

Applications of Quality Management Methods in Effective Management of Higher Education

EDITA HEKELOVÁ

Vysoká škola manažmentu / City University of Seattle programs
Bratislava, Slovakia

ADRIANA KRUPOVÁ

Trnava University in Trnava
Trnava, Slovakia

Abstract: The aim of this paper is to present the actual status of management methods application in terms of higher education institutions quality management processes in the Slovak Republic, to emphasize the quality of education as one of the three functions of a higher education institution, to point out the need to manage the quality of all university functions, and, in particular, to inform about the need to implement an internal quality assurance and verification system in terms of two equivalent aspects - content and procedural.

Keywords: quality, management methods, higher education, self - assessment

1 Introduction

After signing the Bologna Declaration in 1999, universities in the Slovak Republic did not perceive need for change as a matter of urgency as there was high interest of applicants in that time. Gradually introduced changes in the higher education environment were related, for example, to the introduction of three levels in HE, the introduction of a credit system, the strengthening of legislative mechanisms to conduct business activities, etc. It follows that the strengthening of autonomy has focused mainly on the economic and financial field, but less on the management and governance.

A major turning point so far has been the amendment to the Higher Education Act No. 131/2002 Coll. adopted in 2013, which requires universities to have a built-in 'internal quality system'. This system should in principle be identical to the "Standards and Guidelines for Quality Assurance in the European Higher Education Area" (ESG, 2015), which were developed by higher education professionals and are influenced by systemic approaches to quality management, in particular ISO and TQM.

It can be stated that since 2013, a space has been created for higher education institutions to develop a quality management system that fully meets their objectives and needs. The newly approved amendment to the Higher Education Act and the new law on quality assurance in higher education continue, at the national level, to set the trend and create even a greater scope for strengthening the autonomy and primary responsibility of higher education institutions for effective quality management of higher education provided.

This situation represents a major challenge for management, as the reform initiated is still incomplete and the Slovak higher education institutions expect support by change of the governance approach, in particular by a clear procedural structure, resulting from legal standards and other quality management support mechanisms. Systematic approaches to

management in the environment of higher education institutions have untapped potential, as confirmed by the Slovak Rector's Conference in its periodical.

Based on the theoretical background, the authors of this paper can state that the principles that apply in the business environment can be well implemented in the environment of non-business organizations. Given the facts from professional resources, the author's practical experience in the organization and management of higher education institutions as well as in implementation of a quality management model in a higher education institution, it can be concluded that now more than ever, it is necessary to find solutions in this field and bring new information, ideas and good practice concepts. At the same time, in this paper, self-assessment is considered as one of the most effective methods of measuring and evaluating data on the performance and effectiveness of processes and thus the whole organization.

2 Why the quality management methods?

The concept of quality in higher education is discussed quite often and creators of higher education system reforms systematically deal with it. What is behind such interest in the quality of higher education institutions in the last two decades? The answer can be found in the Initiative of EU Signatory States named Bologna Declaration aimed at creation of the European Higher Education Area, approved in 1999, and in the documents of EU institutions derived from it, regulating education and organizations implementing these policies, to name a few: EUA, EURASHE, ENQA, EQAR, ESU and others.

In addition to the Declaration's main aims, including the system of easily readable and comparable academic titles, the two level system (pre-gradual and gradual), the system of gaining and transferring of credits, increasing the mobility of students, teachers and researchers and improving the European dimension of education, two important aims of the declaration have risen as well – to ensure quality standards in higher education offer of the whole Europe and to improve the European coordination in assessment of the quality of higher education.

Starting from the classical definition of the term 'quality', in the course of systematic study of the content of the Bologna Declaration, as well as publications and studies of institutions supporting the implementation of elements of this Declaration, we tend to believe that the answer to the above-mentioned question can be found in the search for basic balance of the main activities of higher education institutions. Assessing the quality of higher education institutions with a clear preference for assessing publishing and scientific performance requires balancing the three key functions of higher education institutions - educational, scientific, research and artistic, as well as related activities (support activities and the social role of higher education institutions, so-called "third mission"). It is necessary to focus primarily on the historical function of the university - educational, which is currently underestimated.

3 EU documents for quality assurance in higher education

Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG) issued in 2005 by the European Association for Quality Assurance in Higher Education (ENQA) are a key document for achieving the objectives of the Bologna Declaration, which also reflects a change in the approach of higher education governance. The ESGs were reviewed by the EU ministers responsible for education in 2015.

The ESGs consist of three parts:

- European standards and guidelines for internal quality assurance of higher education,
- European standards and guidelines for external quality assurance of higher education,
- European standards and guidelines for quality assurance agencies of higher education.

3.1 Purposes and principles of ESG 2015

The ESGs are a major factor in changing the approach to higher education management for several reasons. The ESGs include the field of higher education administration, i.e. the ways in which processes are managed, resources allocated, powers and responsibilities assigned, but in particular, in which strategic objectives are elaborated and the key stakeholders' requirements are met. Traditional and established quality management systems have provoked and evoked negative, rather than positive, responses in higher education environments, in particular with the social and humanitarian focus. There is a relatively higher interest in the ESG, stemming mainly from the legislative requirements imposed on higher education institutions by a higher education institution. The reason for their greater acceptance is the fact that, in contrast to traditional management models, which were created by business experts, the ESGs were created directly by experts from higher education. The best experience of Europe's leading universities has been reflected in the individual requirements of the ESGs.

The ESGs have the following purposes:

- set a common framework for quality assurance systems for learning and teaching at the European, national and institutional level;
- enable the assurance and improvement of quality of higher education in the European higher education area;
- provide transparent information on quality assurance in the EHEA;
- support mutual trust, thus facilitating recognition and mobility.

The ESGs provide a framework with a semi-structured concept and are based on the principles of Total Quality Management (TQM), as their basic principles are:

1. the primary responsibility lies with higher education institutions for the quality and quality assurance of their provision;
2. quality assurance responds to the diversity of higher education systems, individual higher education institutions, their degree programs and students;
3. quality assurance supports the development of a quality culture;
4. quality assurance considers the needs and expectations of students, other stakeholders and society.

Of particular importance is the fact that the ESGs framework provides for the implementation of self-assessment, in the implementation process section 2.3, specifically: “Implementing external quality assurance processes should be reliable, useful, pre-defined, implemented consistently and publicly available. These processes include - a self-assessment or equivalent; - an external assessment normally including a site visit; - a report resulting from the external assessment; - a consistent follow-up” (ESG,2015)

3.2 Quality management methods for evaluation of an organization's performance

Each organization should fulfill its social mission efficiently and effectively, while efficiently means that it should fulfill all its social obligations, and effectively capitalize at the same time (each organization must have entrepreneurial behavior).

The assessment of efficiency of the (business) behavior of an organization is based on assessment of the extent to which it has been able to meet its strategic objectives, meeting its social responsibility commitments at the same time, while respecting generally accepted principles of business ethics.

The assessment of the effectivity of organization's business behavior is based on assessment of the level of its business performance, a ratio indicator, that compares the amount of operating income and total assets that have been used to achieve this value.

The difference between efficiency and effectiveness was perfectly defined by P. F. Drucker in his quote: "*Efficiency is doing things right, effectiveness is doing the right things.*" (Harvey, L., Green, D., 1993)

In performance measurement, managers should not focus solely on the assessment of financial indicators, since such a focus would most likely not ensure the long-term prosperity of the organization. The organization is an open business system and the results of its social impact should be assessed systemically - not only according to a single, though significant indicator, but comprehensively, according to several complementary and dimensionally compatible indicators. This applies to both business and non-business organizations, while in the case of universities, the area of social action is naturally dominant, but it can ensure a sustainable situation in the area of economics and governance of these institutions. (Galáš, 2017).

A proven and recommended approach to measuring organizational success is monitoring of Key Performance Indicators (KPIs). The organization must first define its strategic and operational objectives and then choose key indicators which best reflect its ability to achieve those objectives.

Currently, there are several management tools (concepts and models) to be used in both business and non-business entities to ensure such assessment, i.e. systemic performance measurement of different indicators. Katic et al. (2011) define two groups of models that they also consider most used:

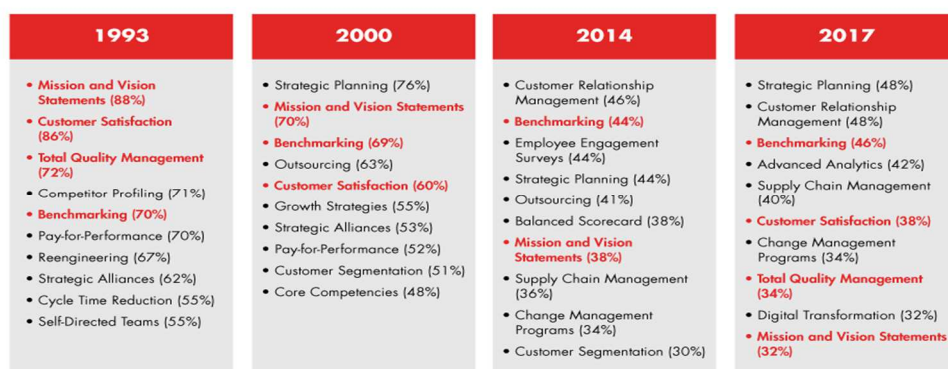
- models emphasizing self-evaluation - e.g. EFQM Excellence Model. These help the organization to identify those areas in which it can continue to improve (so-called self-assessment within the organization) but also allows comparison with competitors;
- models designed to support the management and improvement of business processes, such as the Performance Pyramid or Balanced Scorecard (BSC).

The development of non-financial indicators and the connection with the corporate strategy are considered to be the main functions of these models. Critical assessment of business performance models was provided also by Vouldis and Kokkinaki (2011), who have defined the following business performance measurement tools by analyzing the mentioned models: BSC; EFQM; ISO 9001; Performance Prism; Six Sigma; Tableau de Board. The Common Assessment Framework (CAF) model can also be associated with models underlining self-assessment. In general, these are Total Quality Management (TQM) models that aim to find ways to increase organizational efficiency. Benchmarking can also be appended to the systemic

performance measurement tools. A survey conducted by the Global Benchmarking Network showed that 39% of respondents used benchmarking for performance comparing; and a forecast for the future stated that the use of benchmarking would continue in the private sector and its use in the public sector and non-profit organizations would be expanded.

These tools for measuring organizational performance are regularly included in one of the largest foreign studies focused on selected tools supporting decision-making of firm managements “Management Tool and Trends”. (Searles et. al., 2013). Since 1993, the study has been carried out annually by Bain & Company. (Fig. 1). Compared to the most comprehensive research conducted annually by the aforementioned company and the research that is presented the state of use of management methods in the Slovak Republic (Fig. 2), it can be concluded that Benchmarking and TQM models underlining self-assessment are among the most widely used tools for assessing the organizational performance in the last two decades.

■ The top 10 tools have varied over time, though 4 remain from 1993



Note: Tool rankings based on usage
Source: Bain Management Tools & Trends survey, 2017

Fig. 1 Top 10 Management tools. Source: Bain Management Tools & Trends survey, 2017

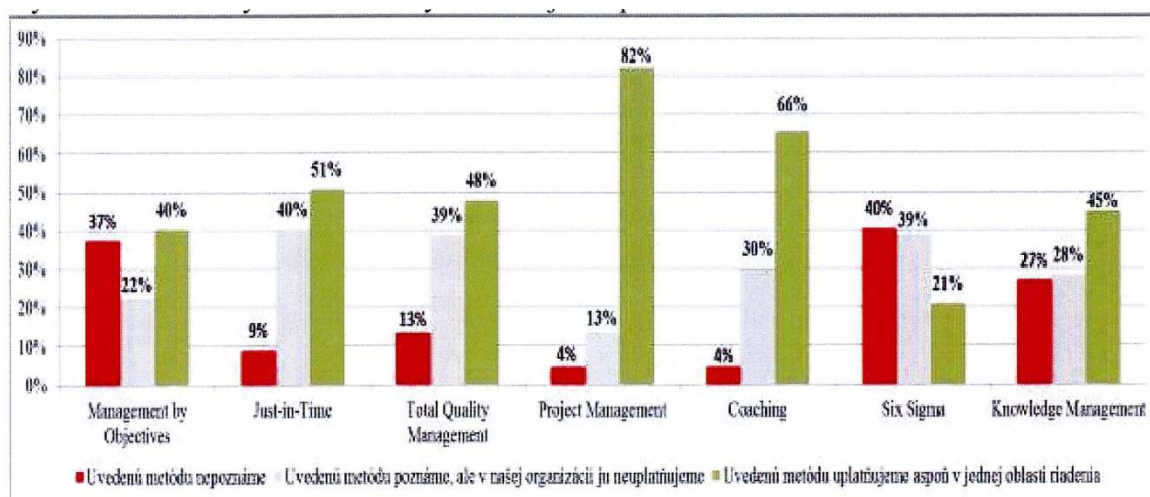


Fig. 2 Use of traditional management tools in companies in Slovakia Source: Szabo, L., Nemeth, F. 2017

4 Status of application of QM methods in HE in the Slovak Republic

In this chapter, an overview of the use of management methods to measure performance in business and non-business organizations – higher education institutions in the Slovak Republic - will be presented.

Generally, there is no long-term research on the number and structure of performance measurement and management tools usage in the Slovak Republic. The penetration of these tools into business practice in Slovakia has been much slower and less intense than abroad. In spite of this, several research studies have been carried out, focusing on management methods, tools and systems in Slovakia. Out of them, the research covering benchmarking, Balanced Scorecard (BSC) and application of the self-assessment method, which is used to analyze the management and organizational performance effectiveness and is mainly grasped by comprehensive (total) quality management models, will be presented.

In October 2016, the project of The Ministry of Education, Science, Research and Sport of the Slovak Republic in cooperation with SAAIC, the national agency for the programme Erasmus+ for Education and Training, entitled “Support for Implementation of Reform Tools in Slovak Higher Education” (SIHE), was carried out by a questionnaire survey focused on innovative changes in processes and their management at Slovak higher education institutions. The survey involved 22 universities shown in Figure 3 in the following ratio: 25% states universities, 70% public universities and 5% private universities.

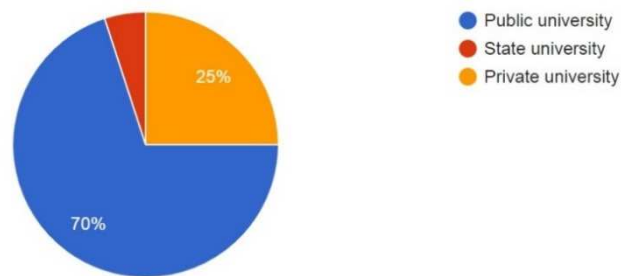


Fig. 3 Source: SIHE project, seminar 1 December 2016, Krupová, A., results of a questionnaire survey

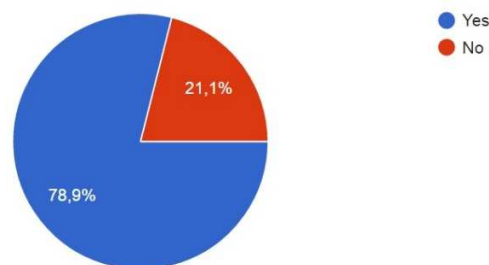


Fig. 4 Source: SIHE project, seminar 1 December 2016, Krupová, A., results of a questionnaire survey

Based on the results of the survey shown in Figure 4, it can be stated that universities in the Slovak Republic have a high degree of implementation (78,9 %) of internal quality systems. It can be concluded that the internal quality systems have been applied at a high rate, however in different forms and scope. The diversity in the implementation of the internal quality system is a positive rather than a negative thing, but the essence is that universities should implement diagnostic self-assessment based on the principles of the PDSA cycle in terms of process quality assurance. Together with the clear structure of the individual steps, respectively, the phases of the PDSA cycle - a functional, transparent and dynamic system, will be set up to achieve the aims and objectives of higher education institutions in the area of process quality assurance of higher education.

5 Challenge for higher education institutions in QM area

Starting from the classic definition of the term "quality" by Harvey and Green, a systematic study of the Bologna declaration content, as well as publications and studies of institutions supporting implementation of the elements of this Declaration, the authors of this paper support the view that the essence of the "higher education quality" is in the search for basic balance of all major education institutions' activities. Quality assessment at higher education institutions with a clear preference for research and academic publishing performance assessment currently requires setting up balance of the three key functions of higher education - education, science, research and art, as well as related activities (support activities and the social role of universities – called "Third mission"). It is necessary to focus principally on the historical function of the university - educational, which is currently underestimated.

Return to this balance is necessary, in particular, with regard to the requirements of efficiency in the use of public resources, the principle of equal access to education, social responsibility, globalization and internationalization. On the one hand, university management as well as academic staff have adapted to the shift in the evaluation criteria towards scientific and research performance, but on the other hand, especially in recent times, they have identified a certain shortcoming in this shift. Strong pressure to be a credible partner for interested parties, clients recruiting the graduates, arises. Conditions for the students have to be assured by universities so that they can use adequate learning outcomes and achieve personal development enabling relevant employment in the current economic and social environment.

However, even in this situation, any of the three so highly interconnected functions of a higher education institution cannot be underestimated or undervalued, and in focusing on the quality of education, the second two functions cannot be redelegated to be secondary in comprehensive (total) quality management. Assurance, or the management of quality of a higher education institution, must cover all its functions - education, research and related activities. At the same time, internal quality management systems should be designed so that they are able to achieve objectives leading to fulfillment of minimum requirements, and, in the case of ambitious intentions of the higher education institution, they should be an instrument for excellence.

Although the quality assurance (management) and evaluation (verification) elements are already present to a varying degree in higher education, the crucial task will be to further develop and complement them so as to create a meaningful, functioning, efficient and, at the same time, outwardly transparent system in terms of two equivalent aspects: content and process.

The method of implementing the content of the internal quality system for higher education institutions set up under the new legal rules in the Slovak Republic corresponds to the terms 'quality assurance' or 'quality management'. The implementation of the procedural aspect of the internal quality system for a higher education institution corresponds to the terms 'quality verification' or 'quality evaluation'. In this context, the internal system of quality assurance (management) and verification (evaluation) of higher education and related activities can be understood as a set of principles, rules and procedures that verify compliance with minimum quality requirements and create scope for their development, improvement and innovation. Analysis of good practice in management methods to measure performance in business organizations can be considered for the application in higher education institutions in terms of the procedural aspect of the internal quality management system.

6 Conclusion

Based on extensive theoretical background, knowledge of the organization and management of higher education institutions and experience in implementing a comprehensive quality management model in such an organization, the authors of this paper are convinced that the management methods used in a long term in business-type organizations are possible, appropriate, even desirable to apply in non-business organizations - higher education institutions. Of them, the self-assessment method is considered by the authors to be an innovative and effective management tool for improving performance in higher education institutions in the Slovak Republic.

In order to support this view, the authors of this paper contribute to the development of approaches to the governance of higher education institutions by presenting their own concept of a chosen method - self-assessment. The choice of the self-assessment method is supported by the fact that it is part of a key document for improving the quality of education in the EU Member States - Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG). At the same time, the paper pays attention to the fact that when implementing a quality management system in higher education institution, it is necessary to focus the activities of management consciously on two equal areas, namely content and process.

Acknowledgments

This paper was elaborated in the framework of the research project VEGA No. 1/0562/18 "The links between Human Capital and Information and Communication Technology".

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Contact data:

prof. Ing. Edita Hekelová, PhD.

Vysoká škola manažmentu / City University of Seattle programs

Panónska cesta 17, 851 04 Bratislava, Slovakia

ehkelova@vsm.sk

PhDr. Adriana Krupová

Trnavská univerzita v Trnave

Hornopotočná 23, 918 43 Trnava, Slovakia

adriana.krupova@truni.sk