An Excellence Model Case Study Assessing the Gap in Managers' Views by Hierarchical Clustering

DOI: 10.12776/qip.v28i1.1924

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Received: 2023-10-24 Accepted: 2024-02-13 Published: 2024-03-31

ABSTRACT

Purpose: This paper highlights the importance of business excellence models for SMEs and compares results from different model versions and managerial perspectives.

Methodology/Approach: In an SME case study, three EFQM versions were applied (START, START PLUS (both based on EFQM 2013) and EFQM 2020) to make a comparative analysis of evaluation results. It utilises hierarchical clustering to gauge managerial agreement and examines the shift from EFQM 2013 to EFQM 2020.

Findings: The paper presents comparative results, emphasising differences in evaluations. These results underscore the robustness of EFQM model versions and the significance of assessing managerial perspectives.

Research Limitation/implication: Similar analysis can be conducted for a large number of companies in order to make a comprehensive statistical comparison. Also, it could be useful to examine the differences among different branches of industry if there are any.

Originality/Value of paper: It is believed that this study will contribute to the existing literature by presenting the case study implementation of the excellence models in an SME. A conducted case study increases originality in a value-added way by using managerial views' evaluations.

Category: Case study

Keywords: quality management; business excellence assessment; EFQM; cluster analysis; hierarchical grouping

Research Areas: Strategic Quality Management

1 INTRODUCTION

Nowadays, the change in the structure of global markets has brought increased competition. In this regard, one of the major problems for companies is how to create and maintain high performance, thus ensuring long-term profitability and sustainability. Since the 1950s, companies have implemented several systematic approaches, and literature proves that all these tools have created valuable advantages for them (Westcott, 2005; Kenworthy and Verbeke, 2015). However, the understanding of management has evolved over the years as the conditions of the business world have changed, and it has gone beyond the application of basic principles in the classical sense.

The business excellence models (BEMs) define basic strategic competencies that will enable businesses to provide sustainable competitive advantage through self-assessment. Starting in the 1980s, alongside the rise of excellence terminology, different BEMs have been developed, and national quality awards (NQAs) have started to be given in different countries. While countries started to evolve their own NQAs, in the academic environment, authors mostly focused on comparing different BEMs and their applications in companies.

The spread of BEMs has brought with it the publication of studies containing comparisons of models/NQAs. A literature review proved that this issue has been mentioned in many publications (e.g. Talwar, 2011; Unnikrishnan et al., 2017). In these studies, researchers identified and compared the contents, core values, unique features, points of emphasis, and the overall approach of these models by using several different approaches, but according to the knowledge of the authors, most of these studies are limited to theoretical evaluations.

In this context, the main purpose of this study is to present a comprehensive way of implementing of BEMs suitable especially for small and medium-sized enterprises (SMEs) and to compare the results of three European Foundation for Quality Management (EFQM) based model versions. For this purpose, a case study of business excellence assessment in a real medium-sized manufacturing company was used, which can serve as a guideline for further implementations. In the evaluation process, firstly models START and START PLUS, which are developed by the Czech Society for Quality (CSQ) based on EFQM 2013 model, are used. Thus, a comparison for company evaluation is made with the START PLUS model, which is used by the evaluator, and with the START model, which is used by managers of the company.

It is intended to show evaluation from the view of different managers in order to avoid the subjectivity of evaluation. To better understand the differences in opinions, hierarchical clustering was used to assess the dissimilarities in managerial judgments. Finally, the EFQM 2020 model is used for an evaluation. This makes it possible to compare the effects of evaluation results based on the new EFQM 2020 methodology with the previous version of EFQM 2013 within a case study.

It is believed that this study will contribute to the existing literature by presenting the case study implementation of the excellence models in an SME. A case study increases originality in a value-added way by using managerial views' evaluations. The entire topic of the analysed problem is first put into a broader context through a comprehensive literature review, which is followed by a description of the methodology used. Afterwards, the steps of the evaluation mechanism are detailed, and the results of individual models' implementations are presented. The final part discusses the differences between the individual models, the limitations of this study, and possible directions for further research.

2 LITERATURE REVIEW

In 1988, leading European companies observed changes in the business environment and established EFQM to better meet the new requirements in the market (Wongrassame et al., 2003). In 1991, the EFQM excellence model was generated by the Foundation to help organisations evaluate themselves based on the concept and criteria of excellence, determine their strengths and weaknesses, and help to develop a development plan suitable for the structure of their company with a continuous development approach. The European Quality Award was given for the first time in 1992, and in the following years, the model was taken as an example, and NQAs started to be given in different countries.

In Europe, the EFQM Model has become the most commonly applied BEMs (Fonseca, 2015). In 2007, Mavroeidis et al. (2007) conducted a study among 31 major national, regional and local awards all across 24 European Union countries and revealed that 58% of them are based on the EFQM model with a few modifications such as a change of dimension titles or some definitions. According to the conducted study, 16% of models are based on EFQM with an adaptation of special requirements for their countries and finally 26% of them are unique models and/or based on other models. Today, more than 50,000 organisations in 48 countries worldwide use the EFQM as a management model (Kalder, 2022).

EFQM advocates that organisations, regardless of their size and level of development, should establish a management system suitable for their structure and measure the adequacy of this system through self-assessment in order to achieve success. Periañez-Cristobal et al. (2021) examined the organisational profiles fro EFQM perspective and showed that, generally top-scoring companies stand out for their strategic vision. Additionally, EFQM looks at Total Quality Management (TQM) from a broad perspective and aims to develop organisational awareness while examining the processes within the organisation. For this reason, it is possible to say that the EFQM model is an effective and complementary tool that can be used to realise TQM within organisations (Sá et al., 2023).

Several studies have already demonstrated the positive impact of using TQM concepts, BEMs, and NQAs. One of these studies (Hendricks and Shingal, 2011) was cited in the official EFQM materials. The main content of the study was a

comparison of almost 600 winners of the NQA and other companies that did not use BEMs. Hendricks and Shingal (2001) observed both groups for 5 years and found out that the use of the principles of BEMs brings significant improvements to companies' outcomes. Specifically, a significantly larger increase was observed in measures of financial performance such as share price, operating income, turnover, etc. Heras-Saizarbitoria (2006) also states that applying BEMs helps organisations improve employee motivation, which leads to greater engagement, further promotes better communication with suppliers and customers and, last but not least, contributes to greater customer satisfaction. These are all factors that lead to an increase in the performance of organisations, respectively to the achievement of better economic results.

The EFQM Excellence Model provides a framework for institutions to understand where they stand on the path to excellence and is considered as an advanced tool for quality self-assessment by organisations. In this regard, a group of EFQM assessors, different stakeholders, or different managerial levels evaluate the company in terms of criteria. Then, collected data is aggregated using different approaches such as the consensus process (Moreno-Rodrı et al., 2013; Sá and Fernandes, 2020), multi-criteria decision-making algorithms (Ahmed et al., 2003), fuzzy logic-based models (Daniel and Naderpour, 2018; Kiraz and Açıkgöz, 2021), etc. However, preventing deviations that may arise is very vital and requires meticulously devised methodologies. Besides, the model is constantly being developed and updated with data on EFQM best practices. Thus, it preserves its dynamic and up-to-date structure and reflects current views on management (Kalder, 2013).

In 2019, Yousaf and Bris carried out a literature review of the EFQM model from 1991 to 2019, and the study revealed that practical applications generally include case studies, the relationship between criteria and the importance of the leadership criterion. A recent overview of studies focused on the relationship between quality management, innovation and operational and financial performance was carried out by García-Fernández et al., 2022. They analysed 172 valid articles on this topic and found that only three studies focused directly on the EFQM model. Gutiérrez et al. (2010) found that the quality management elements included in the EFQM model have a deeper impact on administrative innovation and technical innovation than those included in Quality Control and the ISO Standards. Kafetzopoulos and Gotzamani (2018) demonstrated a direct or indirect association between EFQM model enablers and the four types of innovation (product, process, organisation, and marketing innovation). Additionally, Kafetzopoulos et al. (2019) explored the relationship between EFQM enablers and business performance, highlighting the mediating role of innovation.

However, a year-based comparative study conducted by Correia et al. (2020) revealed that usage of EFQM among SMEs is very low. Murphy (2016) highlighted that the application of the model was generally found to be challenging from SMEs' perspective; therefore, SMEs could not use the model efficiently (Dahlgaard et al., 2013). The underlying reason is stated to be its structure, which

has been designed for large enterprises (Olaru et al., 2010). Although shorter and adapted versions of the EFQM or different conceptual tools are created for successful implementation (Correia et al., 2020), SMEs still need guidelines derived from successful case studies on how to manage the process.

3 METHODOLOGY

In this study, the evaluation process is based on three major models, namely START and START PLUS, which were developed by CSQ based on the EFQM 2013 model and the EFQM 2020 base model. The comparison of the models is presented in Figure 1. These models represent practical tools that are more affordable for the company from a financial and time point of view (Adamek et al., 2020).

For the evaluated company, a comparison of the results of the START PLUS model, which is performed by the evaluator, and the START model, which is performed by the company's managers, is presented. To assess the agreement of managers´ judgements, hierarchical clustering has been carried out. The Euclidean matrix for all evaluators has been calculated, and a dendrogram of hierarchical grouping has also been created based on the between-linkage grouping method. In addition to the cluster analysis, correlation coefficients (Pearson coefficient, Spearman coefficient, and Kendall´s tau) were calculated. In the following part, the individual applied models will be presented from a methodological perspective.

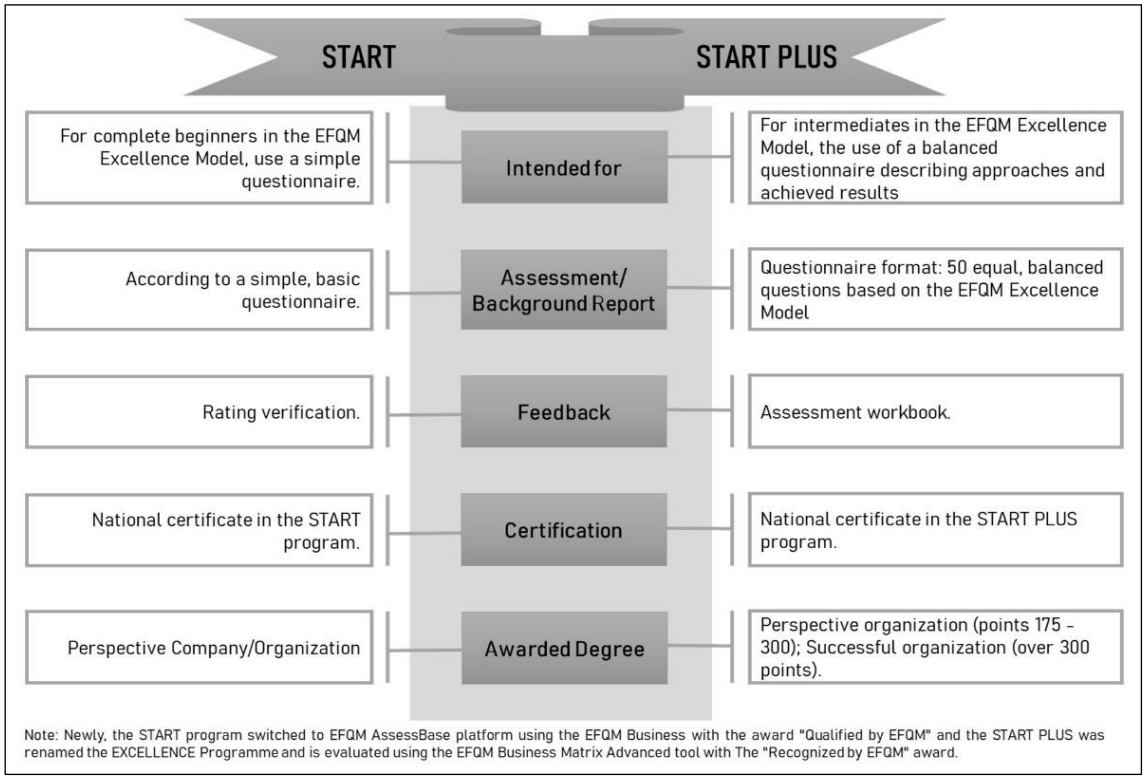

Figure 1 – Comparison of programs (Zelinova, 2016)

The START model (Quality Council of the Czech Republic, 2011) is primarily intended for organisations that want to try out a tool for the path of improvement or that are not satisfied with the mere application of the ISO 9001 standard. The self-assessment method takes place according to a predetermined questionnaire. The structure of the START Model is the same as that of the EFQM 2013 Model. It has the same nine criteria, which are identically divided into the areas of "Assumptions" and "Results". The evaluation of particular criteria is based on multiple-choice questions, for which only one of four possible answers can be selected (100 points – fully achieved, 67 points – substantial progress, 33 points – certain progress, and 0 points – not started). There are in total of fifty questions across nine perspectives, and they are equally divided between the areas of ''Assumptions'', and "Results", both areas consist of twenty-five questions. From this point of view, the START model corresponds to Qualified by EFQM, which provides a relatively quick but detailed analysis of how organisation is performing against the criteria of the EFQM.

However, the START PLUS model (Quality Council of the Czech Republic, 2013) focuses on organisational performance. The structure of the START PLUS model is identical to the EFQM 2013 Model. It has the same nine criteria, which are identically divided into the areas of "Enablers" and "Results". For each criterion of enablers, there was a set of ten questions and the questions were evaluated using RADAR methodology. It is slightly different from the original EFQM 2013 Model, which has five sub-criteria for each perspective. In the START PLUS model, the point evaluation is based on the RADAR logic, but compared to the point evaluation in the EFQM 2013 Model, the evaluation method is significantly simpler. For each criterion in the START PLUS model, several questions are set in the assumptions area. Each question is scored separately, on a scale of 0 to 100. In this sense, the START Plus model corresponds to the model recognised by EFQM, which provides a rigorous external perspective for both strategic and operational feedback. The details of the evaluations are described below in this article within the case study, and the questions for each criterion are available under the request.

In 2019, the EFQM 2013 Model was replaced by the EFQM 2020 Model. Instead of nine main criteria available in the 2013 model, the 2020 model includes seven criteria grouped into the three main blocks (EFQM model 2020)): **Direction (Why):** 1. Purpose, vision, and strategy (5 sub-criteria); 2. Organisational culture and leadership (4 sub-criteria); **Execution (How):** 3. Engaging stakeholders (with 5 sub-criteria); 4. Creating sustainable value (with 4 sub-criteria); 5. Driving performance and transformation (with 5 sub-criteria); **Results (What):** 6. Stakeholder perception (no sub-criteria); 7. Strategic and operational performance (no sub-criteria). Nenadál (2020) examined the linkages between criteria set of EFQM 2013 and three major sections of the EFQM 2020 Model. In 2021, Fonseca et al. elaborated a comparison matrix between sub-criteria of the 2013 and 2020 model (as presented in Figure 2). In this regard, Criteria 1 and 2 namely Leadership and Strategy in 2013 version grouped as Input; Criteria 3, 4, and 5 namely People,

Partnerships & Resources and Processes, Products & Services grouped as Processes and Criteria 6, 7, 8 and 9 namely, Customer Results, People Results, Society Results and Business Results grouped as Results.

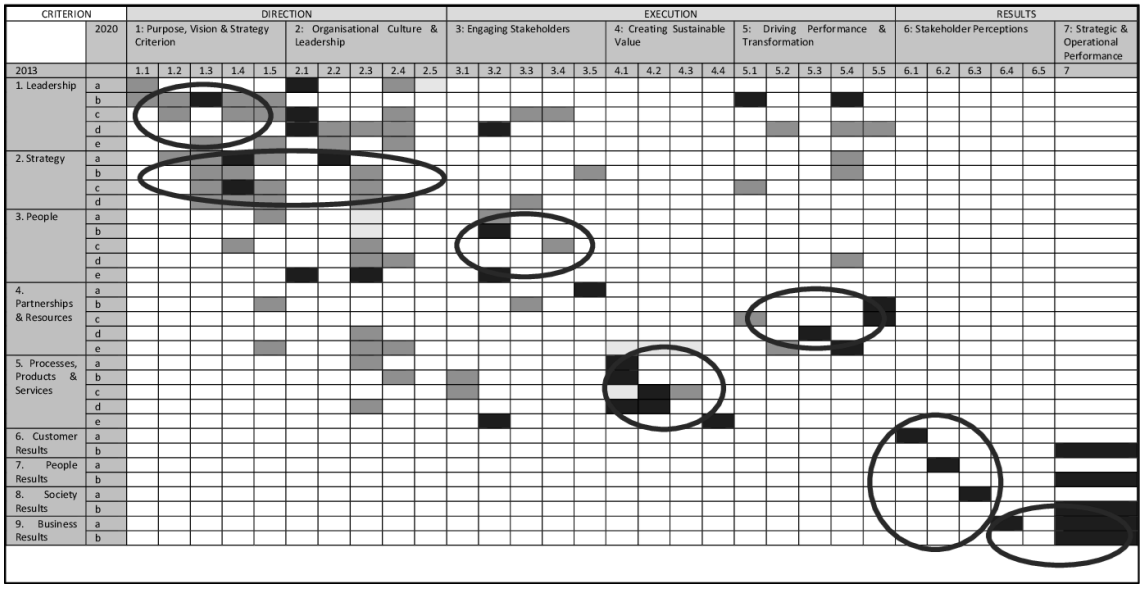

Figure 2 – EFQM 2013 versus EFQM 2020 (Fonseca, 2021)
**High correlation between sub-criteria–dark colour, Medium correlation between sub-criteria– light colour, no correlation–white*

In this case study, the basic version of the Model EFQM 2020 is used (https://assessbase.digitalefqm.com). There is a set of 29 questions (presented in Table 7) grouped into three domains of the full version of EFQM 2020 direction, execution and results. Each question can be evaluated in the range of 0 to 100%.

4 CASE STUDY OF AN INDUSTRIAL SME

4.1 Description of Selected Company

In order to identify the differences in the application of individual evaluation models, they were all applied to one selected SME in the manufacturing sector. The selected company is focused on the production and design of components and stainless-steel equipment for the pharmaceutical, chemical and food industries. In addition to these products, the company also offers a whole range of additional devices, such as platforms, containers, carts, lifting devices, sieves, frames or tube exchangers. The company is a subsidiary of the German company, currently employing approximately 190 people, and achieved a turnover of approximately CZK 350 million in 2022.

4.2 Steps of the Evaluation Process

The EFQM process in this company consisted of the following systematic steps.

Step 1: Provide an introductory presentation to the company management about START PLUS, characterise the evaluation steps, and highlight the benefits of the model. In Table 1, the assignment of the evaluation areas (nine perspectives) to individual managers is presented.

Table 1 – The assignment of perspectives to different managers of the company

	Leadership	**Strategy**	**Employees**	**Partnership and resources**	**Processes, products and services**	**Customers outcomes**	**Employees outcomes**	**Society outcomes**	**Economic outcomes**
Company director	X	X		X	X	X		X	X
Head of Human Resources	X		X				X		
Production Manager	X		X			X			
Technical head	X		X		X				
Head of Sales					X				
Head of Economic				X					X

Step 2: After selecting the team members, a detailed introduction to the procedure of applying the model START PLUS has been carried out with the help of explanatory documents precisely defining the meaning of all nine criteria, containing all the questions associated with each criterion and with the necessary structure they should be answered.

Step 3: Data collection was carried out using structured interviews through a personal meeting with each team member (company manager). The refinement of interviews was carried out via telephone.

Step 4: The evaluation of nine criteria was conducted based on RADAR.

Step 5: All managers were evaluated based on the START model.

Step 6: Results were discussed with the company managers to discover their satisfaction with the evaluation.

4.3 Results

4.3.1 Comparison of START and START PLUS evaluations

In Table 2, the overall results of a particular criteria evaluation according to START PLUS are given. The final points in each input criterion are based on the average values of particular questions, and each output criterion represents a weighted average of sub-criteria.

Table 2 – The overall results according to START PLUS

Criterion	Points	Weights	Weighted evaluation	Maximal number of points
1 Leadership	35	1	**35**	100
2 Strategy	25	1	**25**	100
3 Employees	43	1	**43**	100
4 Partnership and resources	40	1	**40**	100
5 Processes, products and services	44	1	**44**	100
6 Customers – outcomes	9	1,5	**13**	150
7 Employees – outcomes	11	1	**11**	100
8 Society – outcomes	15	1	**15**	100
9 Economical outcomes	33	1,5	**49**	150

The results show that among the weakest evaluated criteria are "Employees – outcomes", "Customers – outcomes" and "Society– outcomes" from the results criteria and the strategy from the input criteria. From Table 3, which contains the sub-criteria of outputs, it is readily clear that the reason for the low evaluation is the lack of "measures of perception" of particular interested parties – customers, employees and society.

Table 3 –The sub-criteria results according to START PLUS

Criterion	Sub-criteria	Points	Weight	Weighted evaluation
6 Customers – outcomes	6.1 Measures of perception	3	0.75	2.3
	6.2 Performance indicators	25	0.25	6.3
7 Employees – outcomes	7.1 Measures of perception	5	0.75	3.8
	7.2 Performance indicators	30	0.25	7.5
8 Society – outcomes	8.1 Measures of perception	5	0.5	2.5
	8.2 Performance indicators	25	0.5	12.5
9 Economic results	9.1 Economic outcomes	30	0.5	15.0
	9.2 Performance indicators	35	0.5	17.5

Points to particular sub-criteria of outputs were given using RADAR methodology. For example, the perspective Customers – outcomes:

- No measures of perception have been set, no points for trends, goals, benchmarks, 10% for scope and sufficiency – because of a basic awareness of customer satisfaction. (The average value of trends, goals, and benchmarks is 0, the average value of 0 and 10 is 5, and the product is 0, so the centre between average and product is approximately 3%.)
- Two performance indicators (meeting deadlines, a number of claims) – half of the monitored indicators achieve a positive trend – 50 points, the goal is achieved in half of the indicators – 50 points, No benchmarking – 0 points, Scope and sufficiency – 45% (The a average value of trends, goals, benchmarks is 33.33 points, average value of 33.33 and 45 is 39.16 and the

product value is 15.33 points, so the centre between 39.16 and 15.33 is approximately 25%).

Table 4 shows the evaluation of the sub-criteria within five perspectives of inputs. Each perspective was evaluated with the help of 10 questions using RADAR technique.

Table 4 – Sub-criteria evaluation of input perspectives

	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
Leadership	45	23	40	55	32	40	32	38	35	13
Strategy	13	30	45	23	38	18	23	12	17	33
Employees	37	57	32	45	67	58	33	7	35	60
Partnership and resources	45	32	28	62	40	68	50	37	28	13
Processes, products and services	72	63	40	28	60	40	7	57	37	33

For example, Q1 (How did management members participate in defining the organisation's mission, vision, corporate values, and principles of business ethics? How do board members personally communicate the vision, values, and principles of business ethics to employees and other stakeholders?) From the perspective of Leadership was evaluated using RADAR as follows.

Approach: The approach has a clear process, but it is certainly not a world-class process, which corresponds to the fact that the vision, mission and code of ethics are not written (45 points)

Deployment: The approach is applied in most areas; however, it does not always succeed, which may be due to the already mentioned lack of documentation 70 points.

Review and Assessment: There is no systematic evaluation and improvement of the approach in the company, but this topic is discussed in senior management meetings, and senior management members try to improve the approach based on their experience (40 points).

The average evaluation of Q1 of Leadership is 52 points, but in the START PLUS, the rule is that the point rating of the question must never be higher than the point rating of the approach. As 45 points were awarded for the approach, it is necessary to reduce the evaluation of the question from 52 points to this level.

Figure 3 presents the comparison of evaluation within particular criteria by individual managers of the company using the START model (evaluation based on 50 questions across 9 criteria) with the above-described evaluation using START PLUS. To assess the expert’s agreement, individual assessments were first compared using Euclidean distance. The proximity matrix is displayed in Table 5. There is also a mutual comparison between individual managers in the proximity

matrix. The lower the number in the proximity matrix, the better is the concordance in experts' views.

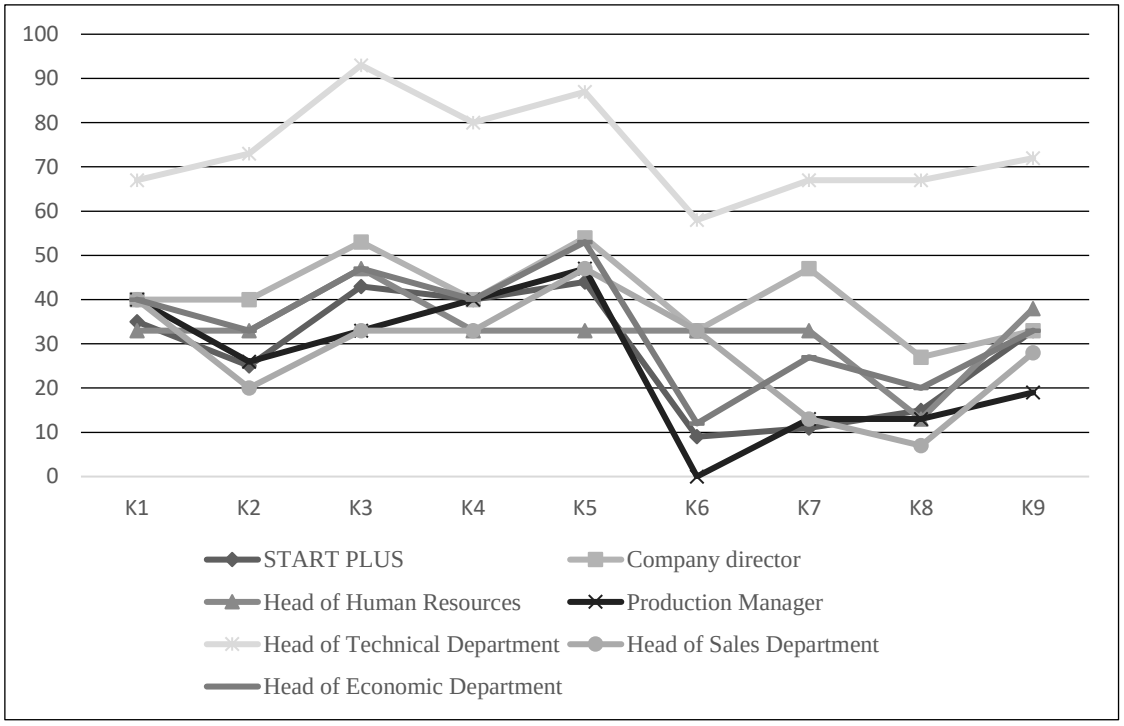

Figure 3 – Comparison of the evaluations by individual managers using START model with the START PLUS model

The best agreement is between START PLUS evaluation and the production manager evaluation and between START PLUS evaluation and the economic manager evaluation. The evaluation of the technical manager has a larger distance from all other evaluations. Also, there is a big distance between the technical and sales managers.

Table 5 – Euclidian distances

	START PLUS	**Director**	**Head of HRM**	**Production manager**	**Technical manager**	**Sales manager**	**Economic manager**
START PLUS	0.00	49.66	36.65	20.49	137.98	29.61	21.82
Director	49.66	0.00	32.26	57.29	101.26	49.79	31.24
Head of HR	36.65	32.26	0.00	48.88	125.90	33.85	32.39
Production manager	**20.49**	57.29	48.88	0.00	147.46	35.93	29.43
Technical manager	137.98	101.26	125.90	**147.46**	0.00	**141.51**	121.02
Sales manager	29.61	49.79	33.85	35.93	141.51	0.00	35.79
Economic manger	**21.82**	31.24	32.39	29.43	121.02	35.79	0.00

According to the calculated Euclidean distances, a dendrogram of a hierarchical grouping was also created based on "between group linkage", as presented in Figure 4. A similar process of grouping was found by the Ward method or "within group linkage" method of grouping. The grouping analysis was carried out using SPSS software.

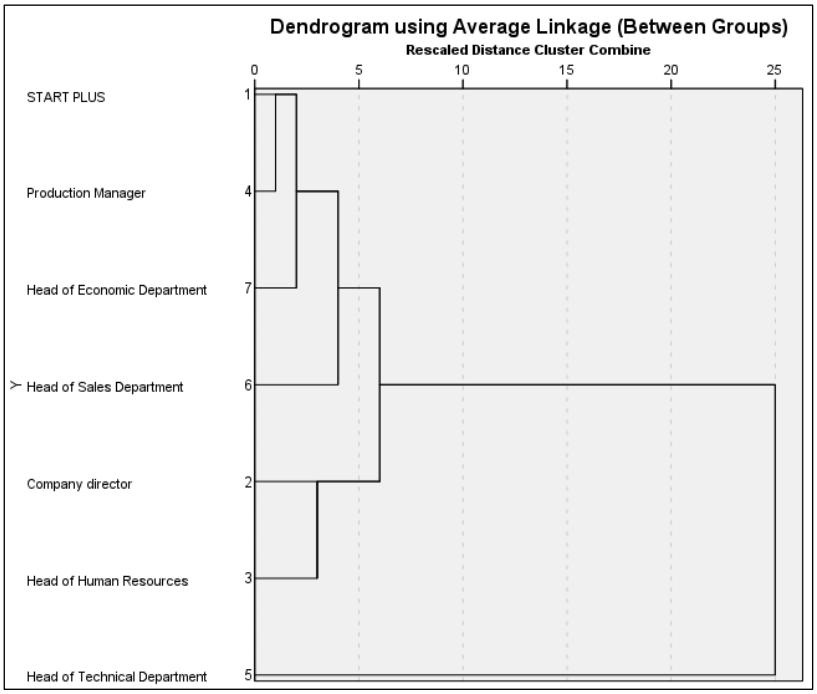

Figure 4 – Dendrogram of a hierarchical grouping (Authors work from SPSS)

In addition to the cluster analysis, different correlation coefficients were calculated to show evaluations from a broader perspective, as presented in Table 5.

Table 6 – Correlation coefficients with significances

	START PLUS x Director	**START PLUS x Head of HR**	**START PLUS x Production**	**START PLUS x Technical**	**START PLUS x Sales**	**START PLUS x Economic**
Pearson Correlation	0.516 (Sig 0.155)	0.475 (Sig 0.197)	**0.913 (Sig 0.001)**	**0.808 (Sig 0.008)**	**0,690 (Sig 0.040)**	**0,918 (Sig 0.001)**
Kendall's tau	0.471 (Sig 0.087)	0.255 (Sig 0.380)	**0,857 (Sig 0.002)**	**0.667 (Sig 0.014)**	**0.551 (Sig. 0.043)**	**0.857 (Sig 0.002)**
Spearman's rho	0.579 (Sig 0.102)	0.317 (Sig 0.406)	**0.950 (Sig 0.001)**	**0.831 (Sig 0.006)**	0.661 (Sig. 0.053)	**0,950 (Sig 0.001)**

Measured by correlation coefficients, the greatest agreement with the evaluation using the START PLUS model has the ratings of the economic and the production manager. There are also significant correlation coefficients for the technical manager. However, as can be seen from Figure 4 and from further analysis, the evaluation of the technical manager correlates but does not agree with the START PLUS evaluation because of the large distance in all criteria.

4.3.2 Comparison of START and START PLUS evaluations

The basic version of Model EFQM 2020 (https://assessbase.digitalefqm.com) has been used to compare with previous models. Table 7 presents the sub-evaluations in each of the three main blocks of Model 2020.

Table 7 – EFQM 2020 Evaluation

Questions		**%**
Direction	Has a clearly defined Purpose	50
	Understands the challenges and opportunities in the environment in which it operates	50
	Understands the needs of its key stakeholders (e.g. customers, shareholders, partners)	40
	Has a clear strategy with priorities and targets	50
	Has established a system for tracking business performance	30
	Has defined the culture and values of the organisation	40
	Ensures that everyone in the organisation is aligned with the strategy	30
	Embraces and manages change	40
	Encourages innovation and creativity	30
Execution	Builds sustainable relationships with its customers	70
	Creates the right environment to attract, engage, develop and retain the best people	40
	Ensures support from financial, regulatory and other governing stakeholders	40
	Makes a positive contribution to society	40
	Builds sustainable relationships with its key partners and suppliers	50
	Develops products, services or solutions that are valued by all key stakeholders	70
	Promotes its products, services and solutions to relevant stakeholders	60
	Provides its products, services and solutions in a sustainable manner	50
	Evaluates and improves the overall experience for its key stakeholders	20
	Manages risk effectively	40
	Transforms to meet the future needs of stakeholders	50
	Acts on the opportunities presented by innovations and new technologies	50
	Uses data, information and knowledge to drive improvements in performance	50
	Manages its key assets and resources responsibly	60

Questions		%
Results	Measures the views and opinions of its key stakeholders	20
	Achieves outstanding levels of satisfaction from its key stakeholders	30
	Has a full set of strategic and operational measures	50
	Achieves outstanding levels of performance against its strategic targets	40
	Uses data and other insights to predict future performance	50
	Compares its performance with external organisations	10

In order to be able to compare the overall ratings (Figure 5) of the old and new versions, criteria are put together based on the Fig.2 given by Fonseca (2021) as follows: Direction – an average of 1 and 2 perspectives, Execution – an average of 3, 4 and 5 perspectives, and Results – 6, 7, 8, 9 perspectives. Therefore, a simplified assumption is used for comparison.

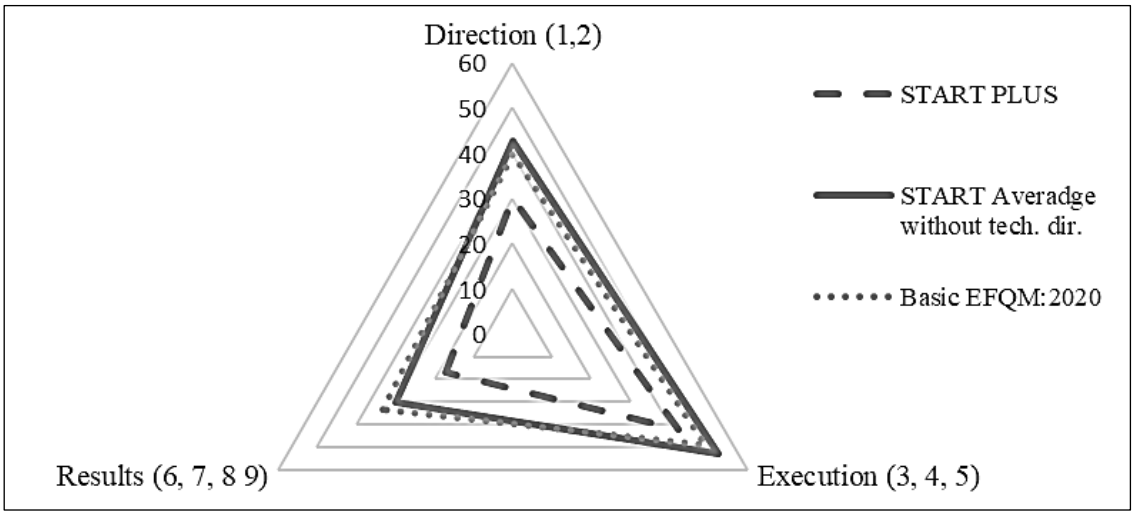

Figure 5 – Comparison of overall scores

Results show that as well as in previously used models, there are shortcomings in the evaluated company, mainly in the sphere of results, where there is a lack of stakeholder satisfaction measures and benchmark measures. EFQM 2020 and START model final scores are almost the same value, START PLUS final scores are lower, and the rapport between the scores in each of the three main parts is the same in all three evaluations. These findings indicate the robustness of different versions of the EFQM Model for the analysed case study. However, it should be noted that the underlying reason for obtaining comparable scores could be the use of the overall scores in base versions of the models suitable for SMEs on their way towards business excellence. In a more complex analysis with evaluations of different subcriteria, in which the full versions of the excellence models would be used, greater variation between ratings is likely to occur. This study represents a fundamental analysis to show implementation, including interpretation of results by using cluster analysis.

5 CONCLUSION

The EFQM Excellence Model provides a framework for companies to understand where they stand on the path to excellence, and it is even more critical for SMEs considering their limited resources. The START and START PLUS models are simplified forms of the EFQM Model with the aim of facilitating the path to the application of the full model - the EFQM Model of Excellence for SMEs. This article provides important insight for SMEs by showing the steps of implementation in a practical way and presenting the analysis for evaluation. The cluster analysis has been used to assess managers´ agreement in the particular perspectives of the model. This assessment showed another possibility for improvement, namely the alignment of the top management, which is the cornerstone of successful leadership in all companies. As the last step, the impact of the application of the basic model based on EFQM 2020 was evaluated. The shift in results compared to the models based on EFQM 2013 is negligible. Larger differences could be observed within the full versions of the evaluation models. This assessment presents the potential for further investigation. For further study, a similar analysis should be conducted on a large number of companies in order to make a comprehensive statistical comparison. Also, it could be useful to examine the differences among different branches of industry.

The study made a substantial contribution by precisely identifying improvement areas through the excellence models' probing questions. This detailed identification received positive evaluations not only from the director but also from other managers. Although the organisation had a general awareness of existing issues, this study played a crucial role in articulating and pinpointing these problems with precision. This clarification, in turn, facilitated targeted efforts to address and confirm the pressing need for progress in specific areas, ultimately gaining approval from the management.

This study sheds light on management's genuine commitment to integrating new approaches into the company's operations. This commitment translated into a consistent push for projects and new processes to adhere to formal requirements and utilise project management methodologies. Therefore, an impulse for many changes is started. One of the major changes is a shift in the employee evaluation system aimed at fostering motivation. The company also adopted a more detailed approach that considers risk evaluation and investments. More effort was put into the expansion of marketing activities. The company started to develop its internal ERP system. Overall, this study caused a lot of changes, emphasising organisation efficiency, and using data for decisions in the selected company.

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CONFLICTS OF INTEREST

The authors declare no conflict of interest. The funders had no role in the design of the study; in the collection, analyses, or interpretation of data; in the writing of the manuscript, or in the decision to publish the results.