The impact of EFQM awards on organizational management

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Abstract

Purpose: The purpose of this paper is to examine how the recognition of the European Foundation for Quality and Management (EFQM) awards to organizations (variable 1), particularly contribute to the improvement of management models, translated into different stages of evolution of management models/management control systems (variable 2), testing the hypothesis of correlation between these two variables.

Methodology: The investigation covers the 35 organizations that won EFQM awards in Portugal (2010-2015). The bases are the different levels/scores of EFQM awards. Additionally, a questionnaire was used regarding the different stages of management models/management control systems (1=Basic stage of management control systems; 10=Advanced and very efficient management control systems stage). Moreover, interviews in all 35 organizations implied the collection of more accurate data.

Findings: Important findings result from the research. Whenever organizations implement a quality management process/EFQM, substantial improvements occur in organizations regarding the implementation of management control models. Additionally, a positive and very strong correlation was found between the two variables: (i) different levels/scores of EFQM awards, and (ii) results of the questionnaire on different stages of management models/management control systems.

Practical implications: The study makes it possible to conclude that the more an organization invests in a quality management process/program, the more efficient and useful a management control model becomes.

Originality/Value: There is a gap in literature regarding the impact of quality management on the effectiveness of management models. Our study helps to close this gap, contributing to the development of a new body of knowledge, by assessing this favourable impact.

Keywords
Quality management; EFQM awards; Organizational management

1. Introduction

Private and/or public organizations are, today, directed to excellence as a way to achieve high levels of performance (Araújo and Sampaio, 2014; Pesic and Dahlgaard, 2013; see also Hood, 1995). To this end, the precise and rigorous measurement of performance, and the implementation of accurate management models and management control systems are crucial for the achievement of excellence in organizations. The appropriate implementation and improvement of these management control systems, and the way performance is measured, have been a challenge for academics and practitioners in the last decades (Fitzgerald, 2007).

Since the 1990s the concern of researchers has been directed to the proper implementation of management control systems so that performance is accurately measured (Flamholtz, 1996). Due to new demands from the changing environment (technological and organizational change), performance measures must comprise, beyond the financial perspective, non-financial indicators (encompassing customer, quality or innovation perspectives) (Johnson and Kaplan, 1991). Following this new approach, innovative managerial systems emerged, being performance measurement financially and/or non-financially oriented. Consequently, quality indicators, clients/customers satisfaction, or employee satisfaction appeared as objectives and key performance indicators of organizations (Kanji, 1998b).

Management by objectives, activity-based costing, tableau de bord, balanced scorecard (BSC), or total quality management (TQM) are examples of management frameworks translating these innovative managerial systems (Hopper *et al*., 2007). More recently, business excellence model(s) (BEM) and organizational change management have been displayed as complementary approaches on the 'new managerial systems' (Dahlgaard *et al*., 2013). TQM is a managerial system that has been discussed by researchers for the last four decades. Studies have reported that TQM is a management framework that implies business excellence, improvement of efficiency, and the achievement of favourable results and outcomes (financial and non-financial) in organizations (Duh *et al*., 2012; Erikson and Hansson, 2003). One of the most well-known BEM is the European Foundation for Quality Management (EFQM) model which awards the attainment and recognition of excellence in organizations (EFQM, 2015).

This paper concerns an investigation about the impact of EFQM recognition/awards on the efficiency and reliability of management models in organizations. Many studies have been conducted on quality management analyzing the impact of quality on performance of organizations (financially and/or non-financially) (Boulter *et al*., 2013; Dahlgaard *et al*., 2013; Erikson and Hansson, 2003; Fryer *et al*., 2007; Hendricks and Singhal, 1997; Kaynak, 2003; Suárez-Barrasa and Alanedo-Rosas, 2014; York and Miree, 2004). Moreover, literature has presented studies on the reasons and motivations that underlie the application to EFQM BEM/awards – the input management/organizational perspective (Araújo and Sampaio, 2014; Gómez-López *et al*., 2015). But no studies have been reported so far analyzing and discussing the impact of EFQM awards and the respective process of internal structuring on the effectiveness of management models – the output management/organizational perspective. Our paper intends to close this gap found in literature.

Concretely, the purpose of the paper is to examine how the recognition of EFQM awards (different levels/scores) to organizations and the underlying implementation of quality management processes/programs (variable 1), particularly contribute to the improvement of management models and management control systems in those organizations (henceforth 'improvement of management') (variable 2). Indeed, the study intends to discuss and analyze the way quality management is reinforced when organizations implement the EFQM model to achieve excellence and recognition, by testing the hypothesis of correlation between variables 1 and 2. A survey was used to support the investigation, covering the 35 organizations that

won EFQM awards in Portugal between 2010 and 2015 (June). Complementarily, with the aim of analyzing and explaining more deeply how the management models and management control systems evolved, interviews were carried out in all 35 organizations.

The paper is structured as follows. Following the introduction, a literature review section on performance measurement systems (PMS), and quality management is presented. The third section describes the methodology adopted in the investigation. In section four, the empirical study is developed. Finally, in section five, discussion of the findings and the main conclusions are presented.

2. Literature review

Within the scope of PMS, management accounting/control and other performance measurement practices need to be evaluated from several perspectives (economic, social, behavioural and managerial), within an overall organizational context (Otley, 1999; see also Chenhall, 2003). Indeed, PMS play a critical role in organizations at the levels of evaluation and accountability, and planning and control. Consequently, organizations with formal PMS outperform organizations without it (Fitzgerald, 2007). The implication of PMS in the management of organizations highlights the role of management models, management control systems, and strategic objectives and plans (Berry et al., 2009; Ferreira and Otley, 2009). Indeed, 'organizational control systems can play an important role as a component of the overall management process' (Flamholtz, 1996, p. 597). Moreover, a 'long-term emphasis in PMS may motivate managers to make decisions that create long-term value' (Burney and Swanson, 2010, p. 176).

Organizational culture is also a component of management models, influencing the use of the management control systems and the supporting management frameworks (Flamholtz, 1996). Alvesson (2013, p. 14) goes further and establishes that 'organizational culture is one of the key areas of management and organization studies as well as practice … all management takes place within culture'. The right company culture is, above all, linked to the understanding and respect of people's basic needs, which implies that it must be built by focusing on how to design a quality strategy, which must be based on the human factor, enhancing the importance of everybody's participation (Dahlgaard and Dahlgaard-Park, 2006).

Being considered a management control framework in a global management philosophy, the TQM concept followed, since 1988, the quality control approach (Dahlgaard and Dahlgaard-Park, 2006). The tool began to be more frequently used for quality improvement/management activities and for performance assessment. It is considered a useful and valuable framework in many organizations, despite some criticism based on failures to TQM implementation processes (Dahlgaard-Park, 1999, 2011; Mohammad *et al*., 2011; see also Flynn *et al*., 1994, who mention that management practices must also be emphasized regarding quality output).

TQM is a concept linked to organizational literature and is consistent with an approach that considers quality as a global 'ultimate outcome' associated with the overall functioning of the organization (Cameron and Sine, 1999). TQM can be defined 'as the development of an organisational culture, which is defined by, and supports the constant attainment of customer satisfaction through an integrated system of techniques and tools; TQM is the culture of an organization committed to total customer satisfaction through continuous improvement' (Rad, 2006, p.607; see also Hafeez *et al*., 2006; Powell, 1995; York and Miree, 2004).

Importantly, the concept of 'total quality culture' was introduced by Kanji and Yui (1997), who state that, concerning quality, culture can be influenced by the environment, by strategy,

by the management system and by people. Concluding, 'it is impossible to attain business excellence without the right organisational culture' (Dahlgaard *et al*., 2013, p. 527).

TQM and business excellence are intertwined. The achievement of business excellence is crucial for companies to remain leaders and achieve high performance. The EFQM BEM has been widely used as a supporting framework towards achievement of objectives and attaining business excellence (Pesic and Dahlgaard, 2013; see also Dahlgaard-Park, 2008, who states that the EFQM model is a useful and alternative management control model). The EFQM BEM has been used, not only to achieve the goal of relevant recognition, but also to obtain 'in first place, internal impact with the implementation of good management practices and continuous improvement in the whole organisation' (Araújo and Sampaio, 2014, p. 431; see also Mohammad et al., 2011, who mention that the EFQM model is an effective model for helping organizations to evaluate and enhance work practices and performance). Nevertheless, the achievement of recognition/awards has a favourable impact on performance. Indeed, the award-winning organizations outperform (financially and non-financially) the non-award-winning ones, implying a competitive advantage for a period of three years (Boulter et al., 2013; see also Hendricks and Singhal, 1997).

One of the most well-known models linking TQM to business excellence – TQM is the key to achieve excellence -, is the Oakland model (Oakland, 2004, 2011). The model embraces eight structural factors that can lead organizations to perform in a more effective way – the '4Ps (planning, performance, processes and people), and the '4Cs' (culture, communication, commitment and customers) (Oakland, 2004, 2011; see also Pimentel and Major, 2015, who add new factors to the model – collective involvement and power, and establish that organizational culture, people and processes, as intangible assets in organizations, are complementary key factors for successful performance).

ISO 9000 standards (including ISO 9001 quality assurance requirements) have also been used for the quality assurance of a system, to offer customer quality in products and services (Kanji, 1998a). The implementation of ISO 9001 certification allowed many organizations to achieve a mature quality management perspective, implying a strong motivation for a next step – TQM implementation process (Claver et al., 2002) and, consequently, EFQM model or TQM programs implementation (Gómez et al., 2015; Hendricks and Singhal, 1997).

Being based on a self-assessment process requiring global structuration procedures in the organization, the EFQM model, beyond the recognition awards, has been used by organizations to highlight training and learning, creativity, and innovation, implying also a holistic view of organizations (EFQM, 2015). Broadly speaking, the process actively involves everybody in the organization which means that the self-assessment process is a 'good practice' for impacting the management models of companies. The model is based on nine criteria, divided into two separate groups. The enablers group includes: (i) leadership, (ii) people, (iii) strategy, (iv) partnership and resources, and (v) processes, products and services. Enablers are resources and correspond to what an organization does and how it does it. The second group corresponds to results and the criteria included are: (i) people results, (ii) customer results, (iii) society results, and (iv) business results. Results criteria represent what an organization achieves – the outcomes. If the right enablers are effectively implemented, then organizations will achieve the expected results. Thus, it is possible to identify the cause and effect relationship between what the organization does and the results achieved (EFQM, 2015; see also Dahlgaard-Park, 2008; Doeleman et al., 2014).

In the public sector, the common assessment framework (CAF) has been used as a specific framework to support the self-assessment of the EFQM model. Indeed, CAF is also based on TQM and adapted the EFQM BEM to the public sector. The changes are not relevant (EIPA, 2015). In public agencies, quality management has been particularly linked to efficiency (use of resources and/or cost reductions) and effectiveness (employee satisfaction, or customer

service and satisfaction) (Fryer *et al*., 2007; McAdam and Saulters, 2000; Stringham, 2004). Synthetically, in the public sector, excellence must comprise stakeholder satisfaction and overall service quality (Wisniewska and Szczpanska, 2014).

The EFQM BEM is a model/framework which intends to reward excellence in organizations. The model is based on a self-assessment process, followed by external audit that validates and assigns the scores and recognition/awards. The external audit is operated by the EFQM with the support of local quality associations all over European countries. In Portugal, the external assessment and assignment is conducted by the Portuguese Association for Quality[1], a partner of EFQM (PAQ, 2015). The recognition of an organization follows the assessment based on the EFQM BEM. Organizations can obtain recognition/awards at three different levels: (i) Committed to excellence (C2E), where organizations receive as award one or two stars; (ii) Recognized to Excellence (R4E), where organizations receive as award three, four or five stars, translated into a numerical score, in practice over 300 points; and (iii) Excellence award. This latter award implies that organizations are assessed at higher European responsibility levels and can obtain one of the following top awards: a) Excellence award finalist; b) Excellence award prize winner; and c) Excellence award winner. The Excellence award is also translated into a numerical score, which in practice has not exceeded 750 points across Europe. The accreditation is valid for two years (PAQ, 2015; EFQM, 2015).

Performance measurement systems (and management models or management control systems), organizational culture and quality management have been reported in some cases in literature as integrated or inter-connected frameworks/systems. Indeed, management models integrating TQM and PMS (particularly BSC) were reported. Hafeez et al. (2006, p. 1228) concluded that the 'TQM framework based on the balanced scorecard type performance measuring system provides a good metric for the companies to realize TQM efforts in terms of financial and non-financial business performance' (see also Malmi, 2001, who mentions that TQM encourages the adoption of BSC, management control systems, and PMS in general). Moreover, quality management initiatives can be implemented more successfully when linked to a strong performance management approach based on strategic control principles (Andersen et al., 2004).

Pimentel and Major (2014), after conducting a specific case study, conclude that quality management frameworks can be integrated into a BSC, as well as into a strategic plan, being later bundled into a new management model (see also Kanji, 1998a; Modell, 2009). Linking particularly to the EFQM model, Pesic and Dahlgaard (2013, p. 653) state that 'the BSC and the EFQM excellence models may be considered as complementary models'.

Regarding performance measures, some authors present evidence that financial performance develops more advantageously for companies that have implemented TQM more successfully than other competitors (Erikson and Hansson, 2003; see also Dahlgaard *et al*., 2013). On the other hand, other authors mention that performance measures and PMS are less financially and more process-oriented in a TQM environment (Kumar *et al*., 2009, p. 613). In the public sector, quality measurement frameworks are often combined with financial performance measures in a single 'basket'. Consequently, integration was found among EFQM BEM, quality certification standards, and BSC (McAdam and Saulters, 2000).

Quality management and culture are also intrinsically linked. Indeed, 'quality management is a key factor to emphasize organizational and cultural change in organizations' (Pimentel and Major, 2014, p. 773). Conversely, Green (2012) mentions that organizational culture influences and impacts on TQM initiatives. Concluding, Kujala and Lilirank (2004, p. 43) mention that 'in practice, the implementation of a successful quality management program requires changes in organizational culture to be compatible with quality culture'.

[1] In Portuguese 'Associação Portuguesa da Qualidade'.

3. Methodology

The investigation covers all 35 organizations that won EFQM awards in Portugal between 2010 and 2015 (June). The list of these organizations is visualized in appendix 1. The table in this appendix identifies the name of the organizations, the distinction between private and public sector, and the kind of recognition awards (Excellence award, R4E and C2E).

These 35 organizations (16 private and 19 public), when rewarded in the scope of EFQM recognition process, received a score which is visualized as a quantitative score (cases of R4E and Excellence award), or a qualitative score (one or two stars in case of C2E). These scores and the process underlying the external audit were consulted in the EFQM partner organization that conducts the assessment process (PAQ, 2015). All 35 organizations gave permission for consulting the process.

Firstly, and considering the practical top score of 750 points identified at the top Excellence award, a scale between 0 and 750 points was created to score the award observations regarding all the 35 organizations (this scale is the basis for variable 1). The score for R4E and for Excellence award was confirmed by the involved organizations. The score for C2E awards was built in each organization as follows. The C2E award implies, as a sequence of the self-assessment process, the identification of three specific actions to be implemented and monitored in each organization. These actions are assessed by the external audit following different categories of initiatives/attributes. Each one of these categories of attributes comprises several assessment items, being each one measured in a Likert scale from 1 to 5. The assessment follows the RADAR logic of results, and enablers (approach, deployment, and assessment and refinement) – four categories of attributes in each action. Consequently, each action computes a specific number of total attributes. The final score of attributes (the average of the sum of attributes in all three specific actions) is inserted in a scale between 13 and 65 points (13 points is the lower limit for an organization to be awarded and 65 points is the top limit when all attributes are scored 5) (PAQ, 2015). Considering that, in practice, the next award level (R4E) has a minimum score above 300 points, then the C2E award can be measured in a scale from 0 to 300 points. The last step of this approach is to translate the total measure of attributes from a scale between 13 and 65 points into a scale between 0 and 300 points. This methodology approach allows the identification of observations for all 35 organizations regarding different levels/scores of EFQM awards (variable 1).

Secondly, a survey was carried out in all 35 organizations with the purpose of identifying the evolution stage of the management model (translated into management control systems) of the organization. This survey was based on a questionnaire designed with the support of five Portuguese experts (three academics of highest repute, and two experienced professionals associated with the EFQM model). The questionnaire was presented to top managers or quality managers responsible for EFQM applications. Two questions were posed: (i) within the scope of the recognition of the EFQM awards, did your organization evolve favourably in the two following years in terms of the management model?, and (ii) at which evolution stage of the management/management control models does your organization fit in better? 10 stages were identified and characterized (see Appendix 2). All stages comprise the existence of management/management control frameworks showing an evolution, which emphasizes organizational and cultural change. Stage 1 correspond to the first level, and translates the existence of management frameworks which comprise strategy definition, budgets, and yearly monitoring. Stage 10 translates very advanced management systems and frameworks, comprising monitoring and timely corrective measures; the monitoring is frequent and embraces all levels of the organization; managers performance is assessed at all hierarchical

levels. Consequently, the questionnaire identifies properly the different stages of 'improvement of management' (variable 2).

This selected respondents (mainly quality managers) method follows the theory-based sampling approach. This theoretical approach explicitly states that cases and respondents are selected to better inform the researcher's specific area of research through their perception. Data is collected from participants who are the only ones who can provide appropriate and relevant data in the scope of the research. Concretely, 'the researcher samples incidents, slices of life, time periods, or people on the basis of their potential manifestation or representation of important theoretical constructs' (Patton, 2002, p. 238; see also Janesick, 2000).

The main purpose of the paper is to examine how the recognition of the European Foundation for Quality and Management (EFQM) awards to organizations and the underlying implementation of quality management processes/programs, particularly contribute to the improvement of management translated into different stages of management/management control models. Consequently, the paper tests the hypothesis of correlation between the different levels (and scores) of EFQM awards and the different stages of 'improvement of management'. Two different research questions were posed: (i) after the EFQM award implementation process, did your organization evolve favourably (at effective and efficient levels) in terms of the management model?, and (ii) is there a positive correlation between the different levels/scores of EFQM awards in organizations (variable 1), and the different stages of 'improvement of management' after the EFQM awarded process (results of the questionnaire) (variable 2)?

To answer the second research question, to compute and test the significance of the correlation between variable 1 and variable 2, we use Pearson and Spearman correlation coefficients. These coefficients will range theoretically between -1 and +1. The Pearson correlation coefficient (r) is the more used coefficient for preliminary diagnostic information, suggesting those variables which are likely to be explanatory useful because they are highly correlated, and highlights potential multicollinearity problems (Hair (Jr) *et al*., 2010). The Spearman correlation coefficient (rho) is mostly used when the researcher is unsure of the quality of the data, or of the population, basically when there is suspicion of the presence of measurement errors (inadequate answers/perceptions to the questionnaire) – outliers. Moreover, due to the ordinal scale of the variables, particularly the restricted scale of variable 2, correlation must be measured and tested using, additionally, the Spearman correlation coefficient (Smith, 2003). For a description of the statistical measure, particularly in the field of organizational management and performance, see Bowen *et al*. (2008).

With the aim of analyzing and explaining more deeply how the management models and management control systems evolved, a qualitative method approach also took place. In practice, simple case studies were conducted, encompassing basically interviews to the respondents of the questionnaire and some written documentation and data analysis (Denzin and Lincoln, 2000; Janesick, 2000; Ryan *et al*., 2002). Interviews were carried out in all 35 organizations, lasting about 30 hours. The interviews were conducted between November 2014 and June 2015, and were made to the respondents after answering the questionnaire. The interviews were semi-structured and an open-ended discussion was usually carried out (Yin, 2014). A previously prepared guide was based on two questions: (i) how did your organization arrange the process and implement the proceedings for the self-assessment requirement of EFQM recognition?; and (ii) how did your organization select the actions and initiatives to improve management, and how did the monitoring process took place? Since the interviews implied the collection of more accurate data, the findings and conclusions were consequently reinforced.

4. The empirical study

As mentioned before, the main purpose of the paper is to test the hypothesis of correlation between the different levels (and scores) of EFQM awards (variable 1), and the different stages of 'improvement of management' (questionnaire) (variable 2). Supporting the computing of the correlation coefficients, observations were collected in all 35 organizations regarding those two variables. The organizations order is random and independent from the order shown in appendix 1. Table I presents these observations.

Table I – Observations (variables 1 and 2)

Organizations order	**EFQM award score (0-750) (variable 1)**	**Stages of evolution of the management model (questionnaire) (0-10) (variable 2)**
1	565	8
2	330	4
3	116	3
4	146	3
5	145	4
6	625	9
7	181	4
8	525	9
9	360	8
10	475	6
11	116	3
12	137	4
13	375	8
14	122	5
15	127	4
16	214	7
17	123	4
18	89	3
19	131	3
20	137	4
21	167	4
22	192	5
23	248	7
24	133	3
25	625	9
26	158	4
27	195	3
28	472	9
29	158	6
30	471	8
31	122	4
32	475	7
33	126	2
34	139	4
35	256	1

Regarding the first research question, all 35 organizations answered ‘yes’ in the questionnaire, which means that, after the EFQM awarding implementation process in organizations, there is a favourable impact on the improvement of management.

To compute and test the significance of the correlation (Pearson and Spearman coefficients) between variable 1 and variable 2, SPSS was used. Table II presents the results of the computing.

Table II – Correlations

		Statistics
Spearman's rho	Correlation Coefficient	.739*
	Sig. (2-tailed)	.000
	N	35
Pearson's r	Correlation Coefficient	.827 *
	Sig. (2-tailed)	.000
	N	35

* Correlation is significant at the 0.01 level (2-tailed)

As can be seen, the sign and the magnitude of the estimates are similar pointing both to a positive, very strong (.827 for Pearson coefficient, .739 for Spearman coefficient) and statistically significant (at the 1% significance level) correlation between variables 1 and 2. It means that when the EFQM award score increases, the other variable tends also to increase.

Other descriptive statistics were computed to evaluate the central tendency and the dispersion of the two empirical distributions (see table III).

Table III – Descriptive statistics

		EFQM award score (0-750) (variable 1)	**Stages of evolution of the management model (questionnaire) (0-10) (variable 2)**
N	Valid	35	35
	Missing	0	0
Average		256.46	5.114
Median		167.00	4.000
Std. Deviation		167.440	2.2851

In terms of dispersion, the standard deviation represents around 55% of the average (65% for variable 1 and 45% for variable 2), which means a certain homogeneity among respondents. The relative dispersion is smaller in the impact variable. The median is smaller than the average, pointing to a positive asymmetric distribution.

The average value of variable 2 indicates that the 35 organizations, after the EFQM awarding prizes, implemented, on average, a management control model characterized by stage 5 (5.114 points) out of 10 (see appendix 2).

5. Discussion and conclusions

Important findings result from the research. First, and answering research question number one, all 35 organizations answered 'yes' in the questionnaire, which means that, whenever organizations implement a quality management/EFQM awards process, there is a favourable impact on the proceedings associated with management models.

Second, the average regarding variable 2 ('improvement of management' – stages of evolution of management models) aims at stage 5. Consequently organizations, after implementing quality based management /EFQM recognition processes, develop management models characterized, on average, by appropriate processes of budgetary management and of monitoring frameworks directed to variance analysis. The supporting information systems work properly, allowing the attainment of reliable and timely indicators.

Finally, a positive and very strong correlation (Pearson and Spearman coefficients) was found between the two variables. Consequently, and answering the second research question, it is possible to conclude that, when the EFQM award score increases (variable 1), the 'improvement of management' after the EFQM awarded processes (variable 2) tends also to increase. Synthesizing, this positive and strong correlation implies that quality management is reinforced by highlighting (through EFQM awards) the impact on the effectiveness of management/management control models in organizations, confirming the statement that it is 'too early to declare the death of TQM' (Dahlgaard-Park, 2011, p. 511).

Looking to the qualitative approach, interviews were deeply analyzed. Indeed, specific strategies were found regarding the way organizations trained and prepared the EFQM application. Concretely, some interviewees mentioned:

> 'CAF requirements, and training on CAF proceedings, were used to support self-assessment' (quality manager of a public organization, March 2015; member of board of a public organization, March 2015).

Similar statements were identified in other organizations. Globally, 13 organizations (11 public – 58% -, and 2 private) used previously CAF to support, as a pilot study, the EFQM application. The two private organizations are private schools which followed the same procedures as public schools. These statements permit to conclude that, in public organizations, managers prefer to use firstly the CAF proceedings and training, to prepare the EFQM application.

Regarding ISO 9001 certification process, an interesting citation was identified in a transcription:

> 'The certification of ISO 9001 process was a very important previous step to help and prepare the EFQM application one or two years later' (quality manager of a private organization, May 2015).

Similar statements were reported by 14 quality managers/CEOs in interviews conducted in other organizations (7 private and 7 public). This finding allows the conclusion that, in line with Claver *et al*. (2002), the previous implementation of ISO 9001 certification in many organizations facilitates the achievement of a mature quality management perspective, implying a strong motivation for a next step – EFQM implementation process.

All these findings represent important contributions of the paper, both to academics and to practitioners. Importantly, the paper contributes to the development of a new body of knowledge, highlighting the role and impact of the EFQM awarding process in organizations - the output management/organizational perspective.

Considering that this paper helps to close a specific gap, similar research on the impact of EFQM awards processes on the implementation of accurate management models/management control frameworks and organizational culture is welcome, particularly on other countries and/or settings. Additionally, the methodology supporting the scores of the variables must be tested and replicated by other studies.

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Appendix 1

Recognition of EFQM awards in Portugal - 2010-2015 (June)

Organization	Sector	EFQM excellence award
Bosch Car Multimedia Portugal	Private	Excellence Award
Bosch Security Systems	Private	R4E
II - Institute of Information Technology	Public	R4E
Alliance Healthcare	Private	R4E
ANA – Portuguese Airports	Private	R4E
Regional Directorate of Trade, Industry and Energy (Autonomous Region of Madeira - ARM)	Public	R4E
Refrige – Soft Drinks Industry	Private	R4E
IGFSS - Social Security Financial Management Institute	Public	R4E
Groundforce Portugal	Private	R4E
General Secretariat of the Ministry of Science, Techonology and Higher Education	Public	R4E
Servilusa, Funeral Agency	Private	R4E
Schools Grouping Figueira Mar	Public	C2E
ADRAL – Agency for Alentejo Local Development	Private	C2E
Monstros e Companhia – Communication Solutions	Private	C2E
Professional School of Amadora	Public	C2E
CTT - Post Office and Postal Distribution Centre	Private	C2E
Iberogestão – Technological Management	Private	C2E
ISS - Social Security Institute	Public	C2E
Regional Archives of Madeira	Public	C2E
Regional Directorate of Geographic Information - ARM	Public	C2E
Regional Directorate of Public Administration in Porto Santo - ARM	Public	C2E
Salesiana School of Manique	Private	C2E
Vice President Office – Regional Government of Madeira	Public	C2E
College Education Office - ARM	Public	C2E
Regional Inspection of Labour - ARM	Public	C2E
Multisports - Sporting Club of Portugal	Private	C2E
General Secretariat of the Ministry of Education	Public	C2E
Social Action Services of Madeira University	Public	C2E
Regional Services of Civil Defence - ARM	Public	C2E
Universidade Aberta – Distance Learning University	Public	C2E
ADRAVE – Agency for Ave Valley Local Development	Private	C2E
ANAM – Madeira Airports and Air Navigation	Private	C2E
Regional Directorate of Public Administration in the Autonomous Region of Azores	Public	C2E
EUL - University Stadium of Lisbon	Public	C2E
High School Cooperative of Benedita	Private	C2E

Appendix 2

Questionnaire

A – Within the scope and after the recognition of the EFQM award, did your organization evolve favourably (at effective and efficient levels) on the two following years in terms of the management model?

B – If it did, at which stage of management/management control models do you think your organization better fits in?

Stage 1 – Management frameworks comprise strategy definition (including mission, vision and values), budgets, and yearly monitoring (objectives and resources); organizational culture is a concern of managers;

Stage 2 – Managers are responsible for objectives, which are clearly defined, but still at a local or partial level; the organizational culture points to accountability of managers; the monitoring process is quarterly;

Stage 3 – Managers are responsible for objectives and resources/means, which are clearly defined, but still at a local or partial level; budgets are appropriate, but partial; the monitoring process is monthly; the timeliness of the indicators is uniform; the organizational culture points to accountability of managers; information systems are implemented in an evolutionary process of improvement;

4 – There is a collective involvement in the definition, alignment and convergence of objectives, which are clearly defined; the monitoring process is monthly; the organizational culture points to accountability of managers regarding global and convergent objectives; information systems are based in tested software;

5 – There is a collective involvement in the definition of objectives and resources/means, in a decentralized way; budgetary management works effectively; the organizational culture points to the convergent accountability of all managers, based on accurate and specific frameworks per areas/segments; the monthly monitoring process comprises variance analysis; the timeliness and reliability of the indicators are appropriate; the information systems work accurately;

6 - The organizational culture points to the assessment of managers' performance, based on appropriate and individual frameworks, at a local or partial level; the variance analysis is carried out per segments; there is collective involvement of staff in the management process; timeliness and reliability of the indicators are very good; the information systems work effectively and 'produce' reliable data;

7 - There are several and convergent indicators at monitoring level linked to targets at a global level of the organization; the organizational culture points to the assessment of managers' performance;

8 - There are regular monitoring meetings comprising variance analysis per segments and per managers; corrective measures are taken at a local or partial level; the organizational culture points to the existence of a structured model of management control; the objectives for individual performance are aligned with the top (corporate) objectives; there is an incentive system partially linked to the management model involving the managers;

9 – There are regular and timely monitoring meetings comprising variance and corrective measures at a global level; the organizational culture points to individual performance of managers, and to incentives and rewards system involving managers and staff; the objectives are aligned with the top (corporate) objectives; there is a collective, strong and participating involvement of staff in the management process;

10 – The management model is based on frameworks allowing on time monitoring and corrective measures linked to decision-making, at all levels of the organization; the organizational culture points to individual performance assessment at all hierarchical levels, linked to incentives and reward systems; adjusted/rolling budgets are prepared at a global level of the organization, implying a very short-term analysis of impact of measures on forecasts.