Article

Quality Management System in Education: Application of Quality Management Models in Educational Organization—Case Study from the Slovak Republic

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Abstract: The main mission of the internal quality system in educational institutions is to develop the importance of quality in all processes, create suitable conditions for increasing the loyalty and professional development of faculty staff, continually improve student satisfaction, and achieve recognition of educational institutions in the eyes of the public. In the Introduction, this paper covers the current state of the field of quality assurance of higher education in Slovakia. Quality management models that can be used appropriately and effectively in university conditions are identified in the next section. The aim of this overview section was to summarize the advantages and disadvantages resulting from the implementation of quality management models. The paper also includes a case study in which selected models of quality management implemented at a private university in Slovakia are described, especially the process model ISO 9001 and the common assessment framework (CAF) model. The self-assessment within the CAF model was carried out by a questionnaire survey; the obtained data were assessed by classical CAF scoring. The aim of the self-assessment was to identify problem areas and opportunities for improvement and to propose corrective actions. The specifics of the implementation of quality management models at a private university and the benefits resulting from the application are also been defined at the end of the article.

1. Introduction

In fact, the word "management" refers to an effective manner of using material, human, financial, information, and technological resources, which are implemented to address the objectives defined in advance [1]. To achieve the desired efficiency and effectiveness, management control systems are fundamental. These systems are useful in supporting decision making, such as on changing or maintaining certain organizational activities [2].

Nowadays, higher-education institutions operate in a competitive market, where the best institutions are those with the best students, teachers and employees, and also the ones that manage to obtain the highest subsidies, whether private or public [3]. Thus, higher-education institutions need to show stakeholders evidence of the accomplishment of their objectives, mission and strategies [4].

In Slovakia, the current period can be characterized by extensive changes in the quality assurance in higher-education institutions. In the previous system, study programs were individually assessed by a central accreditation body. Emphasis was placed on the formal fulfillment of accreditation criteria rather than on building a quality system and culture.

The basis for the change in the quality assurance system was the adoption of the Higher Education Quality Assurance Act in 2018. This law established a legal framework

respecting the architecture of the ESG 2015 (the standards and guidelines for quality assurance in the European Higher Education Area, "ESG 2015"). On its basis, the agency for quality assurance in higher education was established. Subsequently, the accreditation standards and the methodology for their evaluation were prepared and issued by the agency. Based on these documents, universities began to be guided in implementing their internal quality-assurance systems in accordance with ESG 2015 [5].

Currently, universities are going through a phase of implementation and alignment with the wording of the standards. Study programs and internal systems are adjusted to comply with standards. Consequently, the compliance of the internal systems of higher-education institutions with the standards and their overall effectiveness will be verified by the agency.

In the current phase of implementation of the new quality assurance system, the most important challenges have been identified [6]:

- To explain the principles and strengthening internal quality assurance systems in higher-education institutions. The highest possible level of quality and efficiency in guiding higher-education institutions must be ensured by the agency; therefore, steps need to be taken to communicate more effectively with higher-education institutions and the public.
- To increase the level of involvement of stakeholders, especially employers, in quality assurance in higher-education institutions, and their readiness for expected activities in this area. Emphasis will also need to be placed on the involvement of internal stakeholders, such as students.
- To ensure the professionalism and transparency (quality) of the activities of external quality assurance experts—assessors of higher education.
- To ensure the effective functioning of the agency: to ensure trust in the agency, transparency of its processes and efficiency in external quality assurance, it is necessary to strengthen its internal processes, regularly evaluate its strengths and weaknesses and respond to these findings.
- To build confidence in higher-education institutions by setting and implementing standards and through transparency and progress in decision making on the quality of education.

Additionally, the COVID-19 pandemic is a very important factor that has influenced the management of educational processes in higher-educational institutions. The COVID-19 pandemic has forced much education to move into a distance-learning model [7]. The disruption of learning processes disrupted by the COVID-19 pandemic has involved a radical transformation of education and training, and one of the sectors undergoing dramatic digital transformation globally is higher education [8].

2. Quality Management Models Used in Educational Institutions

The new public management reforms have led to significant changes in higher-education institutions regarding the quality management. Therefore, university managers were forced to gain important knowledge for the application of the most appropriate tools and quality models in their institutions [3].

A higher level in the overall quality of education in higher-education institutions is a necessary prerequisite to equip students with the knowledge, skills and the competences that they need to be successful after graduation. For this reason, each high school or university needs a functional and comprehensive quality management system. Such a system (which must be a natural part of a school's overall management system) allows people to have confidence in the performance of higher-education institutions [9].

Currently, the most used quality management models for educational institutions are [10]:

- Process model according to ISO 9001:2015—many organisations choose to implement the ISO 9001:2015 quality management standard, aiming to improve their entire operational performance by implementing and promoting the specifications that the standard conveys about continuous improvement and risk-based thinking and adopting a process approach. The process model is used in practice by many organizations; through its implementation, an organization demonstrates to the customer that it meets the minimum requirements defined in the specified standard. In addition, the customer may as a priority require compliance with ISO 9001:2015. The implementation of a quality management system that respects the principles of quality management is also demonstrated. The strengths and weaknesses of the model are summarized in Table 1 [10–14].

Table 1. Strengths and weaknesses of the process model in educational institutions.

Strengths	Weaknesses
- Worldwide use. - Universal standard for the manufacturing sector, service sector and public administration. - Standardized requirements for demonstrating the implementation, functionality and effectiveness of the QMS. - Implementation suitable also for organizations that have no experience with knowledge of quality management. - A tool that helps to define customers, their requirements and the processes necessary to meet the requirements. - It is used as a basis for process management and the implementation of approaches to total quality management (TQM).	- When using this model, it is necessary to fully respect the requirements defined in the standard and regularly prove their compliance. - Incomprehensible language of the standard for an educational institution. - Organizations are often satisfied with the initial implementation and the model is not used as a tool for improvement (beyond the requirements). Therefore, the approach to QMS begins to stagnate and remains in a position of formal approach. - Without further explanation, the model is difficult to understand and apply in educational institutions. - Without the active management commitment, the application of this approach is ineffective.

- The European Foundation for Quality Management (EFQM) excellence model—through this model, the implementation of the total quality management (TQM) concept is demonstrated. The main goal of the framework is to demonstrate the level of organizational management efficiency, of which quality management is an integral part. It is intended for all types of organizations—business entities and public organizations. The strengths and weaknesses of the model are summarized in Table 2 [10].

- The common assessment framework (CAF) model—the modification of the EFQM excellence model is intended for public administration organizations. The strengths and weaknesses of the model are summarized in Table 3 [10].

- TQM—many higher-education institutions recognize total quality management as an effective management philosophy which is used as a strategy for business excellence.

Table 2. Strengths and weaknesses of the EFQM excellence model in educational institutions.

Strengths	Weaknesses
• The most comprehensive model for self-assessment of the performance and efficiency level of the organization's management. • The model affects all areas of the organization's activities, which are clearly structured on the enablers and results criteria. • The possibility of individual proposals for identifying and monitoring strengths and suggestions for improvement. • The possibility of monitoring trends for identified processes and activities. • Possibility of comparison with other organizations—the application of benchmarking. • Improving the culture of the organization. • Changing the attitudes of all employees to the organization's management—active employee commitment to achieving goals. • Learning organization development. • Implementation of activities through the PDCA cycle. • Opportunity to participate in the National Quality Award of the Slovak Republic.	• A complicated approach to performance appraisal by RADAR framework. • Compared to the model of the quality management system, implementation of the EFQM model is more demanding. • For effective implementation, process management must be created in the organization. • The application of the model requires the maturity of the employees. • Special skills are required for RADAR self-assessment. • The need for training to prepare a self-assessment report. • Results are not available immediately; long-term trends in results are evaluated. • Active involvement of management and key stakeholders.

Table 3. Strengths and weaknesses of the CAF model in educational institutions.

Strengths	Weaknesses
• The CAF is available for public organizations, including public educational institutions. • Application brochure that can be followed (well-developed examples of implementation ideas). • The self-assessment process is clear and simple (demonstration of the PDCA cycle). • Provides the possibility of scoring and forms the basis for an improvement plan. • Possibility to compare with similar organizations and adopt the best experiences—bench learning. • The CAF is used in the National Quality Award of the Slovak Republic.	• Implementation is based on compiling a self-assessment report, which can be subjective. • The structure of the model is complicated for start-up organizations and requires special CAF team training. • Active management commitment and support is required. • It is necessary to have knowledge and effort for process management. • The need for a certain culture of the organization and the creation of a good working environment.

Originally, the concept was developed for manufacturing organizations; later, it gained popularity to other service institutions, including banks, insurance, nonprofit organizations, health care, and so on. Lunenburg comments that TQM is also relevant to corporations, service organizations, universities, and elementary and secondary schools [15].

However, in general, it can be said that in order to make TQM successful, it is essential to create a quality culture, i.e., a shift is needed from traditional management culture to a total quality culture [16]. According to Deming, TQM is a management philosophy that requires a radical cultural change from traditional management to a continuous improvement management style in an organization [17]. A similar thought is also echoed by Sallis;

he mentions that TQM requires a change in culture; it requires a change in attitudes and working methods, as well as a change in institutional management [18].

The pressure and demand for quality education are increasing. All concerned parties in education are actively considering implementing TQM in education because it is believed that quality education is one of the fundamental building blocks of economic development [16].

In the professional community, there are many considerations whether this philosophy is applicable in education. There are some authors who are very much confident about the applicability of TQM in education. Others believe that TQM is to some extent applicable in education. A good number of scholars find that some TQM tools and techniques are convincingly suitable in education [16]. Nevertheless, in this connection, the remark from Sousa and Voss is quite thought-provoking; they comment that TQM principles are not universally applicable across all contexts but are contingent on contextual factors [19,20]. This implies that TQM tools and techniques are subject to fine tuning while applying in education. In his work [16], Sohel-Uz-Zaman discusses the strengths and weaknesses of using the TQM model in educational institutions. These strengths and weaknesses are summarized in Table 4.

Table 4. Strengths and weaknesses of the TQM in educational institutions.

Strengths	Weaknesses
- Process-oriented approach that is designed to increase productivity, decrease costs and improve quality. - TQM improves educational organizations in many ways, such as improving the education process, making the educational environment motivating, improving the educational curriculum, boosting the speed of training services and reducing costs. - TQM is a way of achieving and maintaining excellence in higher education. - TQM elements have a critical role in process improvement including, "leadership", "vision", "measurement and evaluation", "process control and improvement", "program design", "quality system improvement", "employee involvement", "recognition and reward", "evaluation and training", "student focus", and "other stakeholder focus" in higher education. - Some TQM tools and techniques are convincingly suitable in education, for example, the use of quality function deployment (QFD) which is used to incorporate the preference of customers and other stakeholders in program design. - It has the capacity to provide practical solutions and positive results in academic and administrative functions.	- A philosophy which is developed for business may not be appropriate for a service organization such as educational institutions. - Lack of top management commitment. - In education, defining and identifying a customer is a challenge; education has a multitude of interested parties. - Resistance to change. - High time investment due to personal training. - Difficulty in applying TQM tools to higher-education institutions. - Insufficient experience of team leaders and staff in teamwork. - TQM tends to put more emphasis on nonacademic activities (bill collection, check writing, admissions applications, and physical plant inventory) rather than core academic activities (curriculum development, teaching and learning style, tuition fees, and student welfare). - The absence of effective communication channels. - The problem in measuring higher-education institutions' results. - The coexistence of multiple purposes and objectives for higher-education institutions. - The emphases in the individualism and significant degree of internal competition. - Change in culture is required.

3. Application of Quality Management Models in Educational Organization–Case Study

In accordance with the legislation, every higher-education institution in Slovakia must have developed, implemented, and used a functional internal quality system. The aim of the internal quality system is to ensure the quality of all activities by defining the policy and procedures of the institution.

The university's quality assurance policy includes tools and methods of implementation, use, monitoring and evaluation of the quality assurance system, but also the division of responsibilities and the level of participants commitment (e.g., students).

There are several areas of quality assurance in higher-education institutions: study programs, criteria and rules for student evaluation, the quality of teachers and the education process, quality of material, technical and information resources and collection, analysis and use of information. Only a high level of education can be regarded as the initiator for a change in people's attitudes and behaviors [21].

In the case study, selected models of quality management at a private university are described. Several years ago, a quality management system according to ISO 9001 was introduced at the university. The author's team assisted the university in the implementation of the process model and also in the self-assessment according to the CAF model. In this part of the paper, the authors' experiences from the implementation of the process model and the CAF model, as well as the specifics, results and benefits from the application of the models at a private university, are summarized.

3.1. Methodology and Data Sources

The process approach involves the systematic definition and management of processes, and their interactions, so as to achieve the intended results in accordance with the quality policy and strategic directions of the organization. Management of the processes and the system as a whole can be achieved using the PDCA cycle with an overall focus on risk-based thinking aimed at taking advantage of opportunities and preventing undesirable results [22]. The methodology of the process approach in ISO 9001 is summarized in Table 5 [23].

Table 5. Methodology of the process approach.

Steps	What to do
PLAN	
Define the context of the organization	The organization should identify its responsibilities, the relevant interested parties and their relevant requirements, needs and expectations to define the organization's intended purpose.
Define the scope, objectives and policies of the organization	Based on the analysis of the requirements, needs and expectations establish the scope, objectives and policies that are relevant for the organization's quality management system.
Determine the processes in the organization	Determine the processes needed to meet the objectives and policies and to produce the intended outputs.
Determine the sequence of the processes	Determine how the processes flow in sequence and interaction.
Define people or remits who take process ownership and accountability	Assign responsibility and authority for each process.
Define the need for documented information	Determine those processes that need to be formally defined and how they are to be documented.
Define the interfaces, risks and activities within the process	Determine the activities needed to achieve the intended outputs of the process and risks of unintended outputs.
Define the monitoring and measurement requirements	Determine where and how monitoring and measuring should be applied. This should be both for control and improvement in the processes and the intended process outputs. Determine the need for recording results.

Table 5. *Cont.*

Steps	What to do
PLAN	
DO	
Implement	Implement actions necessary to achieve planned activities and results.
Define the resources needed	Determine the resources needed for the effective operation of each process.
CHECK	
Verify the process against its planned objectives	Confirm that the process is effective and that the characteristics of the processes are consistent with the purpose of the organization.
ACT	
Improvement	Change the processes to ensure that they continue to deliver the intended outputs.

The common assessment framework is a total quality management tool developed by the public sector for the public sector, inspired by the excellence model of the European Foundation for Quality Management. It is based on the premise that excellent results in organisational performance, citizens/customers, people and society are achieved through leadership driving a strategy and planning, people, partnerships, resources and processes. It looks at the organisation from different angles at the same time: the holistic approach to organisation performance analysis [24]. The structure of the CAF model is shown in Figure 1.
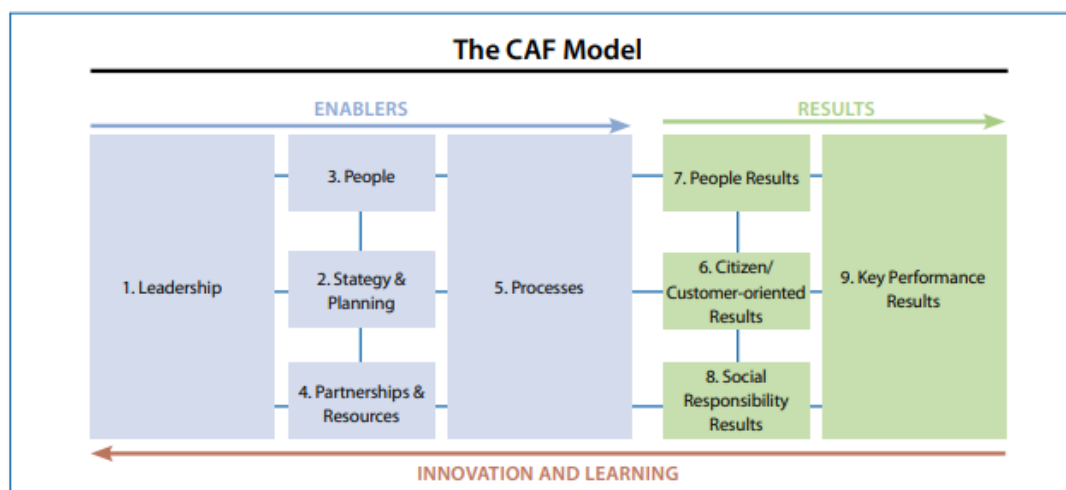

Figure 1. The CAF Model [22].

The main purpose of the CAF model is to provide a simple and easy-to-use assessment concept. At the university, the CAF model was implemented according to the following steps:

1. Communication of self-assessment project.
2. Organization of training.
3. Composition of self-assessment group.
4. Collection of resources, data and own materials to assess the relevant criterion; each employee provided a completed questionnaire for assessment.
5. Classical scoring and determination of the level that we have reached in each sub-criterion (according to assessment panels).

6. Preliminary assessment, supplementation of the list of available resources and discussion of any ambiguities.
7. Specific evaluation and processing of each criterion.
8. Compilation of the final self-assessment report and identification of the problem areas.
9. Draft an improvement plan, based on the accepted self-assessment report.
10. Implementation of improvement plan.

The self-assessment was carried out by a questionnaire survey. The questionnaire was created in accordance with the document CAF 2013. In the questionnaire survey, all scientific and pedagogical staff of the university participated. Two types of questionnaires were used—different types for management and for other employees. The return rate of the questionnaire reached 98%. In accordance with the criteria of the CAF model, all aspects of the functioning of an organisation were carefully assessed. Based on the questionnaire survey, points were given according to the relevant assessment panels. A cumulative way of scoring—classical scoring was used [24].

3.2. Process Model According to ISO 9001

The university was established in 2005. Shortly after its establishment, the university management decided to implement a quality management system in the field of education, research and business processes is established at the university. Educational activities are carried out in accredited study programs. In the past, lifelong learning studies were also provided at the university.

Creative activity is realized in areas related to study programs. The national and foreign projects and grants to support science and technology in the field of basic research and applied research are included in this activity. Research areas are approved annually. Additional activities are carried out in the form of business activities, cooperation with practice, organization of seminars, conferences and workshops.

In accordance with the requirements of the ISO 9001, quality management system is established, implemented, maintained and improved at the university. All organizational units are included in the quality management system. The university has determined external and internal issues that are relevant to its purpose and its strategic direction and that affect its ability to achieve the intended results. External influences can arise from various aspects, e.g., technological, market, cultural, social, economic, etc. These are, for example, customers, owners, shareholders, competitors, the government, supervisory and regulatory authorities, financial institutions, local governments, the media, etc. Internal influences that can be found within the organization include, e.g., its values, corporate culture, knowledge, performance, etc. The relevant stakeholders were also identified: staff and university management (internal) and students; ministry of education, science, research and sport; Slovak academy of sciences; media; secondary schools; accreditation and certification bodies; contractual partners and companies; potential employers of graduates.

To ensure the quality management system, the following steps were implemented:

- Quality assurance processes have been identified and described. Key processes that affect perception and quality assessment have been identified.
- Stakeholders in the educational process and its requirements have been identified. Success and employment of graduates in practice (in the labor market) is an important indicator of quality assessment in the educational process. The priority goal of education is to prepare a graduate who can meet the requirements of the labor market. The employment of graduates is the interest of the school, the state and the graduates themselves.
- Quality policy has been established and implemented; quality objectives have been set.
- Responsible persons and competencies were determined.
- Quality criteria of the educational process have been determined.
- Processes to ensure compliance with stakeholder requirements and expectations have been identified, designed and managed.

- Indicators and methods for monitoring, measurement, analysis and evaluation have been determined.
- The content and time schedule for the quality evaluation processes has been proposed.
- Corrective action procedures have been developed.

The adoption of a process approach was a very important part of creating the quality management system. The core, support and management processes needed for the quality management system, their application throughout the organization and the sequence and interaction of these processes were determined. The processes were divided as follows: the core processes—educational activity, scientific research activity and additional activity; the support processes—creation of study programs, update of study programs, information system management, purchasing, admission of foreign students, review of decisions, contractual relations monitoring, analysis and improvement; the management processes—strategic management, operational management, internal audits, control of documents and records. Process descriptions are given in separate documents.

The description of the activities for the identification, assessment and management of risks and opportunities is described in a separate organizational guideline. Risk and opportunity management is a preventive tool by which the university prevents the occurrence of undesirable effects and at the same time strengthens the desired effects. The aim of this process is to manage risks and opportunities, their analysis, evaluation and appropriate actions. The main risks and opportunities are, e.g.,: non-granting of rights to accreditation of the study program, lower quality of teaching due to distance learning during a pandemic, low interest of applicants for studies, weak material and technical equipment, student mobility, nonapproval of projects (for various reasons), failure to achieve project goals, low amount of funds, insufficient amount of promotional materials of the university.

In managing its activities, the university enforces the following principles:

1. To promote open access to all forms of study, including the application of the principle of equal opportunities for all those interested in studying.
2. To ensure students' satisfaction by understanding their current and future needs.
3. To strengthen the pride of students and future school graduates.
4. To maintain the motivational environment for employees, and create conditions for personnel and professional growth.
5. To strengthen employee loyalty and use their skills for the benefit of the university.
6. To internationalize educational, scientific and research activities.
7. To strengthen and develop partnerships with other universities, organizations in the region, in the Slovak Republic and abroad.
8. To promote the school by improving marketing activities and by constantly planning, evaluating and improving the quality of all processes.

From the perspective of university management, effective and efficient application of these principles in school management and the efficient quality management system are contributed to the systematic improvement in the quality of education and to the improvement in scientific, research and other creative activities.

3.3. Application of the CAF Model in the University Environment

The common assessment framework was chosen for the self-assessment process for the following reasons:

- Evidence-based assessment;
- The use of the CAF model can lead to a consensus on what needs to be done to improve the organization;
- Structure of nine criteria and other subcriteria allows identifying the strengths and weaknesses of the organization and subsequently to formulate recommendations for improvement;
- Provides a tool for measuring progress;
- The relationship between short-term goals, strategies and processes;

- The optimal concept to improve the weakest aspects;
- An opportunity to promote and share practice in different areas and with other organizations;
- A tool that engages employees in the organization's evaluation process;
- A means of incorporating the different views of employees into the improvement process;
- Describes the current state of the organization;
- Direct questioning and subsequent search for answers—confrontation.

The decision to perform a self-assessment according to the CAF model was based on the need for a thorough knowledge of all processes and activities at the university, with the participation of all employees. In the context of improvement, it should be helpful in identifying problem areas. From the perspective of university management, the main objectives of the self-assessment process was to determine the overall satisfaction of employees and to identify internal relations at the university.

During the self-assessment, it was necessary to transfer experience and practices from the commercial sphere to the application of the CAF model in the higher-education institution, while respecting the fundamental differences in the two sectors. A significant benefit was the creation of a very favorable atmosphere motivating all participants. A working group for the application of the CAF model was set up. In connection with the implementation of the project, employees were informed with a request to cooperate.

4. Results and Discussion

After evaluating the individual issues and subcriteria, the assessment of the organization within the nine basic areas of the CAF model could be quantified as follows (Figure 2):

	Criterion	Score
1.	Leadership	67.85
2.	Strategy and planning	66.43
3.	People	63.87
4.	Patrnership and resources	75.50
5.	Processes	74.28
6.	Citizen/customer-oriented results	82.15
7.	People results	74.71
8.	Social responsibility results	71.77
9.	Key Performance Results	75.69
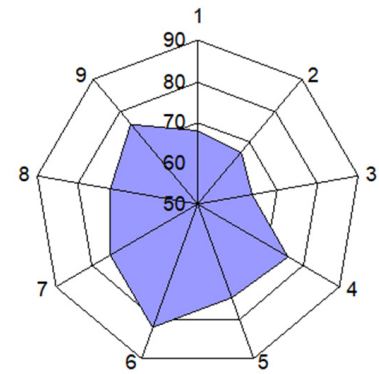
Figure 2. Results of the CAF model criteria assessment.

At first sight, there is a clear mismatch between the results achieved by the organization under the first three criteria and the other criteria. The best level of scoring was achieved by the organization in criterion 6 (citizen/customer-oriented results), the least scored was criterion 3 (People).

Aspects within the criteria and subcriteria on the Enabler side proved to be the most problematic. In the following text, the most significant deficiencies within the problem criteria 1, 2 and 3 as well as the corrective actions are indicated.

The lowest scoring was achieved in the following criteria: "*People*" (how the human resource management and leadership of people at the university allow accomplishing its strategic objectives, and take advantage of the strengths of people and their ability to contribute to the accomplishment of strategic objectives). Human resources management policy is not flexible and derived from the process analysis. The analysis showed that there was only a partial correlation between job descriptions and recruitment and staff

development plans. The university was therefore advised to develop a career development plan for each employee. Even areas strictly not required by law, e.g., computer courses and language training, should be included in personal development plans. According to employees, internal communication needs to be improved. Management should conduct individual interviews with employees. The form and manner of possible criticism (removal of barriers) is very important. In the process of making plans and university development, employees should also be involved in the discussion.

"*Strategy & planning*" (how the university implements its mission and vision through a clear stakeholder-oriented strategy, supported by relevant policies, plans, goals, tasks and processes). The evaluation showed that employees are formally aware of the risks, but the analysis of risks and critical success factors is not approached systematically. There is no clear view on the issue of measuring performance. Management thinks that performance measurement is being applied; other employees think that it is not being applied enough. Performance measurement methods must be applied at all levels of the university.

"*Leadership*" (Leaders establish a clear mission statement of the university, as well as a vision and values. They also create and maintain the internal environment in which people can become fully involved in realising the organisation's objectives [24].). Employees do not sufficiently understand what the vision, mission and value system are, and therefore cannot sufficiently recognize the extent to which they are involved in their development. For this reason, management must implement an active information policy towards employees. Levels of management, responsibility and autonomy need to be clearly defined. From the employees' point of view, the delegation of responsibilities is sufficient, although the traditional hierarchical approach still persists, in which responsibilities and authorities are closely linked to the position held. Management should transform the system to meet the individual needs of employees and set incentive conditions (motivation criteria).

In criterion "*Citizen/Customer-oriented Results*", the best scoring was achieved. The analysis shows that the flexibility and ability of employees to deal with specific situations is at a very high level. Most educators are willing to take care of students individually. The university should continue to seek and record recommendations and proposals for improvement from all stakeholders. These proposals should be reconsidered in the future. It would be appropriate to provide training on effective communication and training in innovative ways of dealing with students, especially in the field of information services (e.g., e-learning).

The results of the self-assessment showed that the most problematic areas are on the Enabler side; therefore, it is necessary to address especially the internal aspects of the university. The CAF model was used to identify the most significant deficiencies and then several corrective actions were proposed. Based on the assessment, the following priorities have been identified:

- To ensure that key processes support strategic objectives;
- Clearly define levels of management, responsibilities and autonomy at all levels;
- To implement an active information policy towards employees;
- Encourage employee participation in improvement activities;
- Include monitoring and evaluation of results and partnerships in regular monitoring and evaluation of processes.

It is also necessary to expand activities towards other universities that teach subjects in similar study programs and to repeat the CAF model self-assessment in the following period.

As has been mentioned above, the author's team assisted the university in the implementation of the process model and also in the self-assessment according to the CAF model. Regarding the CAF model, the team participated in the following activities: compilation of the questionnaire, data collection, evaluation and drawing up of the report. The results of the self-assessment were presented to the organization's management. After some time, we asked the university for feedback and a summary of the most important results of the

self-assessment, as well as a specification of the most important areas for improvement. The university management summarized these points as follows:

1. Specifics of working conditions at a private university:
   - Fewer internal staff compared to public universities;
   - Limited resources;
   - Continuous creation of the working environment;
   - Demands on work performance: quantitative (diversity of work tasks), qualitative (demands on work competencies).

2. Specifics in human resources management at a private university:
   - Employee recruitment;
   - Adaptation to the working environment;
   - Job description for the job position;
   - Competencies: professional, managerial (organizational), communication;
   - Education and personal development;
   - Levels: knowledge-skills-experience-attitudes-qualities;
   - Motivation, stabilization, loyalty;
   - Performance evaluation;
   - Communication.

3. What employees care most about:
   - To fulfill the mission, vision and to achieve the objectives of the university;
   - Strong positive reputation of the university;
   - Clear definition of the task by direct superiors;
   - Clearly defined competencies;
   - Clearly defined job description;
   - A transparent performance appraisal system.

4. Areas to be addressed by the university's top management:
   - To stabilize the structure of creative workers with the definition of the rights, work duties and competencies of pedagogical and non-pedagogical workers;
   - Focus on maintaining the good "reputation" of the university;
   - Complete the system of competencies and selection of job descriptions;
   - To support the cooperation of organizational units;
   - Create a transparent remuneration system based on the evaluation of work results;
   - Qualification and professional growth of employees;
   - Managerial knowledge (certified courses) and "soft" skills (trainings . . .).

5. Conclusions

For an organization to function effectively, it has to identify and manage numerous linked activities [22]. In this process, emphasis is placed on assessing the processes in terms of their added value. To determine the added value, it is necessary that the individual processes are objectively measurable. This approach of the university will enable the relevant processes to continuously improve and thus achieve the desired results in its performance and effectiveness, which are the sign of any successful organization.

The most significant benefit of introducing the ISO 9001 standard is that the system of processes within the university has been applicated, together with the identification and interactions of these processes. Another benefit lies in the implementation of corrective actions. The analysis of university processes will allow understanding how effectively existing procedures and activities work. On this basis, it is possible to implement system process control, which is the opposite of intuitive control (based on traditions, trials and errors).

The implementation of this system has helped to improve the organization of work and documentation, to make management methods more effective and to contribute to increasing customer satisfaction.

The introduction of a suitable quality management system will enable the higher-education institution not only to clarify and increase the implemented pedagogical and business process effectiveness, but especially to gain a competitive advantage among other higher-education institutions. A properly implemented ISO 9001 quality management system will provide very effective management tools focused on the expectations and needs of students and teachers. The implementation of innovative quality elements will require a more complex review of activities, which is also reflected in the culture of the organization [25].

In principle, the benefits of introducing a quality management system in higher-education institutions can be summarized in three basic areas:

1. Competitiveness of universities (e.g., retaining regular customers ...).
2. Effectiveness of higher-education institutions activities (e.g., clear definition of work duties, competencies, responsibilities, maximum simplification of the organization's documentation, introduction of process management, assurance of compliance with legislative requirements).
3. Employee and customer satisfaction (e.g., introduction of feedback between the higher-education institution and the customer, building beneficial relationships with customers, building correct employment relationships).

Another important step in terms of the need for thorough knowledge of all processes and the identification of deficiencies was the implementation of self-assessment using the CAF model. The self-assessment helped to identify the most significant deficiencies and then several corrective actions were proposed. In the future, the university plans to carry out self-assessment again and evaluate trends in the development of individual criteria. The university also plans to introduce TQM values as the result of the CAF model implementation.

A limitation of the research is that only data from one university were available and the outputs cannot be generalized. For example, future research lines could lead to a comparison of self-assessment results from several universities. Based on the evaluation of the results, it would be possible to identify problem areas at individual universities as well as strong areas of universities. If similar results in the individual criteria were achieved at the universities, it would be possible to define the most significant problems of Slovak higher education in general.

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