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# Applying the EFQM model to golf course management

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ABSTRACT

The European Foundation for Quality Management (EFQM) Excellence Model provides guidance and support for business organisations to improve their quality management. This goal is attained by examining the relations among the several criteria that are defined and included in the model – the Enablers and the Results – albeit without going deeply into their empirical correlations. Our research focuses on the sport industry and, more particularly, on golf-related services and facilities. We analyse their management and performance. The goal is to conduct an empirical study of golf courses making up the supply in a Spanish inland region. On the basis of data and assessments contributed by the participating sample – and by resorting to multivariate statistical analysis – we pinpoint the influence of all Enablers identified by the EFQM Model, as well as their impact on the Results criteria. Correlations designed and empirically quantified make it possible for us to confirm the theoretical interrelations that the EFQM Model proposes between the defined criteria. The structural model thus obtained allows us to design a map that plots the relationships across the several criteria defined by the EFQM Model, one which portrays present-day approaches to management put into practice by the golf courses under scrutiny.

KEYWORDS: Golf; total quality management; EFQM model; structural equations model (SEM); golf management

## 1. Introduction

Given the present day economic and social developments, the growing international trends and the widespread economic recession, business organisations generally seek a competitive advantage that can place them in a favourable position with regard to their competitors and ensures and confirms for them an extended growth overtime. More and more they are faced with the need to innovate and introduce changes and improvements in the processes and services they deliver in order to strive for a higher and better level of customer satisfaction. Many of these organisations, in fact, are faced with the need to restructure and adapt their own management models.

In order to support the implementation of total quality management systems in business organisations, a number of management systems have been implemented that are used not simply as a diagnostic and evaluation tool for an organisation's management procedure, but also as a reference standard in submitting applications for international quality awards in connection with these models. In terms of these calls' territorial scope, we may mention the Deming model (Japan), the Malcolm-Baldrige model (United States), the European Foundation for Quality Management (EFQM) model (Europe) and the Latin American Excellence Management Model. All of them propose within their structure several principles and criteria related to the element needed to attain total quality management.

The ultimate goal of any excellence model, therefore, is to manage an organisation so as to attain full quality standards while catering for the needs of the main interest groups involved in that organisation (particularly its target customers) and strengthening the match between the management tools employed and the management outcomes. This involves paying special attention to aspects like introducing technologies, innovation, defining clear and specific strategies, cooperation among all team members, supervising and monitoring implemented actions, knowledge about similar actions, disseminating information, etc. Many of these elements are reflected in the structure of criteria and subcriteria defined in the EFQM model – our benchmark tool in this research

study and one that is widely used in European business settings. Accordingly, it seems necessary to acquire a deeper insight into the links that bind all of these factors together in order for the organisation to increase its knowledge of the elements and actors that are the target of its efforts, thus promoting progress and a better performance. The EFQM Excellence Model facilitates the evaluation of good practices in an organisation by specifically highlighting certain aspects fundamentally aimed at satisfying customers and meeting their needs, as well as at attaining total quality and business excellence.

In this context, golf-related facilities are no exception, since they too are struggling to overcome the economic constraints of the last few years, and implementing a more participatory (and not overly hierarchical) management style in the medium and long term, while meeting the challenges involved in finding new customers and users (who need not always or mostly be the buyers of real estate properties located near the golf course in question), and satisfying the needs and expectations of their usual customers in order to enhance the quality of the services they deliver. This is why such facilities must be properly acquainted with their baseline situation, undertake the analysis of their available potential and focus on the areas that can be improved by adapting and optimising already established management models or implementing new ones that help them achieve their expected goals. In this paper we apply the EFQM Excellence Model in the updated 2013 version (EFQM, 2012), the aim being to contribute towards an analysis of the golf sector's real and potential situation in the autonomous region of Castile and Leon so as to improve management outcomes. Consequently, we undertake the study of the relationship between the several criteria sketched out by the EFQM Model by using multivariate analysis techniques that enable us to empirically specify the relationships between the several criteria laid out in the model (Enablers and Results). The study is applied to the several golf courses in Castile and Leon with the aim of depicting the reality of this sports and recreation sector as currently perceived, as well as guiding and enriching its management.

Golf as a sports activity, as well as its impact on the economic performance of Spain's inland regions, has not been a subject of study or analysis so far. However it is an area of knowledge that can provide an alternative way for developing and expanding on the tourism potential of territories that do not fit into the sun-and-sand model of Spain's coastal resorts. It is worth the while, however, to put the focus on upgrading the quality of such sports facilities and of the services they deliver in order to increase their competitiveness in the sports sector under scrutiny. The implementation of this quality assessment system is a pioneer initiative in evaluating the management of this kind of sports-related businesses. In this paper we use the elements contributed by the EFQM Excellence Model in order to provide the management of golf courses with an understanding of the necessary mechanisms and tools for designing amendments and enhancement plans that help them reach maximum excellence and quality standards.

Our paper conducts a multivariate statistical analysis across the several criteria making up the EFQM Model with an emphasis on the relationships across them, since such relationships constitute the driving forces behind the business management style that is being sought for. In this way, we attempt to obtain empirical corroboration for the general principles underlying the EFQM Model applied to Golf courses:

> To achieve sustained success, an organisation needs strong leadership and clear strategic direction. They need to develop and improve their people, partnerships and processes to deliver value-adding products and services to their customers. If the right approaches are effectively implemented, they will achieve the results they, and their stakeholders, expect. (EFQM, 2012, p. 4)

## 2. Conceptual framework and literature review

Used by many European business organisations, the EFQM Excellence Model rests on the understanding that a company's results rely on the commitment of people to improving processes

and services. It also involves innovation and learning as factors of competitive advantage, together with a greater emphasis on aspects related to clients and other interest groups. The model focuses on the identification of the company's strengths and weaknesses and seeks to establish a connection between staff, processes and results. One of its outstanding features is the need for group support and sound teamwork that promotes the involvement and participation of the whole staff and values their skills and commitment to project development. Equally important is the leadership that must be exercised by the management team, entrusted with inspiring and steering projects so that their organisation attains excellence.

Initially published in 1991, the EFQM Model has undergone a number of modifications and revisions over the years – a first revision of the model was carried out in 1999, while new updates came out in 2010 and 2013 – thus proving its dynamism and adaptability to our economies' ongoing transformations. The model pursues the search for total quality and business excellence, and it attaches particular importance to all stakeholders involved (clients, staff, competition, setting) as well as to an implementation based on a participatory approach. Organisation management, which should always aim at achieving the best outcomes and results, must likewise be interactive and engage the collaboration of all parts involved in the development of the established processes and strategies. In this context, and even though each business organisation retains its exclusive, diverse and unique character, the EFQM Model displays a uniform management framework that provides the essential pieces making up a business management model. Initially, its implementation was targeted at large companies within the private sector, although it is currently widespread both in the private and in the public sectors. Indeed, versions have been edited to cater for the needs of small and medium-sized enterprises, as well as public administrations and voluntary associations, which goes to show the model's own commitment to staying updated and constantly renovating business management practices.

The model defines nine criteria (in turn broken down into a set of 32 subcriteria) which are classified into two broad groups: five Enablers (related to that what is 'done' by the organisation) and four Results (referred to what is 'achieved' by the organisation). Both groups interact with each other and provide the model itself with a dynamic and flexible character (Figure 1).

The EFQM excellence model allows an organisation's leaders to understand the relations between what the business entity 'undertakes' and the results that it 'achieves'. These actions are evaluated and the model itself assigns them a specific value by means of a scoring system.

If we follow the graphic structure provided by the EFQM Model in order to represent all its criteria (Figure 1), we come out with a basic simulation of the connections that may exist across some of these criteria. We may even notice a 'left to right progression, ranging from the most strategic (Leadership) to the operational results (Key Results)' (Heras, Marimon, & Casadesús, 2009, p. 12) [our translation].

Thus, the first criterion (1-Leadership) impacts on all three Enablers (2-Strategy, 3-People and 4-Partnerships & Resources) and indeed becomes the sole independent variable in the model. The set of criteria, on the other hand, regarded as tactical and programme-driven (2-Strategy, 3-People, 4-Partnerships & Resources) have an influence in turn on the fifth Enabler (5-Processes, Products & Services): one whose character is rather operational and active and which specifically accounts for the Results in Customers (criterion 6), People (criterion 7) and Society (criterion 8), while, in combination with all the others, it explains the organisation's overall operational results. The EFQM Model, however, only accounts theoretically for the causal relationships among the nine criteria that it brings together and it does not go very deeply into the quantitative connections between the several variables or indicators used. This makes it difficult for the leaders and managers of business organisations to adopt decisions or design plans or actions regarding the variables that influence quality enhancement processes and impacts on other indicators. The model does not explicitly account for the empirical relationship between criteria and subcriteria, nor does it quantify the impact – either direct or indirect – of Enablers on the Results achieved by the participants' several interest groups.

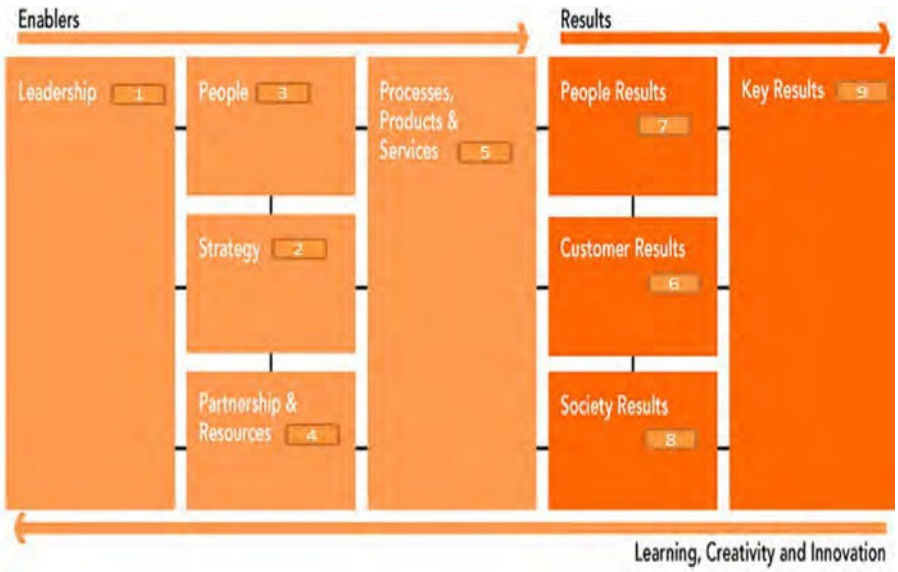

Figure 1. EFQM excellence model criteria. Source: EFQM Model 2013

A large proportion of studies conducted on the EFQM Model and concerned with activities within the service sector – education, healthcare, public administration or the financial sector – make the common claim that, in itself, the Model is not a guide to good practices; nor does it develop or prescribe a set of guidelines or directives for organisations to follow, but rather provides a frame of reference where each organisation may conduct an analysis/diagnosis of its own current situation along the path towards total quality. According to Campatelli, Citti, and Meneghin (2011), the EFQM model promotes the use of both a standard management system capable of steering an organisation towards excellence and a homogeneous evaluation procedure applicable to organisations across the board. Thus, for example, Kasperaviciute (2013) points out that the application of a quality model to educational institutions relies on the latters' own internal needs and is therefore beneficial in identifying weak points and areas for improvement. Rosa, Sarrico, and Amaral (2012) also target their work at the applicability of quality management in the field of higher education, where there is a growing concern over quality and social accountability. The authors even argue for the need for higher education institutions to develop their own internal quality management systems, which should rest on previously defined models and standards. Nabitz, Klazinga, and Walburg (2000), on the other hand, focus on the healthcare sector and draw our attention to the way in which the EFQM model is being used in the Netherlands as a quality management and conceptual framework for organisational excellence in a large number of healthcare organisations.

Research which studies the application of the EFQM in Spain includes works in the field of education (Calvo de Mora & Criado, 2005; Hidalgo, García, López, González, & Olmedo, 2002; Martínez & Riopérez, 2005; Ozkoidi, 2006), supplemented by additional research in the healthcare sector (Gené-Badia, Jodar-Sola, Peguero-Rodriguez, Contel-Segura, & Moliner-Molins, 2001; Rodríguez, 2001; Zardoya, Guevara, García, & Marzo, 2007), or by studies in the area of public administration (Casals, Corces, Hidalgo, Jiménez de Diego, & Ruiz, 2006; Díaz, 2005; Ministerio de Hacienda y Administraciones Públicas, AEVAL, 2013; Torrubiano, Fernández, & González, 2011). More specifically, Martínez-Vilanova and Rodenes (2009) apply this model to the financial sector (particularly the rural savings banks), Moreno (2007) researches into its application to social action organisations, Rodríguez, Martín-Quirós, Ortega, and Bilbao (2002) study its implementation in thermal spas, and Redondo, Olivar, and Redondo (2006) in sports facilities.

Some of the applied work done on several productive sectors provides an empirical and qualitative analysis of the EFQM Model that in turn delivers a more distinct streamlining of information made available to companies and organisations interested in implementing such a model and attaining the goals of total quality. Thus, Eskildsen, Kristensen, and Juhl (2000) rely on a broad sample of Danish companies surveyed for the purpose of studying causal relationships across the EFQM Model's nine

criteria and empirically testing the connections suggested by the model itself in order to conclude that the theoretical framework reasonably matches the data. An exploration of the EFQM Model in Spanish spa resorts with a view to gathering empirical evidence of the influence of their size on employee and client satisfaction is included in Rodríguez et al. (2002). González, Rodenes, and Álvarez (2005), on the other hand, conduct a statistical analysis on a sample of SMEs from several sectors in the Autonomous Region of Valencia (mostly within the furniture industry) in order to account for the influence of business excellence criteria inspired by the EFQM Model on the final results.

An instance of the structural equations model analysis applied to the EFQM Model can be found in a study by Bashar (2012), who sets out to evaluate the relationships between Enablers and Results in a vocational training centre in Jordan. The study highlights the importance of understanding the relationships among the whole set of Enablers, pays close attention to all elements in the model and particularly accounts for strong connections between the former and the model's Results. Yet another relevant contribution is authored by Mahalli (2013), who focuses on the study of performance in an Iran-based steel corporation following at all times the EFQM Model's set of criteria and establishing relations between the company's Enablers and its ultimate Performance. A similar study is available at Tejedor (2004), a paper which focuses on evaluations obtained from the submission process of several quality awards (Andalusia and the Basque Country) involving a number of companies from various sectors. The study confirms the key hypothesis regarding the EFQM Model, which claims that excellence in Enablers brings about excellence in Results. This further warrants the strategy adopted by many business organisations that have directed their efforts towards enhancing managerial excellence as a means to improving their overall results. Calvo de Mora, Leal, and Roldán (2006), in turn, conduct their study on a sample of state-funded higher education institutions in Spain and conclude by corroborating the fundamental role of Enablers in setting up a management model that can drive universities towards excellence. An analysis of the model's dimensions when applied to rural savings banks in the region of Valencia can be found at Rodenes and Moncaleano (2007), and Martínez-Vilanova and Rodenes (2009), who focus on the behaviour of such dimensions and their mutual relationships against the backdrop of achieved results. Santos and Álvarez (2007a, 2007b) zoom in on a set of companies established in northern Spain in order to prove hypothetical correlations between total quality management practices and organisational performance. Following a study supported by structural equation modelling, the conclusions of their research once again suggest that the adoption of total quality management practices in business firms contributes towards the achievement of competitive advantages as regards the results included in the model's criteria.

## 3. Methodology

As pointed out earlier, the EFQM Model – in turn included in the larger category of total quality management models – provides two different major uses (Corma, 2005):

- becoming a 'reference model', since it results from the critical analysis of the several models used in recent years and the latters' adaptation to present-day reality (both dynamic and uncertain), as well as to the framework of European culture; and
- becoming a 'medium for learning' by providing a self-diagnosis system that makes it possible to ascertain the degree of achievement of the set benchmarks, thus acting as a guiding tool in planning continuous improvement and reaching excellence standards.

An orderly and harmonised definition of the model provides an agreement on a commonly shared structure and a homogeneous language for the management of an organisation. It moreover affords a consistent way of thinking and acting that in turn facilitates internal and external communication (both in the vertical and in the horizontal sense) and fosters relations among all the actors participating in such activities and processes as are being implemented. Thus, even though each business organisation preserves its exclusive, diverse and unique character, the EFQM model contributes a uniform

management framework that includes the essential pieces making up a business management model otherwise used by a large number of organisations pursuing excellence.

The model is thus constituted as a practical, non-prescriptive (yet referential) tool that respects the idiosyncrasy and the specificities of each organisation. It moreover facilitates evaluation in terms of quality and excellence, and helps detect and identify an entity's weaknesses and strengths, while integrating all initiatives and actions around these issues (EFQM, 2012). Evaluations make it possible to learn about an organisation's strong points, delimit areas that need repairing and renovating, and identify the available opportunities. In this way, the organisation will be able to plan and start up activities and processes in order to attain total quality goals that are sustainable over time.

Inspired by the above-mentioned framework and references, our own paper aims at diagnosing and identifying the strategic factors that shape the management of golf-related facilities in order to achieve the expected results. Such factors are interrelated and constitute key elements in supporting and improving sustained competitiveness in those facilities against the backdrop of a time frame characterised by widespread economic crisis and the changing sports (and generally social) scene these businesses are faced with (particularly as regards demand for the services they provide). In order to encourage and promote the use of this quality model in golf courses, we need to obtain evidences that the Enablers proposed by the model itself have a relevant effect on the achieved Results. In this paper, we outline and quantify internal relationships that may exist among the several criteria identified in the model. In so doing, we point out how organisations can manage and implement their activities and range of services and how this is reflected in their Results.

Initially, we resort to factor analysis techniques that make it possible to group the model's subcriteria and identify new components. In a second phase, we analyse the interconnections among them through the design and implementation of structural equation modelling techniques while empirically specifying the relations and correlations across the nine criteria set up by the model (Enablers and Results). In this way, we represent the perceived reality of the sports subsector under scrutiny through a study conducted in the several golf courses in Castile and Leon.

The population that constitutes the object of this study comprises 37 golf courses situated in the autonomous region of Castile and Leon:1 a population which makes it possible to observe the specific and distinctive features of golf courses in one of Spain's inland regions.

It should be emphasised that our aim was not to carry out a detailed and individual analysis of any one particular golf course situated in Castile and Leon, but rather to produce an overview of the present-day situation of this sports industry subsector in an inland region – whose defining features are very different from those of coastal areas – and about which there is a total absence of published studies on this topic.

In order to do this, we decided to put together a model survey questionnaire specifically phrased and adapted to reflect the services and events offered by the sports facilities under scrutiny. This was submitted to managers and directors of golf courses in Castile and Leon, who were thus requested to perform a questionnaire-based evaluation. The questionnaire was designed and drawn up so as to suit the goals of our research by adapting the vocabulary used and the sequencing of items to the specific features involved in managing these facilities.

Our approach follows the guidelines set by the EFQM Model, including its nine criteria. We analyse the several elements involved in the latter as developed and described in the model without descending to specific issues about the sector under study. The questionnaire consists of 142 items that focus on the model's generic aspects and highlight a number of issues that are particularly relevant for the golf industry. Our study especially relies on one of the model's distinctive traits: its indicative, non-binding character as regards the way to approach and deploy each of the 9 criteria and 32 subcriteria conforming the model, which makes it possible to interpret them in an open fashion.

As far as the rating pattern is concerned, we propose an evaluation system similar to the Likert Scale: each item is assigned 100 points, while the series are divided into units of 5. In order to obtain the global score for the nine criteria, we estimate the average scorings of all items making up each of them and then reallocate the final percentage set by the EFQM Model so as to work out the baseline

assessment provided by the latter. In this way, every criterion and subcriterion in the questionnaire is rated with regard to the percentage set up by the EFQM Model.

Out of the total number of questionnaires submitted, we collected feedback from 26 respondents, which represents a response rate of 70.27% of all golf courses currently operating in our region. Of the total number of respondents, on the other hand, 16 were rustic 9-hole courses (72.72% of existing facilities), while the remaining 10 were full-length courses, which account for 66.66% of permanent golf facilities currently in operation in this inland region.

## 4. Factor analysis of subcriteria in the EFQM model

We begin our empirical scrutiny by performing an exploratory factor analysis of variables gathered from the questionnaire for the first five criteria (Enablers). Each one is identified by a set of questions that we have grouped according to the subcriteria established by the EFQM Model itself. Table 1 shows total number of associated questions for each subcriteria. The assigned numerical value for each one is the average score obtained for the corresponding set of questions.

The goal of this preliminary factor analysis is to condense and reduce the 24 subcriteria down to a set of new components capable of accounting for the maximum possible percent of the pooled variance across the initial variables. This will allow us to work on a set of new variables created as a result of combining the real variables that are subject to measurements. The new variables thus synthesise most of the information contained in the original data.

Table 1. Subcriteria and number of questions.

| 1-Leadership | | 2-Strategy | | 3-People | | 4-Partnerships and Resources | | 5-Processes | |
|---|---|---|---|---|---|---|---|---|---|
| Subcriterion | No. quest. | Subcriterion | No. quest. | Subcriterion | No. quest. | Subcriterion | No. quest. | Subcriterion | No. quest. |
| S1a | 5 | S2a | 4 | S3a | 4 | S4a | 5 | S5a | 4 |
| S1b | 5 | S2b | 3 | S3b | 6 | S4b | 5 | S5b | 4 |
| S1c | 3 | S2c | 5 | S3c | 6 | S4c | 4 | S5c | 2 |
| S1d | 4 | S2d | 2 | S3d | 4 | S4d | 3 | S5d | 4 |
| S1e | 3 | | | S3e | 4 | S4e | 2 | S5e | 4 |

Source: Own construction.

In this way, using the Principal Component Analysis Method and applying the Kaiser criterion – selecting as many components as eigenvalues are greater than 1 – we have grouped together the first criterion (1-Leadership) and criterion 3-People into two components each. In turn, criteria 2-Strategy, 4-Partnerships & Resources and 5-Processes pool together all the subcriteria they encompass into a single component for each criterion.

All measurements and indices obtained through these principal component analyses confirm their validity as well as the inclusion of the whole set of variables used, without ruling out any of them. Thus, measures of adequacy employed in order to confirm the validity of the analysis yield values for the Kaiser-Meyer-Olkin (KMO) statistic between 0.66 and 0.89, with p-values lower than .05 in Barlett's test of sphericity. Since both the communalities and the principal diagonal of the anti-image correlation matrices yield high values in all cases (and lower ones outside the principal diagonal), none of the variables will be excluded from the analysis. The reproduced correlation matrices confirm our analysis' goodness-of-fit in view of the high percentage of redundant residuals.

As regards the percent of the total variance explained by the newly generated components for criteria 2-Strategy, 4-Partnerships & Resources and 5-Processes, we find values of 87.72%, 84.48% and 91.92%, respectively, wherein all subcriteria contained in each of them are grouped together into a new component (STR – Strategy– PARTRES – Partnerships and Resources and PROC – Processes). Table 2 shows the component matrices employed and identifies the factors thus generated.

STR is a new factor that essentially refers to the drawing up and definition of an adequate planning (one not simply conditioned by the business organisation's capabilities, but also by the needs of the main interest groups). Such planning is designed, revised and tailored to observations and updates resulting from further follow-up. PARTRES, the component of the fourth criterion, includes references not simply to the organisation's management of its relations with suppliers and external associates, but also to the handling of its financial, material and technological resources, as well as to the management of information and knowledge in support of the organisation's capabilities. Last but not least, the component named PROC basically features the management of processes and activities in these sports and recreation businesses in order to develop them in an optimal and client-friendly way.

Table 2. Criteria 2, 4 and 5. Component matrix.

| | Component STR | | Component PARTRES | | Component PROC |
|---|---|---|---|---|---|
| S2b | .952 | S4a | .958 | S5e | .977 |
| S2c | .939 | S4c | .945 | S5d | .970 |
| S2d | .938 | S4e | .925 | S5b | .959 |
| S2a | .917 | S4d | .900 | S5c | .944 |
| | | S4b | .865 | S5a | .943 |

Source: Own construction.

In turn, the total variance explained in criteria 1-Leadership and 3-People – each one being further subdivided into two new components – is 85.66% for the first criterion, and 90.09% for the third one. For both we decided to use the rotated component matrix (Table 3), which renders percents of the variance distributed between the components of criterion 1, respectively, of 54.57% and 31.08%, whereas such percents are 54.43% and 35.66% for criterion 3 following the use of a Varimax rotation.

Considering how each of the initial variables contributes towards the new components (Table 3), we see for criterion 1 that subcriteria S1c, S1d and S1e are grouped inside a first component and constitute a new variable, which we name Leader Commitment (COMM). On the other hand, the first two subcriteria (S1a andS1b) make up the second component, which we call Leader Performance (PER). Criterion 3, in turn, groups together the three first subcriteria under the component named Staff Responsibility (RESP), whereas the last two refer specifically to Efficiency (EFFIC) as reflected and evaluated in the performance of staff members.

The COMM component refers to the initiative and responsibility assumed by the organisation's leaders and management as regards their duty and mission to lead these sports companies to an appropriate level of excellence involved in the quest for an effective, flexible management capable of adapting itself to the necessary changes and modifications. The second component – PER – comprises actions, interventions and habitual behaviours that generally define these leaders' functions as regards management, organisation and supervision.

In turn, the RESP component focuses not just on the staff's performance of tasks and functions, but also on their work capacity and professional expertise, as well as their responsibility and involvement against the background of the organisation's needs. The EFFIC component particularly underscores certain aspects involved in staff performance. On the one hand, the effective communication that is required between staff members and interest groups – indeed they act as a bridge between users and the sports organisation – and on the other, the recognition and reward of the staff's work provided by the organisation itself, which eventually helps strengthen the staff members' motivation, participation and complicity when performing their assigned tasks.

Table 3. Criteria 1 and 3. Rotated component matrix.

| | Component | | | Component | |
|---|---|---|---|---|---|
| | COMM | PER | | RESP | EFFIC |
| S1d | .914 | .309 | S3c | .944 | .200 |
| S1c | .898 | .143 | S3b | .916 | .294 |
| S1e | .845 | .377 | S3a | .880 | .307 |
| S1a | .585 | .643 | S3e | .160 | .947 |
| S1b | .179 | .940 | S3d | .439 | .816 |

Extraction method: Principal component analysis. Rotation method: Varimax with Kaiser normalisation (Rotation converged in three iterations).
Source: Own construction.

As regards, however, the Results criteria – each one subdivided into two subcriteria (perception measures and performance indicators) – both are grouped within an only variable typified for everyone of the four results under scrutiny (CUS-R, PEOP-R, SOC-R and KEY-R), the aim being to homogenise numerical units with the values obtained for the scorings yielded by factor analyses conducted on the first five criteria. In order to do so, we have maintained the weight and distribution percentages assigned to each of them by the model. Thus, subcriteria 6a and 7a retain 75% of the weight of the whole criterion, while the remaining 25% is associated with subcriteria 6b and 7b. For the other two criteria (8 and 9) the weight is split 50-50 between the two subcriteria they are respectively subdivided into.

In order to complete this study, a second factor analysis was conducted which regroups the generated 11 components and establishes the relationships across them. Goodness of fit indicators – a KMO value of 0.76 and a Bartlett's test of sphericity yielding a p-value lower than .05 – confirm the reliability of the analysis. Additionally, observed estimated communalities are high, except for the COMM factor. On the other hand, the values collected in the anti-image correlation matrix reflect fairly high values along the principal diagonal and lower values outside the latter (with the exception of RESP). Even so, we did not eliminate any of the factors created so as to avoid loss of information about the model's criteria. The cumulative variance that is explained with the newly created factors is 77.54% (split into 57.65% for the first factor and 19.89% for the second one).

Table 4 shows the rotated component matrix obtained through the Varimax rotation method, grouping nine elements within the first factor and only two elements (RESP and PER) within the second one.

On the basis of these factorial analyses, we complete our scrutiny of the theoretical framework afforded by the EFQM tool by designing a structural equation model whose graphic representation accounts for the already identified links and correspondences across the model's components.

Table 4. Criteria components. Rotated component matrix.

| | Component | |
|---|---|---|
| | 1 | 2 |
| KEY-R | .942 | .114 |
| SOC-R | .924 | .240 |
| EFFIC | .917 | −.095 |
| PARTRES | .854 | .396 |
| PROC | .848 | .446 |
| PEOP-R | .800 | .198 |
| CUS-R | .788 | .414 |
| STR | .786 | .499 |
| COMM | .587 | .118 |
| RESP | −.005 | .927 |
| PER | .292 | .648 |

Extraction method: Principal component analysis. Rotation method: Varimax normalisation with Kaiser (Rotation converged in three iterations).
Source: Own construction.

## 5. Structural equation analysis applied to the EFQM model

The EFQM model does not provide a detailed description of interrelationships taking place between the Enablers and the Results it describes. Nor does it account for the internal relationships that may occur among them. However, the fact that an organisation's leaders and managerial team should be

acquainted with such interrelationships plays a critical role in identifying and defining the agents that require being acted upon in order to achieve better results, whether general or specific. In this sense, as argued by González, Miles, Sorondo, and Zeballos (2009), if the organisation intends to improve its results regarding one specific interest group, it becomes necessary to know which players are influencing the latter so as to better target at reform actions. It may even be required to identify not only the structure of relationships, but also the magnitude of the effect of enablers on results so as to establish whether or not actions play a determinant role in the assessed performance.

The analysis based on structural models aims at exploring and empirically confirming such theoretical, causality-driven relationships as take place among the several components on the basis of data supplied by observation and by real measurements.

To do so, we employ the AMOS platform provided by the SPSS Statistics software package, using the maximum likelihood estimation method and evaluating their goodness-of-fit indices as well as the significance levels of estimated parameters. Given the small sample size available to us,[2] we produce our estimations by resorting to the procedure known as bootstrapping with replacement, the number of replications being 1000 samples and the confidence level 95%.

In view of the problems that may arise from the use of some goodness-of-fit indices with small samples or excessively complex models, it is generally advised not to use a single index for evaluation purposes, but rather a combination of several. In general terms, the model's degrees of freedom should be positive, and the p-value associated to the $\chi^2$ indices should lie above .05, reaching values for the relative $\chi^2$ statistic (CMIN/ DF) lower than 2, or not higher than 5. Also the GFI is analysed, and so are all other incremental adjustment indices (NFI, RFI, IFI, TLI and CFI). The estimated coefficients must be significant, the critical ratio (CR) above 1.96, the coefficients of determination ($R^2$) around 1, and the standardised residual covariance matrix should show figures below the cut-off for a very good fit – an absolute value of 1.96. Thus, for example, the RMSEA and CFI indices are prone to rejecting correct models when the sample's size is small (Batista & Coenders, 2012). Hair, Anderson, Tatham, and Black (1999) even claim that no absolute acceptability threshold has been established for the GFI index, although they share the view that high values in this index point at a better adjustment of the model. We have to bear in mind, therefore, that while it is advisable to examine the statistical criteria associated to the model's global fit, as well as the indicators of reliability and significance, it may prove difficult to decide on the adequacy or non-adequacy of a model, so that we may need to consider evaluative indices as simply illustrative and provisional patterns (Bagozzi & Yi, 1988).

On the other hand, and on the basis of data suggested by modification indices, we may eliminate or introduce latent parameters or variables that enable us to improve the suggested fit. However, for any modification there should be a theoretical justification within the model itself (Hair et al., 1999). It is here, moreover, that the researcher's own judgement enters the picture, since (s)he must assess whether the newly suggested parameters provide the model with a better or a worse fit and therefore are helpful or not in terms of its optimisation. The modification process will be considered complete if the corrected model passes the diagnostic phase, preserves a theoretical significance and is indeed useful.

We approach the model in two stages. On the one hand, we focus on the connection between Enablers that make possible and provide support for the implementation of processes and activities afforded by golf courses to their users; and on the other hand, we study the connection between those Enablers and the Results measured by the EFQM Model itself (Customers-6, People-7, Society-8 and Key Results-9). We retain the inter-criteria connections suggested by the EFQM Model and search for parametric estimations across them so as to establish whether or not, on the basis of collected data, such connections can be all recognised. This will make it possible to open up new avenues for future work in terms of approaching and discussing strategies and planning actions in the sports organisations that are the subject of the present study with a view to reaching a better market position for this sector.

The first structural diagram captures the design of standardised relations between the Leadership criterion and the rest of the Enablers (2, 3 and 4) that are essential in attaining Processes, activities and services (5) provided by golf courses and targeted at all participating interest groups. Such relations correspond to the first associations shown by the theoretical model (Figure 1). The Leadership criterion (1) is linked to criteria 2-Strategy, 3-People and 4-Partnerships & Resources, elements which are necessary for the implementation and fulfilment of Processes and activities (criterion 5) that take place within the organisation. These relations are represented in Figure 2: 1→2; 2→3; 2→4 and 3→5. After analysing the results, we decided to eliminate factors PER and RESP, thus improving the structural equation model noticeably.

Since the relative $\chi^2$ statistic is lower than 5 (3.985) – and even though the remaining goodness-of-fit indices fall around 0.5 and 0.6 – we may regard the proposed model as valid. For this reason, we trace the estimated parameters, which turn out to be significant in all cases as proven by recorded p-values and measured critical ratios (above the absolute value 1.96). After reviewing as well the coefficients of determination $R^2$ – featuring values above 0.5 – we may posit that the proposed structural relationship is well represented. To complete these measures, the standardised residual matrix does not include figures above 1.96, so that we may consider that the estimated values are statistically significant and representative of the connections across all elements needed to implement and fulfil the range of services delivered by golf courses.

This first graphic representation (Figure 2) allows us to highlight the important role played by the involvement of the golf course leader or manager (factor COMM) as regards laying down a Strategy and action plan (STR) executed by correctly using all of the available resources (PARTRES) – including partnerships, equipment and infrastructures – and benefiting from the organisation staff's efficient work (EFFIC) – the latter recognised by the facility's managers and supported by a good communication system shared by all involved. Finally, such a strategy can make it possible to materialise activities and projects (PROC) that succeed in providing the target users and clients of these sports organisations with the services they need.

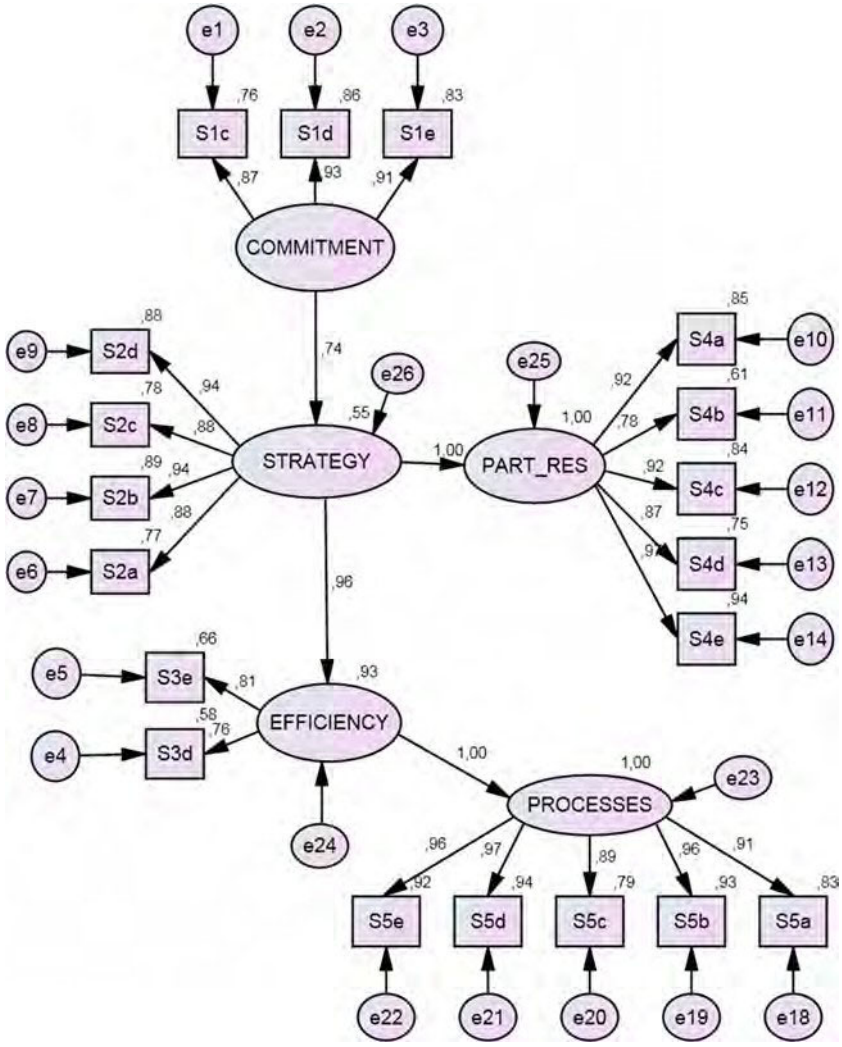


Figure 2. Components – Enablers. Standardised output. Source: Own construction

However, on the basis of the data used, and given the sample's limitation, we cannot corroborate some of the theoretical relationships posited by the model itself (2-Strat-egy→5-Processes, 4-Partnerships & Resources→5-Processes, 1-Leadership→3-People and 1-Leadership→4-Partnerships & Resources), so that these must be eliminated for the model to attain a higher significance. The exclusion of these relationships from the current design does not imply that they cannot be established, but rather that, with the available data, their corroboration could not be effected.

The relationships between Enablers and Results as proposed by the EFQM Model linked the Processes and services-5 that formalise an organisation's Strategy to outcomes achieved by the several interest groups involved (Results in Customers-6, People-7 and Society-8 as well as Key Results-9). These relationships correspond to the connection existing between criterion 5 and the four Results defined by de model (5→6, 5→7, 5→8, 6→8 and 6→9).[3] The pattern of these correspondences is shown in Figure 3, which includes the estimated parameters – in their standardised output – for all the interconnections that are drawn up.

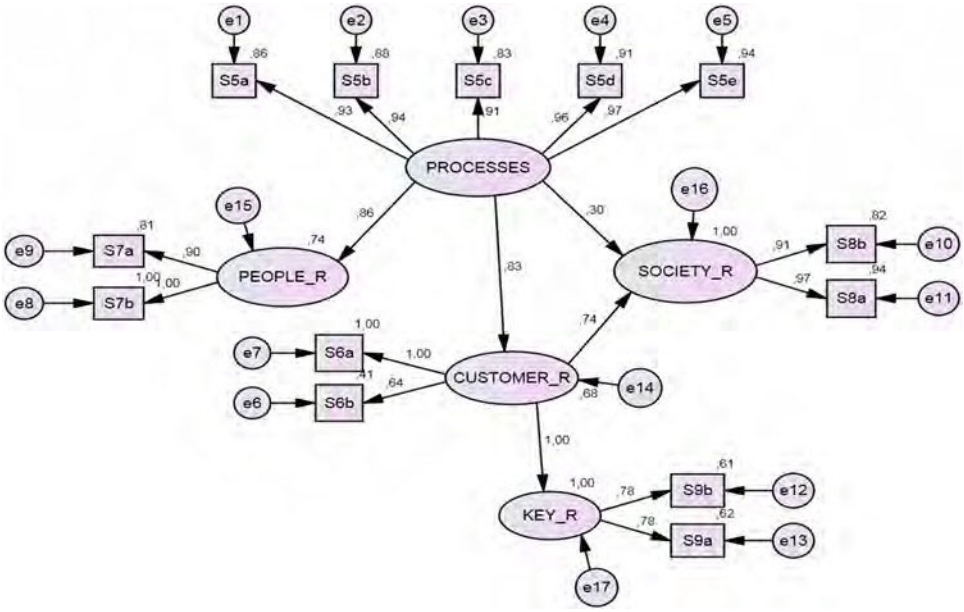


Figure 3. Criterion 5 with criteria 6, 7, 8 and 9. Standardised output. Source: Own construction

All indices and elements used to assess the significance of defined parameters confirm their goodness.[4] The relative $\chi^2$ statistic is lower than 5 (3.554), and the goodness-of-fit indices are between 0.6 and 0.7. The standardised residual matrix does not result in figures higher than 1.96.

The above representation (Figure 3) highlights the direct impact exerted by Customer Results-6 on Key Results-9 in golf courses, an impact which is nevertheless absent in the case of People Results-7 and Society Results-8. However, the latter are connected to Customer Results-6 insofar as they are achieved as a reflection of results attained in customers served by the organisation. Be it as it may, all of these results are achieved following the implementation of processes and services operated thanks to the previously analysed elements and Enablers.

Thus, the fifth criterion – 5-Processes – becomes the axis and the main transmission device of the management system under scrutiny. The Enablers are critical elements in implementing activities and services delivered to players and users by golf-related facilities in trying to meet their needs and expectations. On the other hand, the use and enjoyment of these processes and services will have an impact on the measurement of Results – both partial and global – obtained by the golf course.

## 6. Conclusions

In order to implement a total quality management system in any business organisation, it is necessary to produce self-evaluation and self-diagnosis reports that help establish the starting point and the order of the several elements that drive total quality management. Such reports can provide guidance in detecting strengths and weaknesses and should be considered a basic element when proposing improvement, innovation and learning actions in order to move forward along the path of excellence. Once the baseline situation has been identified, it becomes necessary to set up the goals and engage in some long-term thinking that involves all members of the organisation. In order to do that, it is mandatory to choose and put in place a management model that facilitates the implementation and follow-up of the established principles. In this sense, golf-course management teams may follow their own criteria or be inspired by guidelines proposed in any of the normative models that serve this purpose, including the EFQM Model.

The statistical analyses conducted as part of this research have allowed us to confirm the validity of the EFQM Excellence Model in the operation of golf courses, which in turn corroborated the rationale underlying the model itself and the theoretical relationships that it puts forward. More particularly, both general results (criterion 9) in these organisations and specific results concerning their clients (criterion 6) can be achieved through the committed and collaborative involvement of

the facility's leader or manager (criterion 1), who defines, promotes and develops the planning and strategy to be followed (criterion 2). The latter, in turn, is implemented thanks not only to the available internal and external resources (criterion 4), but also to the effectiveness and commitment of the organisation's staff (criterion 3) as reflected in the processes and/or activities started in the benefit of users (criterion 5), through which it will be possible to measure results and performances obtained. All of the above elements constitute key tools to achieve quality in the management of these organisations as well as a high level of customer satisfaction.

Throughout this paper, we highlight the importance of commitment to planning and implementing actions aimed at continuous improvement by the golf courses in this inland region. The actions are supported by the knowledge of the needs and expectations of customers, both habitual and potential, and inspired by the attempt to exert an impact on the main interest groups involved. In this context, the relationships established across the several criteria defined by the EFQM Model can guide the performance of those who manage these organisations, so that setting up and implementing such a management model in golf facilities constitutes a fully applicable strategy.

Our initial self-evaluation of this sector has been somewhat formative rather than purely evaluative. It relied on an internal process of participatory reflection by those responsible for providing this service and portrayed the reality of these business units, sometimes even combining information which they hardly ever share with one another. This has provided a starting point as well as a benchmark for such sports organisations as it constitute the target of our study to develop an internal diagnosis of their management practices' level of quality and consequently implement a management system suited to the sector's present-day circumstances.

The golf courses' managerial teams are in this way able to detect not just the most relevant shortcomings, but also the areas that need to be further developed in the light of the new economic situation that has become generalised and the new demands that are emerging in this sector.

Identifying management weaknesses that need to be addressed, as well as other outstanding aspects that are worth strengthening, will make it possible to formulate an appropriate strategy and lay down plans for progress and growth that help complete and enhance not only their own management quality, but also the general quality standards delivered by this sports sector in our autonomous region.

In short, it is worthwhile to bear in mind and apply the items included in the EFQM Model in order for these sports organisations to make progress and improve their positioning in the sports sector where they deliver their golf-related services: a sector that may well become a critical driving force in the promotion of sports tourism in our inland region.

## Notes

1. While 39 golf courses have been computed in the region, two of these facilities remain closed to date (Valdorros Club de Golf in Burgos and Club La Valmuza Golf Resort in Salamanca).
2. Remember that the total number of golf courses currently operating in Castile and Leon is 37, of which 26 (70.27%) responded to the EFQM Model questionnaire that was sent to every one of them.
3. It was impossible to confirm the following relationships: 6→7, 7→9 and 8→9, on the basis of the collected data.
4. Regarding the coefficients of determination $R^2$, only one of them is lower than 0.5 (subcriterion 6b—0.409).

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