Quantitative research on the EFQM excellence model: A systematic literature review (1991–2015)

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The purpose of the paper is to present the state of the art in quantitative research on the EFQM model that will guide future research lines in this field. For this, a systematic literature review from the period 1991–2015 is carried out in impact journals belonging to the Journal Citation Reports (JCR) and Scimago Journal & Country Rank (SJR). Finally, 53 papers were selected and aspects related to the purpose, nature and instruments of data collection, type of quantitative analysis employed, sector under study and main conclusions and contributions are analysed. As a result, the study presents more than a dozen lines of future research.

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1. Introduction

Systematic literature reviews (SLRs) are a type of scientific research that has the purpose of objectively and systematically integrating the results of empirical studies on a certain research problem, with the intention of determining the state of the art in a specific field of study (Sanchez-Meca, 2010).

Within these SLRs are the quantitative or “meta-analyses” and the qualitative. This work will make a systematic literature review of the qualitative type in which the quantitative research on the EFQM model published in impact journals, during the period 1991–2015, will be analysed.

Generally, the SLRs are necessary for the following reasons (Sanchez-Meca, 2010):

(1) When the researcher studies the literature published on a topic, they are not content with reading one article or a small number of articles. Practice teaches us that the results reached in an article are questioned by others, that it is rare for an article to give definitive answers to all the research questions considered or that there are those that display important methodologic limitations that question the results and conclusions reached.

(2) At the present time, and it seems to be an increasing trend, there is an increasing number of scientific journals and articles where the data can be obtained that are needed to consider our research. Faced with this unmanageable volume of information it is very useful to have unbiased summaries of the research on a topic.

(3) The traditional method of literature review (non-systematic or narrative review) has two main disadvantages. Firstly, there is the subjective criterion of the researcher when selecting and analysing the articles (search strategy or selection criteria) and, secondly, that the findings of the articles are not summarised following a clear methodology (rigorous and critical analysis of the information).

(4) The reasons for the discrepancies between the results of different investigations, and gaps in the literature, can be identified to guide new studies.

In the management and quality improvement sphere, general SLRs have been made to investigate what has been done and to

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determine future lines of research (Calvo-Mora, Criado García-Legaz, & Pizarro Moreno, 2003; Dahlgaard-Park, Chen, Jang, & Dahlgaard, 2013; Del Río Rama & Martínez Carballo, 2007; Ruiz-Torres, Ayala-Cruz, Alomoto, & Acero-Chavez, 2015). SLRs have also been made on the EFQM model, due to the importance this model is receiving in the international arena (Doeleman, ten Have, & Ahaus, 2014; Kim, Kumar, & Murphy, 2010; La Rotta & Pérez Rave, 2016). Thus, Kim et al. (2010) seek to determine the main subjects and methodologies used in the analysis of the EFQM model, between 1994 and 2007, and to propose future lines of research. In this regard, the most used methodologies are case studies, those of empirical nature and research of a conceptual nature. Regarding the subjects dealt with, it is observed that most of the studies are focussed on analysing the impact of the agent criteria on the results. To a lesser extent, knowledge is sought of the underlying paradigm in the EFQM model and, finally, a deeper knowledge of the leadership and people criteria. Lastly, the authors propose that future research should respond to: the problems that prevent an improvement of performance in the businesses that use the EFQM model, analysing the more important facilitating agent criteria, to achieve the success and the most beneficial measures to improve the performance.

Doeleman et al. (2014) point out that many organisations have used the EFQM model as a reference framework for their development, although success is not ensured. In addition, there are different opinions as to the value of the excellence models. To seek empirical evidence that an improvement in the performance of organisations takes place through use of the EFQM Excellence model, the authors present a literature review analysing a total of 24 articles, corresponding to the period 2002–2012. These articles were obtained from the Business Source Premier database. These articles were analysed and summarised according to the following sections:

- According to the degree of evidence that the article presents. The classification proposed by Reay, Berta, and Kazman Kohn (2009) is used as a reference. This classification is formed by a scale that runs from A1, A2, B, C to D, from a lesser to a greater degree of evidence. The selected articles have a high degree of evidence (between letters C and D).
- The impact factor of the journal (Association of Business Schools – ABS). Articles in journals with a high impact factor have been selected.
- The objective of the research and the method used.
- The results and findings of the research.

The subjects most dealt with in articles are: the practical applications of the EFQM model, the analysis of the relationships between the criteria of the EFQM model, the importance of the leadership criterion and the comparison between this excellence model and others. On the other hand, there is a lack of SLRs, comparative research of a random nature and comparative research with control groups.

Finally, the authors make a series of recommendations for future research: to base these future works on longitudinal studies with a control group, and the search for new uses of the EFQM model.

La Rotta and Pérez Rave (2016), through an SLR, attempt to locate and to characterise relevant literature on the EFQM model and to identify future challenges. The Scopus database was used, selecting 22 articles. Among the most significant results we found:

- More than 60% of the articles are concentrated in Spain.
- The most studied sectors are those of health and higher education.
- Studies are also emphasised that use several sectors of activity.
- The data are collected mainly from primary sources (managerial and employee), and, to a lesser extent, from secondary sources, such as self-assessment documents or reports from the companies. The most used instruments are the structured questionnaires and the measures that are offered by the EFQM model itself.

- Objectives: study of the EFQM model as a framework for support to decision making, analysis of the relationships between the criteria of the model and the impact of the use of the model in the organisation.
- With respect to the methodology, quantitative research is emphasised, representing almost 70% of the articles, and more specifically the use of structural equations and descriptive statistics.

Against this background, our work is focussed on a subject that has not been treated in depth in previous studies, the analysis of the exclusively quantitative research on the EFQM model. In addition, we contemplate a wide temporal range, 15 years, far beyond that of other research, and articles published in English and Spanish are included. Another novel aspect is that we concentrate our attention on publications made in impact journals, and the publication trends are analysed.

Specifically, the objectives considered are:

1. To determine the state of the art on quantitative research in the EFQM model.
2. To indicate the impact journals and media in which the articles have been published.
3. To identify knowledge gaps in empirical quantitative literature on the EFQM model to guide future lines of research in this field.

2. Methodology

For the search, filtration and selection of the research, for later analysis, we took the stages proposed by Sanchez-Meca (2010) for the qualitative SLRs as reference, as well as the methodology followed in other more specific studies related to the management of quality and to the EFQM model (Calvo-Mora et al., 2003; Doeleman et al., 2014; La Rotta & Pérez Rave, 2016; Ruiz-Torres et al., 2015; Siva et al., 2016). The stages are the following: (1) Formulation of the problem to be solved with the SLR; (2) definition of inclusion criterion and exclusion of articles; and (3) article search and selection.

2.1. Formulation of the problem to solve

This first stage attempts to clearly establish the question that is attempted to be answered, as well as to define the constructs and concepts implied in the same. From the formulation of the question arise the objectives to be reached.

- Research questions to answer:
  1. What has been investigated about the EFQM model through quantitative methodologies?
  2. In what journals and material are the articles published?
  3. What knowledge gaps are found in empirical quantitative literature on the EFQM model?
- Constructs and concepts:
  1. The EFQM Excellence Model. It presents a nonprescriptive framework that analyses the relationships between what an organisation does (criteria of the model: leadership, strategy, people, alliances and resources and processes, products and services) and the results that it can achieve regarding its clients, employees, society and other key results, assuming that there are different approaches to reaching excellence. This framework contributes a logical and systematic structure of analysis, which allows organisations (EFQM, 2013):
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