

EFQM in vocational education – teacher and student perspectives

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Abstract

Purpose – Stakeholder satisfaction relates closely to service quality and performance of educational organizations. Often, this relationship is addressed in literature through the lens of excellence models, such as the European Foundation for Quality Management (EFQM) model. Nevertheless, limited studies focus on the effect of the EFQM model enablers on stakeholder satisfaction and hardly any in vocational education. To fill this void, the aim of this paper is to investigate the relationship between EFQM enablers (leadership, human resources, processes) and stakeholder satisfaction under the different perspectives of teachers and students in Greek public vocational education.

Design/methodology/approach – To address the research purpose, the authors used the case study methodology. The authors used mixed research methods, the focus group method and survey. Specifically, the focus group method used to distill the EFQM enablers related to the Greek context and to develop a questionnaire administered to teachers and students of a vocational education school. From September 2021 to June 2022, 90 teachers and 216 students participated in the survey.

Findings – The partial least squares structural equation modeling (PLS-SEM) method was used for data analysis, indicating that leadership and human resources have a positive and significant relationship with the satisfaction of both students and teachers. However, results did not corroborate the relationship between processes and stakeholder satisfaction either from the student's or the teacher's perspective.

Originality/value – This paper fills a gap in existing literature by exploring the impact of EFQM enablers on stakeholder satisfaction in vocational education and training (VET), from the perspectives of both teachers and students. The findings assist VET institutions in prioritizing areas for improvement and help companies to develop strategies that consider key stakeholders' needs.

Keywords European Foundation for Quality Management (EFQM), Stakeholder satisfaction, Student satisfaction, Teacher satisfaction, Partial least squares structural equation modeling (PLS-SEM), Vocational education, Case study

Paper type Case study



1. Introduction

Stakeholder satisfaction relates closely to service quality and performance of educational organizations. Quite often this relationship is addressed in literature through the lens of excellence models, such as the European Foundation for Quality Management (EFQM) model (Fonseca, 2022). The EFQM model is a systematic and comprehensive self-assessment performance improvement tool based on a cause and effect relationship. Organizations apply the EFQM model in order to manage the important factors (namely, “enablers”) that trigger higher and enduringly performance “results” (Edgeman, 2018; Taraza *et al.*, 2024). Empirical research confirms that its implementation could provide higher financial and nonfinancial results (Boulter *et al.*, 2013), yet acknowledging that excellent organizations may end up failing (Dale *et al.*, 2000; Taraza *et al.*, 2024). Taking into consideration the continuing changes in the business and governmental environment, it could be supported that stakeholder satisfaction plays a major role in the sustainability of private and public organizations (Freeman, 1984; Fonseca *et al.*, 2016; Barney, 1991, 2001).

In literature, there are many studies investigating the EFQM model application in higher education institutions (Lauret and Mendes, 2019), but there are limited empirical studies focusing on the effect of the EFQM model enablers on stakeholder satisfaction (Balbaa and Liyanage, 2010; Tarí and Molina-Azorín, 2010; Taraza *et al.*, 2024) and there is a void on matters of vocational education (Sütöová *et al.*, 2022). Consequently, the premise that the enablers of the model can increase satisfaction level is rarely investigated.

Moreover, educational institutions normally run in a public or private sector context and have different purposes. In a public sector context, flexibility in change implementation is usually low and inclusivity of different stakeholder interests is usually high (Kuipers *et al.*, 2013; Vries *et al.*, 2016; Tangi *et al.*, 2021). Therefore, public sector educational institutions should take into consideration multiple stakeholder perceptions to prioritize their decisions for performance change while fulfilling multiple interests. Presumably, stakeholder satisfaction could serve as a compass to guide organizations in improving performance management, in an economical, inclusive and effective way, on time and with quality.

Considering the importance of stakeholder perceptions (EFQM, 2020), this research aims to investigate the relationship between the EFQM enablers and satisfaction under the different perspectives of teachers and students in the context of Greek public vocational education. Specifically, the objectives of the paper are: determining the EFQM enablers that could be examined by this organization and investigating the link between the aforementioned enablers and stakeholder satisfaction. To address these objectives, this study uses a mixed-method approach, i.e. focus group consisting of three teachers for the validation of the survey instrument and the partial least squares structural equation modeling (PLS-SEM) method for the statistical processing, the confirmatory analysis and the structural and measurement model testing.

This paper contributes to the literature as there are few papers that investigate the relationship between EFQM enablers and stakeholder satisfaction from the viewpoints of both students and teachers. Furthermore, on a practical level, this research aids vocational education and training (VET) institutions in focusing on critical areas and future challenges and it motivates companies to build plans that take into account key stakeholders. VET institutions need to focus on critical areas such as technological integration, curriculum development, skill development, industry collaboration and ethical and regulatory training to prepare students for an artificial intelligence (AI)-driven world. Future challenges include keeping pace with rapid technological advancements, bridging the skills gap, ensuring accessibility, addressing ethical considerations and promoting interdisciplinary training. The presence of AI is transforming education by personalizing learning experiences, providing

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real-time feedback and automating tasks, necessitating that VET programs continually update their curricula and prepare students to be both proficient users and ethical innovators of AI technologies. By addressing these areas and challenges, VET institutions can equip students with the skills and knowledge to thrive in their careers.

2. Literature review

224 2.1 *European Foundation for Quality Management in education*

Education enables students to work as competent professionals by having good knowledge while living as good people in a social environment. The quality of education requires three basic conditions: ensuring the actual development of the learner's personality and behavior, adaptation to the needs of society and the professional environment and the availability of quality resources and skills of the educational institution (Anastasiadou *et al.*, 2014). Continuous assessment of the quality of education creates an opportunity for quality measurement and awareness and provides the background for improving processes, products and services (Evans and Lindsay, 2002) to achieve sustainable development through a management framework.

A popular tool that assists organizations to evolve in the field of quality is the EFQM model. The EFQM is based on the fundamental concepts or characteristics of excellence, which are results orientation, customer focus, leadership and stability of management by process and facts, development and involvement of individuals, continuous learning, innovation and improvement, collaboration for development and public accountability (Anastasiadou *et al.*, 2014). The EFQM could serve as a guide, helping organizations to understand the gaps by measuring where they are on the path to excellence and then guiding them to take corrective and stimulating actions. It can be used as a template for self-assessment for all types of organizations, large or small and in the public or private sector, as well as a tool for comparative assessment and for obtaining a quality award. This tool is limited used in VET context (Anastasiou *et al.*, 2014; Tovölgyi, 2009; Tari and Molina-Azorin, 2010).

In an educational context, the EFQM could reflect on many issues, in particular on teaching and learning processes and also on the roles and responsibilities of management, teacher employees and student customers (Hu *et al.*, 2024). Nanidal (2015) stresses that the advantages of the European Standard of Excellence lie in that it can serve as a powerful tool with an objective diagnosis for an educational institution based on facts and evidence and that it is able to improve the efficiency of the institution and eventually improve all of the institution's processes on a continuous basis. Tóvölgyi (2009) and Tari and Molina-Azorin (2010) show that EFQM systems in higher education not only help to identify strengths and weaknesses but also support the development and implementation of improvement strategies. The more staff from different departments – administrative and teaching staff – are involved in analyzing the process and implementing changes through an EFQM-based system, the higher the commitment and recognition of staff and the higher the participation in quality improvement. In the long run, this awareness leads to a change in values and culture in the institutions. Tóvölgyi (2009) also describes the implementation of a quality-based EFQM management system as a tool to promote sustainable and objective decision-making based on facts, indicators and not subjectivity. In the context of implementation, an EFQM system not only helps to improve management processes but can also improve the quality of educational services, which can increase student satisfaction.

2.2 *European Foundation for Quality Management enablers*

EFQM draws on total quality management theory (Sadeh and Garkaz, 2015) and it includes nine excellence criteria broken down into five enablers, which reflect the level of quality

management in different organizational areas (Dijkstra, 1997; Mitsiou and Zafiroopoulos, 2024) and four result factors. It assumes that excellent results are enabled by effective leadership, policy and strategy, people-related practices and policies, management of partnerships and resources and process management. According to Bou-Llusar *et al.* (2005, 2009), it is necessary to examine whether the full set of enabling factors explains the results, but social research is context dependent and therefore we also take into account the Greek public sector environment. In this case certain enablers like “policy and strategy”, “partnerships and resources” are not exactly “internal factors” of the public organization as they are affected by the state. Therefore, this research focuses on the enablers of leadership, people and processes that are considered most relevant and applicable in the context under study.

By addressing the most relevant enablers research allows tailoring the assessment and guiding practitioner improvement efforts. The criterion of “Leadership” assesses an organization’s ability to provide effective leadership at all levels (Mitsiou and Zafiroopoulos, 2024). It recognizes the pivotal role of the leader in establishing a clear vision and a culture of excellence and in promoting innovation (European Foundation for Quality Management, 2012; Suárez *et al.*, 2017; Bou-Llusar *et al.*, 2009). Moreover, the criterion of “people” evaluates the degree of a supportive and engaging work environment that attracts, develops and retains individuals who contribute their best in the organization’s overall performance and success meanwhile reaching their full potential (EFQM, 2012; Suárez *et al.*, 2017; Bou-Llusar *et al.*, 2009). Finally, the criterion of “processes” evaluates the organization’s core and supportive processes that are crucial for delivering products, services and value to stakeholders so as to optimize operations, enhance customer satisfaction and drive continuous improvement (European Foundation for Quality Management, 2012; Suárez *et al.*, 2017; Bou-Llusar *et al.*, 2009). Presumably, by aligning the EFQM enablers with the Greek public sector specific needs and priorities, organizations can derive greater value from the model and drive meaningful improvements in their performance.

2.3 Stakeholder satisfaction

Service quality models like EFQM are customer-oriented and satisfaction of the customer is a key driver of organizational success. In an education context though this could not be directly applicable since what a student desires is not always what the school should offer (Cervai *et al.*, 2013). Instead of the customer approach, a stakeholder approach is closer to an educational context (Cervai *et al.*, 2013). Stakeholders are individuals or groups of individuals who have an interest or stake in an organization and can affect (Brugha and Varvasovszky, 2000) or be affected (Freeman, 1984) by its objectives, decisions and actions. They can also influence the outcomes of the organization's policies and objectives (Freeman, 1984; Crosby, 1992; Mason and Mitroff, 1981; Walt, 1994).

Education stakeholders have an interest in the education sector (Adebayo, 2013). Head-teachers, teachers, parents, community members, parent-teacher associations, non-governmental organizations, school management committees, elected officials, students and boards of governors could all be regarded as education stakeholders that aim to the progress of a school system and to the development of high quality graduates (Ibrahim *et al.*, 2017).

Nowadays, governments across the globe have increasingly acknowledged the importance of involving stakeholders in decision-making processes and policy development. This recognition stems from the understanding that engaging stakeholders could lead to more effective and inclusive governance, improved policy outcomes and enhanced public trust and legitimacy (Geurtz and van de Wijdeven, 2010). This makes the case for national education as well which is no longer the sole responsibility of the government, yet stakeholder involvement could contribute in achieving a number of objectives, including attaining

quality (Ibrahim *et al.*, 2017). But stakeholders identify and prioritize areas for quality improvement with different criteria. For instance, Iacovidou *et al.* (2009) reported in their study a discrepancy between students' and teaching staff's perceptions of the importance of factors that constitute a quality higher education experience. Therefore, by recognizing and addressing the varying perspectives and priorities in research, educational institutions could be facilitated toward creating an environment that meets the needs and expectations of various stakeholders. In our study, we take into consideration the students and teachers perceptions so as to investigate their different perspectives on how satisfied they are.

3. Research methods

This research aims to investigate the relationship between the EFQM enablers and satisfaction under the different perspectives of teachers and students in the context of Greek public vocational education. We used a mixed research methods case study methodology using a focus group for research model development and a structured online questionnaire with a five-degree Likert scale (from 1: I strongly disagree to 5: I strongly agree), suitable for quantitative analysis.

3.1 Case description

In Greece, VET is offered by both public and private institutions. Public technical training can be provided by various educational structures: secondary schools, vocational schools, post-secondary structures (which also include lifelong learning lefts), institutes and higher education structures. At the secondary education level, vocational education is provided by Vocational Lyceums. To date, all the institutions of secondary education in Greece undergo evaluation processes that address quality and performance of schools as entities. In this context, the present research was designed to analyze the potential impact of total quality management principles, practices and tools on secondary education. Therefore, this study adopted purposive and convenience sampling to collect data. In particular, the vocational education sector was selected for the purpose of this study, and, conveniently, the students and teachers of an Evening Vocational Lyceum (VET unit) in Northern Greece participated in the sampling process.

3.2 Stakeholders mapping – study sample

Stakeholders of VET institutions include students, teachers, administrative staff, parents and families, government and regulatory bodies, alumni, professional associations and suppliers and vendors. Based on the focus on investigating EFQM enablers, the most appropriate sample consists of students and teachers.

3.3 Data analysis

To begin, we used a focus group method to determine the EFQM enablers that may be studied in this case. The focus group was made up of three people who are teachers at this VET unit and have prior expertise with administrative and instructional processes in this institution. Data was gathered during the academic year 2021–2022. We created the questionnaire following the focus group analysis. The questionnaire was structured as follows:

- 10 questions for “Leadership” (EFQM, 2018);
- 10 questions for “Human Resources” (EFQM, 2018);
- 10 questions for “Processes” (EFQM, 2018); and
- 1 question for “Stakeholder Satisfaction”.

The abovementioned questionnaire was delivered separately (student and teacher versions) to 226 active vocational school students and 90 teachers during the academic year 2021–2022. We collected 216 full responses from students and 90 from teachers.

Next, confirmatory composite analysis (CCA) was used to analyze the data. CCA is an approach alternative to confirmatory factor analysis (CFA), which is applied to confirm measurement models when using PLS-SEM (Hair *et al.*, 2020).

Hypotheses were tested by means of PLS-SEM (Ringle *et al.*, 2014). In the structural model, “Leadership”, “Human Resources”, “Processes” and “Stakeholder Satisfaction” were the operationalized constructs with reflective indicators. Convergent validity and reliability were tested by the calculation of the average variance extracted, the Cronbach’s alpha coefficient and composite reliability (Hair *et al.*, 2017). For discriminant validity, we used the Fornell–Larcker criterion and the heterotrait–monotrait ratio (HTMT < 0.85 or 0.9). Finally, the bootstrapping procedure was applied (5,000 randomly drawn samples) for the structural model analysis and hypothesis testing. To calculate the model’s predictive relevance, we used the Stone-Geisser Q-square test (Hair *et al.*, 2017: 167) and performed two separate analyses with 7 and 25 omission distances (blindfolding technique in SmartPLS) to test the stability of the findings (Q-square > 0).

4. Results

4.1 Focus group analysis

4.1.1 *Three vocational education teachers with administration experience participated in the focus group.* Following the focus group action and documentation evaluation, the focus group determined that the EFQM enablers that can be considered for organizational assessment in the case of this public vocational are leadership, processes and human resources. The focus group members agreed to exclude the “strategy and policy” and “resources and partnerships” dimensions of the EFQM model as the corresponding activities are carried out by the Greek Ministry of Education and Religious Affairs. To obtain more trustworthy results, it was necessary to study the EFQM enablers that are part of the VET unit responsibilities. It is critical that the choice was homophone and that there were no disagreements among the members.

4.2 Development of research hypotheses

The research hypotheses are:

- (1) *H1*: Leadership has a positive impact on stakeholder satisfaction.
- (2) *H2*: Leadership has a positive and indirect impact on stakeholder satisfaction.
 - *H2.1*: Leadership has a positive impact on processes.
 - *H2.2*: Leadership has a positive impact on human resources.
- (3) *H3*: Human resources have a positive impact on stakeholder satisfaction.
- (4) *H4*: Human resources have a positive and indirect impact on stakeholder satisfaction.
 - *H4.1*: Human resources have a positive impact on processes.
- (5) *H5*: Processes have a positive impact on stakeholder satisfaction.

4.3 Descriptive statistics – the comparison between students and teachers’ perspective

The mean scores of each EFQM enabler, i.e. human resources, processes and leadership, are presented in Tables 1–3, respectively. As we can observe, there are similarities between

Table 1. Human resources-mean scores

	Teachers	Students
There is dissemination of information and transfer of good practices throughout the educational unit on a regular basis	3.32	3.32
Opportunities are sought and actions taken so that individuals and groups can learn and function better as members of the educational unit	3.37	3.39
Reward and recognition procedures and care for the members of the educational unit are applied on a regular basis	3.28	3.29
School management draws feedback from the members of the educational unit on a regular basis	3.29	3.15
The creative ideas of the members of the educational unit are sought, evaluated and implemented to improve its performance on a regular basis	3.17	3.29
An effective evaluation system is used for all members of the educational unit	3.09	3.26
The needs for training and development of the members of the educational unit are regularly assessed, educational gaps are identified and training actions are chosen to cover them	3.04	3.23
Members of the educational unit are encouraged and supported as individuals and as groups to engage in activities aimed at improvement	3.34	3.36
Equal opportunities in employment conditions are given to men and women and to people of different religious beliefs and nationalities	3.31	3.41
Human resource policies actively support the strategic planning of the educational unit	3.12	3.21
Total	3.233	3.291

Source: Authors' own work

Table 2. Processes-mean scores

	Teachers	Students
The processes of the school unit are systematically planned and monitored so that its strategy and policies are implemented	3.16	3.14
The school unit manages the needs and expectations of all current and future stakeholders in the school's activities in a coordinated manner	3.29	3.45
Processes include measurable performance targets, which are monitored, reviewed and improved continuously	3.00	3.24
Staff members are trained, work to established procedures and are empowered to introduce change	3.06	3.32
Procedures are in place to investigate, monitor and enhance customer satisfaction on a personal basis	3.07	3.13
The development of educational "products" is based on the systematic re-information that exists about the needs and expectations of all those involved in the school's activities	3.03	3.25
The development of the "products" uses the creativity and innovation of everyone involved in the school's activities	3.18	3.21
Educational "products" are promoted to all those involved in the school's activities through a coordinated service and feedback process	3.17	3.31
There are procedures for managing and improving the quality of the educational unit	3.20	3.26
The procedures are systematically reviewed and improved with the aim of better serving everyone involved in the school's activities	3.20	3.42
Total	3.136	3.276

Source: Authors' own work

Table 3. Leadership-mean scores

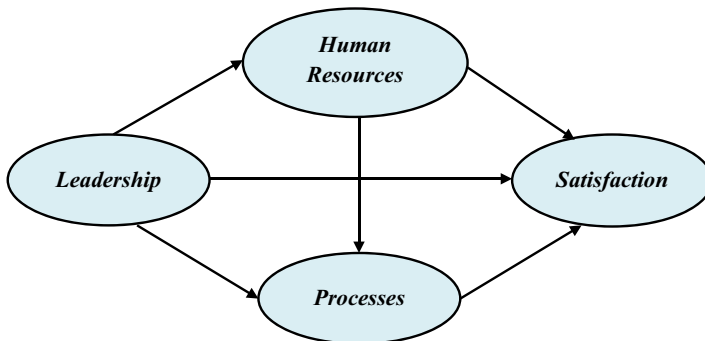
	Teachers	Students	Quality Education for All
The management works with everyone involved in the school's activities to understand their needs and expectations	3.26	3.48	
In the context of the dedication to the standards of quality and excellence in education, you consider that the management actively participates in matters concerning the protection of the environment and the social environment	3.31	3.28	
You believe that through two-way communication, school management ensures that everyone has an understanding of the school's mission, vision, values and strategies	3.40	3.40	
Procedures have been provided by the management to hear, recognize, evaluate, reward and reward all members of the educational unit accordingly	3.22	3.29	
The cooperation of the members of the educational unit is encouraged by the management	3.43	3.45	
Learning and innovation are encouraged by the management and the creativity of the members of the educational unit is stimulated	3.39	3.41	
School management ensures that the necessary systems are in place to develop strategy and measure key performance outcomes	3.22	3.39	
The school leadership supports the involvement/participation of the members of the educational unit in quality improvement activities by providing the necessary resources and assistance	3.26	3.38	
Ways of informing about quality standards and approaches to excellence in education that apply globally have been developed at the initiative of the directorate	3.20	3.25	
Behaviors and practices, based on the standards of quality and excellence in education, are adopted by the management of your school unit and their effectiveness is judged according to those standards	3.04	3.37	
Total	3.273	3.37	

Source: Authors' own work

students and teachers' perspectives for all items. This indicates convergence of opinions between the two most important stakeholders of the VET unit.

4.4 Research model

For the purpose of this case analysis, the structural model is depicted in Figure 1. This model is tested for both students and teachers' samples.



Source: Authors' own work

Figure 1. Research model

4.5 Model validation – student perspective

As observed in Table 4, Cronbach’s alpha, average variance extracted (AVE) and composite reliability (CR) scores were found within the acceptable range (Cronbach $\alpha > 0.7$, AVE > 0.5 , CR > 0.7).

In addition, discriminant validity (HTMT) criterion was met, as shown in Table 5.

Furthermore, the values of the item loadings are presented in Table 6. All loading values are over the threshold value of 0.7.

In addition, regarding the separate analyses with 7 and 25 omission distances (blindfolding technique in SmartPLS), the values were stable for both omission distances and three out of four of the Q^2 were greater than zero except for leadership, which is equal to zero.

Regarding the hypothesis testing, bootstrapping test results (Figure 2) led to the acceptance of all research hypotheses except for H4.1 and H5.

4.6 Teacher perspective

The loadings values of the items are presented in Table 7. All loadings were found well above the threshold value of 0.7 value.

As observed in Table 8, Cronbach’s alpha coefficient, AVE and CR scores are within the acceptable range (Cronbach’s $\alpha > 0.7$, AVE > 0.5 , CR > 0.7).

In addition, discriminant validity was confirmed as shown in Table 9 (HTMT criterion).

In addition, regarding the separate analyses with 7 and 25 omission distances (blindfolding technique in SmartPLS), the values were stable for both omission distances and three out of four of the Q^2 were greater than zero except for leadership, which is equal to zero.

Regarding the hypothesis testing, Figure 3 indicates that the all hypotheses are supported except for H2, H1 and H5.

5. Discussion

The present study investigates the relationship between the EFQM enablers and satisfaction under the different perspectives of teachers and students in the context of Greek public vocational education. Results indicated that in this case the leadership, human resources and processes are the

Table 4. Construct validity and reliability

	Cronbach's alpha	Composite reliability	Average variance extracted
Human resources	0.945	0.946	0.668
Leadership	0.949	0.950	0.685
Processes	0.946	0.946	0.673

Source: Authors’ own work

Table 5. Discriminant validity-HTMT criterion

	Satisfaction	Human resources	Leadership
Human resources	0.722		
Leadership	0.704	0.906	
Processes	0.700	0.947	0.890

Source: Authors’ own work

Table 6. Item loadings

	Satisfaction	Human resources	Leadership	Processes
There is dissemination of information and transfer of good practices throughout the educational unit on a regular basis	0.824			
Opportunities are sought and actions taken so that individuals and groups can learn and function better as members of the educational unit	0.832			
Reward and recognition procedures and care for the members of the educational unit are applied on a regular basis	0.811			
School management draws feedback from the members of the educational unit on a regular basis	0.851			
The creative ideas of the members of the educational unit are sought, evaluated and implemented to improve its performance on a regular basis	0.819			
An effective evaluation system is used for all members of the educational unit	0.788			
The needs for training and development of the members of the educational unit are regularly assessed, educational gaps are identified and training actions are chosen to cover them	0.834			
Members of the educational unit are encouraged and supported as individuals and as groups to engage in activities aimed at improvement	0.834			
Equal opportunities in employment conditions are given to men and women and to people of different religious beliefs and nationalities	0.775			
Human resource policies actively support the strategic planning of the educational unit	0.801			
The processes of the school unit are systematically planned and monitored so that its strategy and policies are implemented				0.845
The school unit manages the needs and expectations of all current and future stakeholders in the school's activities in a coordinated manner				0.807
Processes include measurable performance targets, which are monitored, reviewed and improved continuously				0.804
Staff members are trained, work to established procedures and are empowered to introduce change				0.809
Procedures are in place to investigate, monitor and enhance customer satisfaction on a personal basis				0.830
The development of educational "products" is based on the systematic re-information that exists about the needs and expectations of all those involved in the school's activities				0.792
The development of the "products" uses the creativity and innovation of everyone involved in the school's activities				0.819
Educational "products" are promoted to all those involved in the school's activities through a coordinated service and feedback process				0.838

(continued)

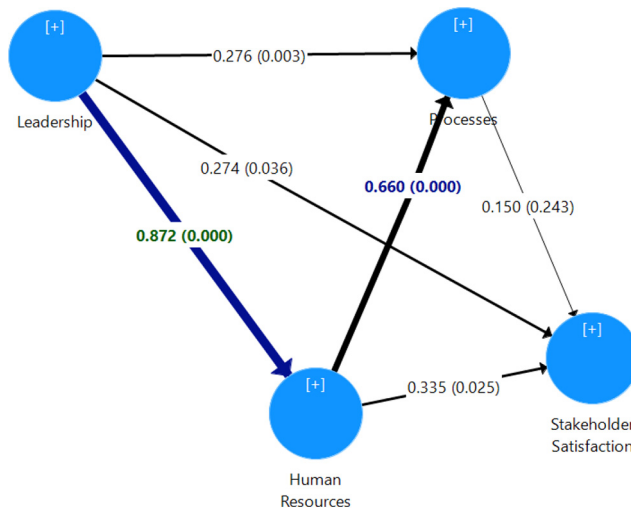
Table 6. Continued

	Satisfaction	Human resources	Leadership	Processes
There are procedures for managing and improving the quality of the educational unit				0.814
The procedures are systematically reviewed and improved with the aim of better serving everyone involved in the school's activities				0.844
The management works with everyone involved in the school's activities to understand their needs and expectations			0.868	
In the context of the dedication to the standards of quality and excellence in education, you consider that the management actively participates in matters concerning the protection of the environment and the social environment			0.830	
You believe that through two-way communication, school management ensures that everyone has an understanding of the school's mission, vision, values and strategies			0.839	
Procedures have been provided by the management to hear, recognize, evaluate, reward and reward all members of the educational unit accordingly			0.842	
The cooperation of the members of the educational unit is encouraged by the management			0.842	
Learning and innovation are encouraged by the management and the creativity of the members of the educational unit is stimulated			0.827	
School management ensures that the necessary systems are in place to develop strategy and measure key performance outcomes			0.821	
The school leadership supports the involvement/ participation of the members of the educational unit in quality improvement activities by providing the necessary resources and assistance			0.828	
Ways of informing about quality standards and approaches to excellence in education that apply globally have been developed at the initiative of the directorate			0.766	
Behaviors and practices, based on the standards of quality and excellence in education, are adopted by the management of your school unit and their effectiveness is judged according to those standards			0.812	
I am satisfied by the organization services	1.000			

Source: Authors' own work

EFQM enablers that operate practically. In addition, it is worth noticing that both students and teachers' perspectives are similar. Specifically, the EFQM-enablers of leadership and human resources have a positive and significant relationship with stakeholder satisfaction (both of student and teacher), whereas the relationship between processes and stakeholder satisfaction is not confirmed neither from the student's perspective nor from the teacher's perspective.

Furthermore, the research adds to the body of knowledge in the field of vocational education quality and performance management, as there is a dearth of studies focusing on the effect of the



Source: Authors' own work

Figure 2. Students bootstrapping test results

EFQM model enablers on stakeholder satisfaction in vocational education (Sütöová *et al.*, 2022). The EFQM Model under the perspectives of two important stakeholders (students and teachers) assists vocational schools in focusing on strategic areas and future difficulties, and it encourages organizations in developing strategies to take into account the important stakeholders (Sütöová *et al.*, 2022). The study, however, had certain drawbacks. The key drawback of this study is the small size of the sample. Consequently, the model needs to be validated with a bigger sample size to boost its generalizability. Another disadvantage of this study is that data was gathered from only one vocational school. As a result, our findings were limited to a specific geographical setting and organizational structure and culture. Moreover, as the respondents in this study were from Greece, their views may have been influenced by the cultural, organizational and professional milieu of that country as opposed to other vocational education institutions worldwide. Further research with increased participation from more VET organizations around the world is required to enhance the validity and generalizability of the findings and to draw out more managerial implications.

6. Conclusion

This study explores the relationship between EFQM enablers and stakeholder satisfaction from the perspectives of teachers and students in Greek public vocational education. It finds that leadership and human resources are significant EFQM enablers positively related to stakeholder satisfaction for both groups, while processes do not show a significant relationship. This research contributes to the understanding of quality and performance management in vocational education, addressing a gap in the literature. However, the study's limitations include a small sample size and data collected from only one vocational school, limiting generalizability. In addition, cultural and organizational factors specific to Greece may have influenced the results. Future research with larger, more diverse samples from multiple VET institutions worldwide is needed to validate these findings and draw broader managerial implications.

Table 7. Loadings of each item

	Human resources	Leadership	Processes	Satisfaction
There is dissemination of information and transfer of good practices throughout the educational unit on a regular basis	0.886			
Opportunities are sought and actions taken so that individuals and groups can learn and function better as members of the educational unit	0.863			
Reward and recognition procedures and care for the members of the educational unit are applied on a regular basis	0.880			
School management draws feedback from the members of the educational unit on a regular basis	0.894			
The creative ideas of the members of the educational unit are sought, evaluated and implemented to improve its performance on a regular basis	0.902			
An effective evaluation system is used for all members of the educational unit	0.763			
The needs for training and development of the members of the educational unit are regularly assessed, educational gaps are identified and training actions are chosen to cover them	0.832			
Members of the educational unit are encouraged and supported as individuals and as groups to engage in activities aimed at improvement	0.905			
Equal opportunities in employment conditions are given to men and women and to people of different religious beliefs and nationalities	0.864			
Human resource policies actively support the strategic planning of the educational unit	0.898			
The processes of the school unit are systematically planned and monitored so that its strategy and policies are implemented			0.858	
The school unit manages the needs and expectations of all current and future stakeholders in the school's activities in a coordinated manner			0.882	
Processes include measurable performance targets, which are monitored, reviewed and improved continuously			0.794	
Staff members are trained, work to established procedures and are empowered to introduce change			0.831	
Procedures are in place to investigate, monitor and enhance customer satisfaction on a personal basis			0.808	
The development of educational "products" is based on the systematic re-information that exists about the needs and expectations of all those involved in the school's activities			0.891	
The development of the "products" uses the creativity and innovation of everyone involved in the school's activities			0.872	
Educational "products" are promoted to all those involved in the school's activities through a coordinated service and feedback process			0.881	
There are procedures for managing and improving the quality of the educational unit			0,887	
The procedures are systematically reviewed and improved with the aim of better serving everyone involved in the school's activities			0.874	

(continued)

Table 7. Continued

	Human resources	Leadership	Processes	Satisfaction
The management works with everyone involved in the school's activities to understand their needs and expectations	0.907			
In the context of the dedication to the standards of quality and excellence in education, you consider that the management actively participates in matters concerning the protection of the environment and the social environment	0.866			
You believe that through two-way communication, school management ensures that everyone has an understanding of the school's mission, vision, values and strategies	0.879			
Procedures have been provided by the management to hear, recognize, evaluate, reward and reward all members of the educational unit accordingly	0.908			
The cooperation of the members of the educational unit is encouraged by the management	0.906			
Learning and innovation are encouraged by the management and the creativity of the members of the educational unit is stimulated	0.865			
School management ensures that the necessary systems are in place to develop strategy and measure key performance outcomes	0.878			
The school leadership supports the involvement/ participation of the members of the educational unit in quality improvement activities by providing the necessary resources and assistance	0.884			
Ways of informing about quality standards and approaches to excellence in education that apply globally have been developed at the initiative of the directorate	0.804			
Behaviors and practices, based on the standards of quality and excellence in education, are adopted by the management of your school unit and their effectiveness is judged according to those standards	0.824			
I am satisfied by the organization services				1.000

Source: Authors' own work

Table 8. Construct validity and reliability

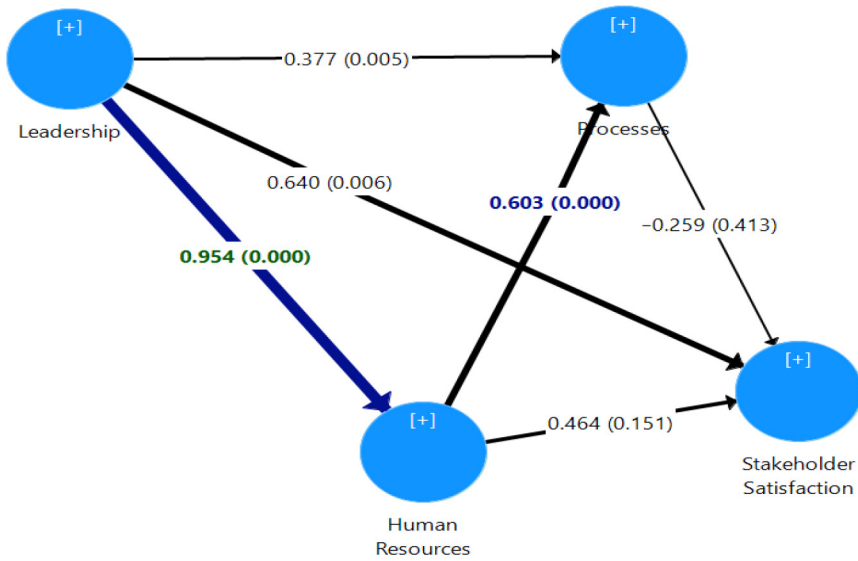
	Cronbach's alpha	Composite reliability	Average variance extracted (AVE)
Human resources	0.964	0.969	0.756
Leadership	0.965	0.970	0.762
Processes	0.960	0.965	0.737

Source: Authors own work

Table 9. Heterotrait-monotrait ratio (HTMT) – matrix

	Human resources	Leadership	Processes
Leadership	0.984		
Processes	0.994	0.962	
Satisfaction	0.838	0.860	0.788

Source: Authors' own work



Source: Authors' own work

Figure 3. Teachers bootstrapping test results

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