development, the

maintenance, and changes in the organisation's policies and processes (Fife, 2001).

3. Conceptual model and research hypotheses

A literature review shows there is wide consensus on the relevance of leadership in the development of a total quality culture, in terms of dissemination of a strategic vision on quality (Dimitriades, 2001; Guillén & González, 2001), definition of quality objectives and strategies (Gryna, 2001; Laszlo, 1999) and, more generally, of its contribution to organisational performance when top managers make all relevant decisions in terms of the organisation's mission and objectives (Yuan & Lee, 2011). Leadership, as a critical success factor for a total quality culture, is represented as active, dynamic, and motivating **(H1).**

Fife (2001) claims leadership systems are crucial to the implementation of a total quality culture. Social changes have driven organisational restructuring and flattening, eventually leading to the obsolescence of an autocratic style of management focused on managers' formal authority. Today's leaders are called to adopt a bottom-up approach, ensuring that policies and processes support shared responsibility by means of empowerment **(H2)**.

By stimulating employees' participation and involvement, teamwork leads to the adoption of practices and activities especially conceived to tackle, prevent or solve quality problems, namely information collection on the internal environment of a business (Gryna, 2001). A dynamic and flexible organisational structure is of great importance to nurturing honest communication and sharing of information (Feigenbaum, 1999) **(H3)**. Information management is regarded as highly relevant to the making of informed decisions on quality; however it depends on effective communication channels (Woods, 1998) **(H5)**. Barret and Waddell's (2001) research has shown the contribution of empowerment to a successful quality culture **(H4)**. The combination of managers' overt commitment to quality with empowerment practices contributes more strongly to a total quality culture (Baker & Crompton, 2000) than managers' behaviour or empowerment alone **(H6).**

H1. Leadership influences positively the organisation's total quality culture

H2. Leadership influences positively empowerment practices in the organisation

H3. Empowerment influences positively the organisation's information and communication practices

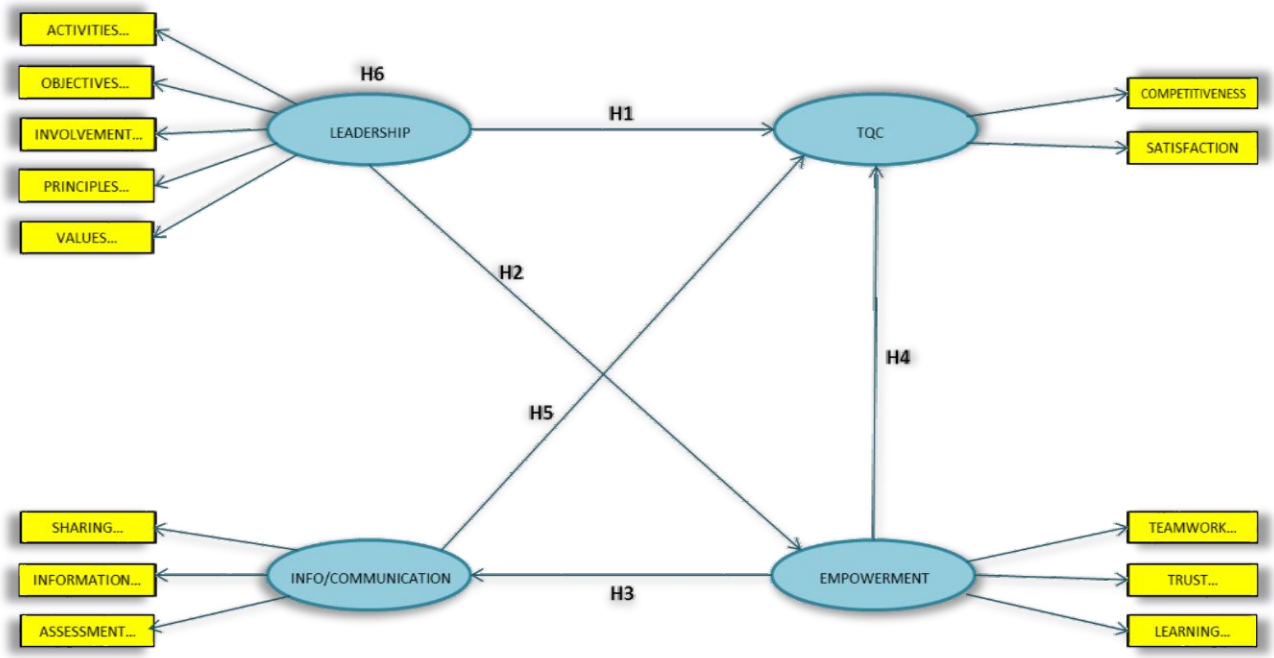
H4. Empowerment influences positively the organisation's total quality culture

H5. Information and communication practices influence positively the organisation's total quality culture

H6. The coexistence of leadership and empowerment practices has a higher effect on total quality culture than that of leadership or empowerment practices considered in isolation.

The conceptual model comprises four latent variables. 'Leadership' is an exogenous variable and 'Information/Communication', 'Empowerment', and 'Total Quality Culture' are endogenous variables. 'Total Quality Culture' is the variable whose predictive value will be taken as the most relevant in the model. 'Leadership' is measured through five indicators (*activities to improve quality, objectives and strategies to improve quality, involvement in cultural change, quality principles and rules, values and motivations to improve quality*), 'Empowerment, through three indicators (*teamwork, trust relationships, learning opportunities*), 'Information/Communication' through three indicators (*communication and information sharing, information for decision making, performance assessment measures*), and 'Total Quality Culture' through two indicators (*organisational competitiveness, stakeholders satisfaction*). The selection of indicators was based on the working definitions presented below (Figure 1), which captured most relevant aspects found in the literature. All indicators included in the model are reflective and relations between latent variable are recursive, i.e., unidirectional (Chin, 2000).

Figure 1 - Conceptual Model



4. Methodology

4.1 Setting

The study is based on accommodation and food & beverage organisations of Lagos, a municipality of the Algarve region. Geographically, Lagos is located on the western coast of the Algarve (PEL, 2003). Reflecting the development pattern of the region, tourism became important in Lagos from the 60s onwards, eventually becoming its main economic activity (Sirgado, 1990). Sand, Sea and Sun was by then the sole tourism product, and the unplanned growth of tourist accommodation, particularly in coastal areas, and high seasonality had a strong environmental, urban, and socio-economic impact.

However, in the last decade, the historic and cultural heritage of Lagos has driven the building of a new vision of tourism development in the municipality. The Lagos Strategic Plan (PEL, 2003) corroborates the prominence of tourism activity and proposes a strategic approach to tourism development based on service quality improvement, diversification of tourism products, in harmony with recent trends in consumer behaviour and destination choice criteria. In fact, this document states that further investment in the Sand, Sea, and Sun product is not a priority to Lagos, or indeed even to the Algarve region.

4.2 Data collection and sample

The population is composed of two segments of tourism organisations – food & beverage and accommodation – operating in the town of Lagos. The sampling method adopted for the food & beverage segment was simple random sampling. The acceptable margin of error was 5% based on a 95% confidence level. The sampling frame was 192 units and the sample 128 units. Accommodation organisations have been segmented into the following types: guest houses, bed & breakfast, private homes, hotel-apartments, hotels, and motels. The sampling frame was 43 units. The sampling method chosen for accommodation organisations above 10 units was the stratified random sampling, assuming a margin of error of 10% based on a 95% confidence level. The method used for organisations below 10 units was the census. The sample was 37 units.

The study's informants were the managers of accommodation and food & beverage organisations. The questionnaire survey was chosen as the data collecting method through personal interviews. A pre-test was performed on January 22-27 2006. Following the pre-test, questionnaire dimension and vocabulary were refined. Field work began on June 20th and was completed on August 31st, 2006. A total of 134 questionnaires were validated, corresponding to a response rate of 81%.

4.3 Measures

Questions aimed at measuring, on the one hand, adherence to leadership, empowerment, information and communication practices and values and, on the other, managers' perceptions on the effects of total quality culture (stakeholder satisfaction and organisational competitiveness). In the first case, a 5-point Likert scale was adopted, ranging from 1 – 'definitely no' to 5 – 'definitely yes'. In the second, the 5-point Likert scale ranged from 1 – 'strongly disagree' to 5 – 'strongly agree'. A neutral position was included in the questionnaire (does not know/not answering).

The study's indicators followed from a literature review and working definitions of constructs, as shown in the table 1.

Table 1 - Working Definitions of Constructs

Construct	Definition	Literature References and Modification
Leadership	Managers get involved in activities oriented towards quality and improvement, define strategies and objectives, quality principles and rules, identify quality values, and lead and motivate cultural change.	Lenehan and Harrington (1998), Brown et al. (1999), Kujala and Lilrank (2004), Welikala and Sohal (2008), Litos et al. (2011)
Empowerment	Empowerment is a vision of work and interpersonal relationships within the organisation, which includes teamwork, trust relationships between individuals, and development of learning opportunities.	Lenehan and Harrington (1998), Cameron and Sine (1999), Dimitriades (2001), Kujala and Lilrank (2004), Matzler and Renzl (2006), Hsu (2007), Rodrigues (2007), Welikala and Sohal (2008), Litos et al. (2011)
Info/Communication	The set of values and routines is related to communication between individuals and the creation, sharing and use of information on organisational performance and decision making.	Cameron and Sine (1999), Rodrigues (2007), Litos et al. (2011)
Total Quality Culture	The culture of the organisation from which competitiveness and stakeholders' satisfaction follow	Lenehan and Harrington (1998), Cameron and Sine (1999)

4.4 Data analysis method

The data analysis method used in the study was structural equation modelling (SEM) using the partial least squares path modelling (PLS-PM) approach. This method uses an algorithm that maximises the explained variances of a set of endogenous latent variables (or constructs) allowing an estimate of the relationships among the latent variables (coefficients of the inner model) and their relationship to the corresponding indicators (coefficients of the outer model) (Haenlein & Kaplan, 2004). The most recognised advantage of PLS-PM over the well-known Covariance–based SEM approach is its ability to fit complex models with small samples sizes (< 200) (Henseler et al., 2009; Haenlein & Kaplan, 2004; Hulland, 1999). Smart PLS 2.0 was the software employed in the study.

5. Data analysis and results

5.1 Sample description and results

Among the respondents, there were 70% male and 30% female individuals. The most represented age group were individuals between 45 and 54 years old (33%), followed by the age group between 35 and 44 years old (31%). The great majority of respondents lived in the town of Lagos. Concerning education levels, 71% of respondents have elementary school and secondary education diplomas. Only 29% of respondents have higher education diplomas.

5.2 Outer model

The outer model specifies the relationships between a latent variable and corresponding indicators (Henseler et al., 2009). The model represents a reflective relationship between latent variables and indicators. Henseler *et al.* (2009) recommend the development of a reflective model for the purpose of identification of critical success factors. It also assumes construct unidimensionality, i.e., each set of indicators is associated with only one latent variable (Henseler et al., 2009; Hulland, 1999; Stan & Saporta, 2005).

Latent variables were measured through a confirmatory factor analysis using the PLS approach. The assessment of the outer model was based on reliability and validity criteria (Hulland, 1999). The first criterion checked was internal consistency reliability, which refers to inter-correlations of indicators or the extent to which they measure the same latent variable. Henseler *et al*. (2009) recommend the use of the composite reliability measure instead of Cronbach's alpha because, unlike the traditional measure, composite reliability prioritises indicator loadings. However both measures can have similar interpretations. As with Cronbach's alpha (Streiner, 2003), Henseler *et al.* (2009) suggest values between 0.8 and 0.9 as references for good reliability. However, composite reliability should be higher than 0.7 to be considered acceptable. In the current study, every construct obtained values between 0.8 and 0.9: 'Information/Communication' scored the lowest (0.8024) and 'Empowerment' the highest (0.8718). In addition to composite reliability, the individual indicator reliability measure has also been examined. Hulland (1999) recommends that indicators with loadings below the 0.5 threshold should be dropped so that the explanatory power of the model may improve. None of the indicators included in the model obtained loadings below 0.5; however, the measurement item *'objectives and strategies to improve quality'* has been dropped due to its proximity to the threshold (0.557). As a consequence, the composite reliability value of the latent variable 'Leadership' increased and surpassed the 0.50 threshold.

Validity criteria include the examination of two subtypes of validity: convergent and discriminant validity. The first subtype 'signifies that a set of indicators represents one and the same underlying construct' (Henseler et al., 2009), and the second criterion 'represents the extent to which measures of a given construct differ from measures of other constructs in the same model' (Hulland, 1999).

Fornell and Larcker (1981) recommend the use of the average variance extracted (AVE) in the examination of convergent validity, with 0.5 as the benchmark value of a sufficient level of convergence. In the model, all latent variables obtained values higher than 0.5.

Table 2 - Outer Model Results

Latent Variable	Indicators	Loadings*	Composite Reliability	Cronbach's α	AVE	R2
Leadership			0.8452	0.7588	0.5777	0
	activities towards quality	0.800				
	involvement in cultural change	0.744				
	quality principles and rules	0.781				
	values and motivations towards quality	0.714				
Empowerment			0.8718	0.7796	0.6943	0.3125
	teamwork	0.782				
	trust relationships	0.839				
	learning opportunities	0.876				
Info/Communication			0.8024	0.6327	0.5751	0.4728
	communication/ information sharing	0.760				
	information for decision making	0.759				
	performance assessment measures	0.757				
TQC			0.8496	0.6485	0.7387	0.4166
	organizational competitiveness	0.884				
	stakeholders satisfaction	0.834				

*(p-value < 0.05)

With respect to discriminant validity, two criteria are usually examined: AVE and cross-loadings. The AVE is analysed in terms of Fornell and Larcker's (1981) principle which asserts that 'this measure should be greater than the variance shared between the construct and other constructs in the model (i.e., the squared correlation between two constructs)' (Hulland, 1999). Checking cross-loadings is recommended by Henseler *et al.*, 2009 as a way to assess 'if an indicator has a higher correlation with another latent variable than with its respective latent variable', in which case the model should be reconsidered. Results are shown in Tables 3 and 4 and indicate that the model satisfies both criteria.

Table 3 - Latent Variables Correlations

	Leadership	Empowerment	Info/Communication	TQC
Leadership	**0.760***	0.559	0.487	0.568
Empowerment	-	**0.833***	-	0.562
Info/Communication	-	0.687	**0.758***	0.485
TQC	-	-	-	**0.859***

* The values in the principal diagonal of the inter-correlations matrix are the square roots of the AVEs

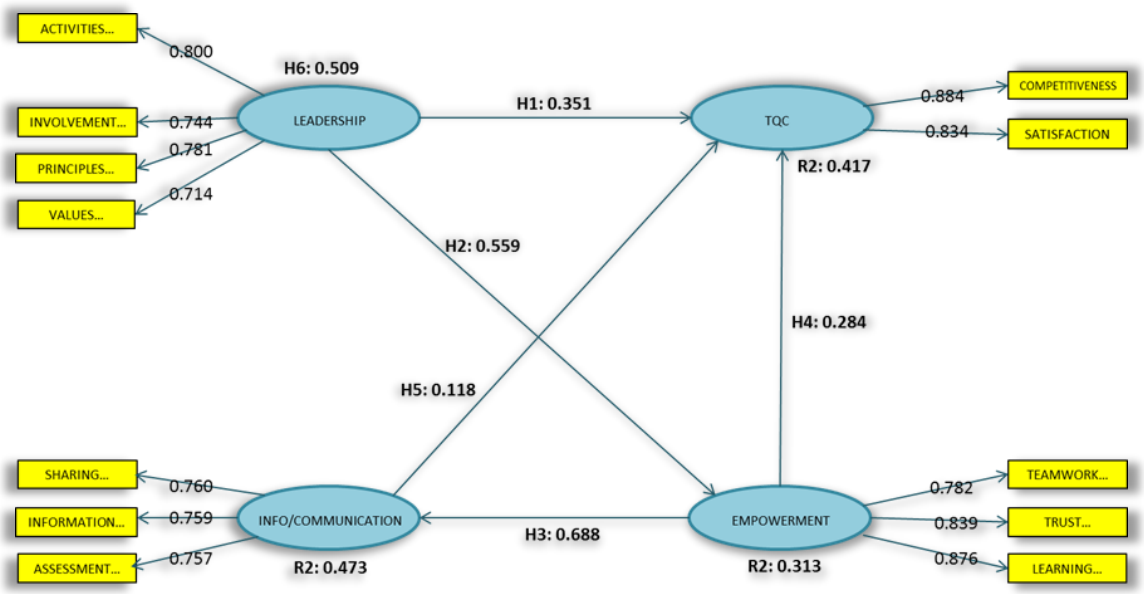
Table 4 - Cross-loadings

	TQC	Empowerment	Info/Communication	Leadership
Activities to improve quality	0.4312	0.3668	0.3564	**0.7996**
Values and motivations to improve quality	0.2757	0.3868	0.2757	**0.7136**
Quality principles and rules	0.4599	0.5385	0.4052	**0.7805**
Involvement in cultural change	0.5188	0.3826	0.4175	**0.7437**
Teamwork	0.4317	**0.7817**	0.5087	0.3763
Trust relationships	0.4910	**0.8390**	0.5505	0.5387
Learning opportunities	0.4798	**0.8763**	0.6518	0.4718
Performance assessment measures	0.3096	0.5619	**0.7567**	0.3403
Communication and information sharing	0.3342	0.4610	**0.7596**	0.4038
Information for decision making	0.4487	0.5338	**0.7589**	0.3686
Stakeholders satisfaction	**0.8342**	0.4468	0.3577	0.4487
Organisational competitiveness	**0.8841**	0.5156	0.4686	0.5231

5.3 Structural Model

The structural (inner) model estimates latent variables' relationships. An examination of the R^2 values (the coefficient of determination of the endogenous latent variables) shows that the equations used to predict total quality culture have a moderate predictive power (Henseler et al., 2009). Based on the signs and statistical significance of the path coefficients, the research hypotheses have been tested.

Figure 2 - Structural Model Results



A bootstrapping procedure was performed for 5000 samples with the purpose of analysing the t-statistics (t-values) which measure the statistical significance of path coefficients. The procedure indicates that all path coefficients, with the exception of the path 'Info/Communication → TQC' are significant (>1.645). Therefore all research hypotheses but one (H5) are corroborated. H6, which analysed measuring leadership total effects on total quality culture (0.351+0.559*0.284=0.509) *versus* measuring in isolation leadership direct effects (0.351) and empowerment practices direct effects (0.284) on total quality culture, is also not rejected. These findings suggest that, in order to place the organisation's current culture closer to a total quality culture, managers should prioritise connecting leadership practices to empowerment practices and environments.

A blindfolding technique was used to assess the model's predictive power (Henseler et al., 2009). The Stone-Geisser's Q^2 criterion assumes all Q^2 values are positive (>0) and Henseler *et al.* (2009) set 0.02, 0.15 and 0.35 values as benchmarks of, respectively, small, medium and large predictive relevance. Results show all endogenous latent variables obtained Q^2 values larger than 0.15, corresponding to a satisfactory prediction capability.

Table 5 - Q^2

Total	SSO	SSE	1-SSE/SSO (Q2)
TQC	268	200.9958	**0.25**
EMPOWERMENT	402	315.9414	**0.2141**
INFO/COMMUNICATION	402	304.7697	**0.2419**

6. Discussion and conclusions

This study specified and estimated a model in the quality management area, based on the cultural perspective on quality. A review of the literature pointed to a gap in tourism studies on the relationship between the cultural perspective on total quality and tourism organisations.

Statistical analysis supports the paths 'Leadership → TQC' and 'Leadership → Empowerment', confirming the positive direction from the exogenous variable to the endogenous variables. Results obtained are consistent with theory and empirical findings (Gryna, 2001; Guillén & González, 2001; Cameron & Sine, 1999; Laszlo, 1999; Batten, 1994).

The same can be said of the paths 'Empowerment → Info/Communication' and 'Empowerment → TQC'. Again, this study's results and previous findings reported in the literature converge (Barrett & Waddell, 2001; Lenehan & Harrington, 1998, on the relationship between empowerment and quality culture; Dimitriades, 2001: Kandampully & Duddy, 2001, on the relationship between empowerment and information/communication). However, against expectations, H5 was not supported by statistical analysis.

This study's results showed that leadership is a critical success factor for a total quality culture, in particular if the manager is directly involved in quality, behaves unambiguously, and leads and motivates cultural change. Dissemination of values and employee motivation in the cause of quality are relevant factors in the development of a total quality culture. The study's results reinforce the manager's prominence in the role of leader of cultural change.

Results on the relationship between leadership and empowerment practices confirm a key total quality principle according to which everyone in the organisation is responsible for quality.

This study's main contribution to theory is the development of a model that integrates constructs found in the literature which have not been either jointly analysed or measured statistically. Most important, however, is the finding of the positive joint effect of leadership and empowerment.

Furthermore, the application to tourism of the cultural perspective on quality highlighted organisational practices and perceptions of managers of this particular sector of economic activity in which micro and small businesses prevail. These managers' perceptions can provide a basis for a comparative analysis with other sectors of economic activity or, more specifically, other tourism subsectors, from which a broader vision on quality culture practices and values may emerge.

From an organisational point of view, the study confirms the importance of leadership in the building process of a total quality culture, in particular in the context of a highly competitive business environment, empowered consumers and competition through quality services. Cultural change towards total quality, as expected, begins at the top of the organisation. The study's findings also suggest that managers will contribute more positively to a total quality culture if they are supportive of teamwork, shared responsibility, as well as employee initiative and autonomy in decision making.

A limitation of the present study relates to the model itself. Although results obtained were satisfactory, the structural model can be improved. In particular, the theoretical complexity of the total quality construct may justify the inclusion of additional latent variables or complementary dimensions for further analysis. More empirical studies are needed to develop a comprehensive theory on this multidimensional construct.

From a methodological point of view, this study has several limitations. The first one concerns the population under analysis. The understanding and building of an organisation's total quality culture depends also to a great degree on employee behaviour and values, and their perceptions of the current and total quality culture could assist in uncovering key issues and improvement dimensions. Additionally, the use of complementary data collecting and analysis methods, namely qualitative, may contribute to building a more robust theoretical framework.

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