



# Establishing a Quality Management System in the Function of Quality Assurance in Higher Education

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## Keywords:

Higher education institution (HEI);  
Quality assurance (QA);  
Standards;  
Quality management system (QMS)



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**Abstract:** *In the system of higher education, quality assurance presents a comprehensive term that includes all mechanisms, processes and activities that education institutions use in order to establish, maintain and improve quality in all areas of work. However, regardless of adopted legislation and standards for quality assurance in higher education, quality is still difficult to establish in the daily activities of higher education institutions. The research presented in this paper aims to indicate the importance of implementing quality management systems as an effective tool for providing quality in higher education.*

## 1. INTRODUCTION

Quality is the value based on which higher education institutions (HEI's) perform their activities and develop the concept of sustainability. The quality assurance (QA) system in higher education is defined by legislation and standards and is reflected in a number of activities such as analysis of scientific research, analysis of teachers and their competence, the work of non-teaching staff and management, quality assessment of study programs, spatial and technical capabilities, etc. However, despite the defined legislation and standards, the quality is still difficult to establish in the daily activities of HEI's in the Republic of Serbia. An essential problem for such a situation lays in the low prevalence of applied international QA standards. Furthermore, the lack of information and knowledge regarding the importance of applying international standards are additional aggravating circumstances. The issue of establishing and implementing international standards is also a financial problem, especially when it comes to budgetary institutions (Janovac, 2014).

Designing a quality management system (QMS) in higher education is the basis for continuous improvement of all work processes within the institution. The quality management system also enables the recognition of obligations towards users and all interested parties.

Theoretical analysis in this paper indicated the importance and advantages of establishing QMS as an effective tool for quality assurance in higher education. In addition, the paper has also presented research on the application of international standard ISO 9001: 2015 in the higher education sector in the Republic of Serbia.

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## 2. QUALITY ASSURANCE IN HIGHER EDUCATION

In the higher education system, quality assurance is a comprehensive term that includes all mechanisms, processes and activities by which a higher education institution establishes, maintains and improves quality in all areas of work.

Quality assurance in European higher education has gained importance in the Bologna Process. Another important step was the establishment of the European Network for Quality Assurance (ENQA), which was recommended by the Council of Europe. By introducing uniform ESG standards in the European Higher Education Area (EHEA), which included standards for internal and internal quality assurance, it became possible to check the quality of higher education institutions (HEIs) according to unique criteria. ENQA, EUA (European University Association), EURASHE (European Association of Institutions in Higher Education) and ESIB (National Unions of Students in Europe) participated in the adoption of this document in Bergen, 2005 (DG EAC, 2009: 6-9). European standards and guidelines for quality assurance cover three areas:

1. Internal quality assurance (IQA) is organized and established by HEI, which refers to the development of quality standards, implementing, monitoring and improving the quality of higher education institutions.
2. External quality assurance (EQA), which involves how activities related to external quality assurance should be carried out.
3. The work of commissions for external quality assurance in terms of its establishment, organization, recognition.

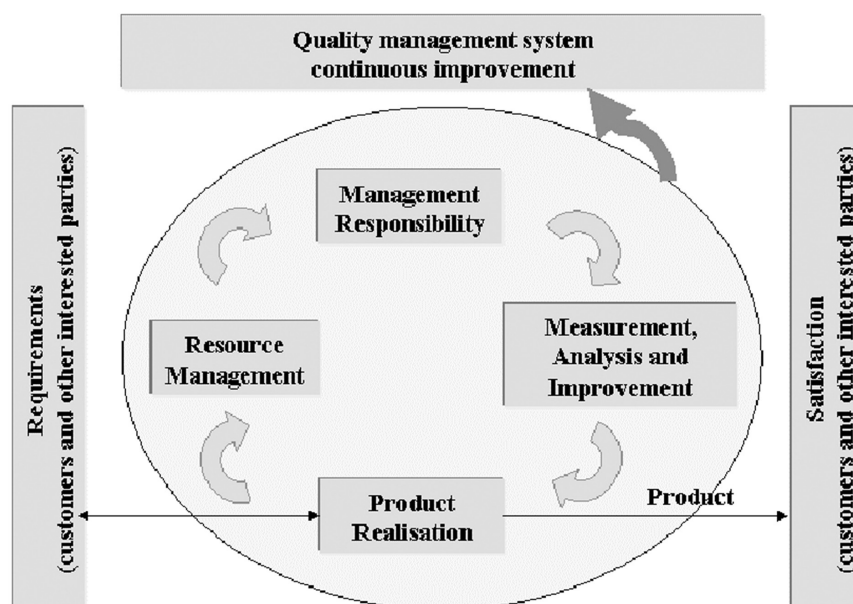
Quality assurance is a generally accepted concept in the academic community and one of the key principles of the Bologna Process. The subjects involved in quality assurance and verification bodies include different organisations from the lowest organizational units of HEIs, commissions, university boards, and all the way to defined authorities at the state level. Established bodies (commissions, committees) contribute to the maintenance and continuous improvement of quality in higher education, as well as compliance with internationally recognized standards. The policy and quality assurance in higher education in Serbia are harmonized with the processes of European integration and internationalization of higher education. In the context of quality assurance, quality control instruments include accreditation, self-evaluation and external quality.

## 3. ESTABLISHING A QUALITY MANAGEMENT SYSTEM AS A TOOL FOR QUALITY ASSURANCE IN HIGHER EDUCATION

Continuous improvements in the process of education are a logical response to the fact that the environment is constantly changing. Therefore, HEI must be able to monitor changes and to adjust to a new environment by continuous performance improvement (Figure 1). Changes in the form of innovation in the higher education sector are a much-needed category in terms of sustainability and institution rating. In addition to new methods and different curriculum, innovation in higher education can also refer to a new form of organization.

The obligation of the management in HEI is to determine and implement the strategy of quality assurance regarding the teaching process, non-teaching support and research work. According to quality management systems — requirements in ISO 9001, special emphasis is given to management, performance monitoring and improvement of all processes that exist in the work of an institution. Kahveci et al. (2012) emphasize the importance of a strategic information system

during the implementation of quality assurance, which could provide an effective analysis of numerous documents and information from different sources in order to generate knowledge. Appropriate usage of documentation and conducted analysis enable efficient planning and implementation of all necessary improvements in the work processes. The advantage of applying this international standard is that it provides changes in organisational culture, enables the satisfaction of service users in the higher education sector (Giatman, 2015; Ismail & Gadar, 2008; Africano, Rodrigues, & Santos, 2019) and better planning of teaching-learning processes as well as business processes in general. According to a UNESCO study (2018), 94% of higher education institutions rated the improvement of academic activities by implementing this standard. The seven principles of the standard can be easily applied in higher education in order to improve the quality of all processes, the satisfaction of users and stakeholders, the engagement of quality staff and leadership (Kamusoko, 2019).



**Figure 1.** The ISO 9001 standard model

Source: Rosa, Sarrico & Amaral, 2012

The established QMS brings a number of other tools that support the realization of goals (Elgobbi, 2014) and the establishment of quality in the daily work of an institution, which also facilitates the process of self-evaluation and accreditation. By implementing the tools from ISO 9001 standard, it is easier to meet the legal requirements, but also to achieve real improvements in the segment of teaching quality and management as a whole. There are numerous links between this international standard and the legislation in the field of quality in education (Table 1).

In addition, the institution builds its image and increases competitiveness through continuous process improvement (Ozbek, 2020) both nationally and internationally (Bernik, Sondari & Indika, 2017).

The quality management system can be implemented in all HEIs regardless of the scientific field, ownership structure or size of the institution. Establishing an effective quality system in a higher education institution is based on a systemic approach and requires the engagement of all employees. The first university that implemented standard ISO 9001 was the University of Wolverhampton in the United Kingdom in 1994 (Ismail & Gadar, 2008). Today, many prestig-

ious universities in Europe and the USA, such as the Universities of Dortmund, Düsseldorf, Bonn, Münster, Cologne, Bochum, Siegen, Bielefeld, Wuppertal, Paderborn Fernuni Hagen, Faculty of Commodity, Cambridge university departments and many others have implemented the QMS model. (Serafinas & Alber, 2007).

**Table 1.** Connections between the main requirements of the ISO 9001 standard and the practical application in higher education

Requirement from ISO 9001 standard	Practical application in higher education
<b>4. Quality management system</b>	
4.1. General requirements	<ul style="list-style-type: none"> <li>Monitoring the performance indicators of all processes in a higher education institution</li> </ul>
4.2. Document management	<ul style="list-style-type: none"> <li>Documenting strategic and operational decisions</li> <li>Defining relationships with users and stakeholders and recording their requests</li> <li>Functionality and user-friendliness</li> <li>Availability of documents to internal and external users</li> <li>Student records management</li> <li>Public records management in accordance with legal regulations</li> <li>Permanent and up-to-date external and internal information</li> </ul>
<b>5. Management responsibility</b>	
5.2. Customer orientation	<ul style="list-style-type: none"> <li>Identifying users of higher education services, their needs, requirements and expectations</li> </ul>
5.3. Quality policy	<ul style="list-style-type: none"> <li>Defining the vision, mission and goals of the higher education institution</li> </ul>
5.4. Planning	<ul style="list-style-type: none"> <li>Annual work plan of the institution</li> <li>Plan and program of general education and vocational education and training (VET)</li> <li>Financial plan</li> <li>Staffing plan</li> <li>Teaching calendar</li> </ul>
5.5. Responsibilities, authorities and communication	<ul style="list-style-type: none"> <li>Statute of the institution</li> <li>Regulations of the institution</li> <li>Meetings of the Academic Council, working meetings</li> <li>Quality Commission</li> <li>Websites, e-mail, bulletin boards</li> </ul>
5.6. Management review	<ul style="list-style-type: none"> <li>Annual work summary report of the institution</li> <li>Self-evaluation</li> </ul>
<b>6. Resource management</b>	
6.1. General conditions	<ul style="list-style-type: none"> <li>The standards for accreditation and self-evaluation define the requirements regarding teaching and non-teaching staff, infrastructure and financing</li> </ul>
6.2. Competence	<ul style="list-style-type: none"> <li>Teacher planning</li> <li>Elective teachers, competencies</li> <li>Monitoring and evaluation of teachers</li> <li>Training</li> <li>Rewarding and stimulating</li> </ul>
6.3. Infrastructure	<ul style="list-style-type: none"> <li>The standards for accreditation and self-evaluation define the requirements in terms of spatial and technical possibilities</li> </ul>
6.4. Work environment	<ul style="list-style-type: none"> <li>Space required for the implementation of teaching and learning process</li> </ul>

## 7. Service planning

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|-----------------------------------|---|
| 7.1. Service realization planning | <ul style="list-style-type: none"> <li>• Creating an annual work plan</li> <li>• Planning of conferences, fair events</li> <li>• Marketing activities</li> </ul>  |
| 7.2. User-oriented processes      | <ul style="list-style-type: none"> <li>• Enrolment campaign planning</li> <li>• Planning of professional seminars, training</li> <li>• Planning to participate in projects</li> </ul>   |
| 7.3. Design and development       | <ul style="list-style-type: none"> <li>• Development of study programs, improvement of existing programs and the introduction of new ones</li> <li>• Conquering new markets</li> </ul>  |
| 7.4. Procurement                  | <ul style="list-style-type: none"> <li>• Procurement of equipment used in the teaching and educational process</li> <li>• Increasing the number of library units</li> </ul>   |
| 7.5. Service realization          | <ul style="list-style-type: none"> <li>• Conducting lectures, exercises and workshops,</li> <li>• Realization of professional practice</li> <li>• Realization of training, professional seminars, scientific conferences, round tables and project development</li> </ul> |
| 7.6. Equipment management         | <ul style="list-style-type: none"> <li>• Requirements that apply to higher education institutions that have laboratories</li> </ul>   |

## 8. Measurement, Analysis and Improvement

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|--------------------------------------|---|
| 8.1. General conditions              |   |
| 8.2. Monitoring and measurement      | <ul style="list-style-type: none"> <li>• Measuring the satisfaction of students and other stakeholders</li> <li>• Self-assessment</li> <li>• Self-evaluation</li> </ul> |
| 8.3. Inconsistent service management |   |
| 8.4. Data analysis                   | <ul style="list-style-type: none"> <li>• Analysis of the realized work plan</li> <li>• Analysis of the student success</li> </ul>                                       |
| 8.5. Improvement                     |   |

**Source:** Janovac, 2014.

In addition to the literature review on quality assurance in higher education, the paper provides further findings on the application of international standards in the Serbian system of higher education. The first step towards quality assurance in the higher education sector in Serbia was made in 2003 when the country joined the Bologna Process. This was followed by the adoption of the Law on Higher Education, which introduced: The European Credit Transfer System; three-cycle system of study and diploma supplement (<https://eacea.ec.europa.eu>). Another important aspect of quality assurance in Serbian HEIs was the adoption of the standards for accreditation, self-evaluation and external quality control in 2006 and the Strategy for Development of Education in Serbia until 2020 in 2012.

However, the application of international standards in the higher education sector in Serbia is not widely distributed. The survey on the application of SRPS ISO 9001: 2015 standard was conducted in April 2021 on a sample of 234 units in the Republic of Serbia. The research program included 18 universities, 159 faculties and 75 colleges. A review of official websites indicated that only 8.12% or 19 higher education institutions have a certificate, of which 3 institutions are faculties from the state sector. The findings have also demonstrated that the issue of establishing a quality management system in the field of education is marginalized, the international standards are insufficiently applied, implying that higher education institutions in Serbia have not recognized the possibility of achieving more efficient and effective business by using this tool.

## 4. CONCLUSION

Designing a quality management system in higher education, in addition to defined legislation and standards, is the basis for quality assurance of all processes that exist in the work of an institution. This approach enables the management structure to constantly monitor key business parameters and make quality decisions for continuous process improvement. The application of QMS provides data on quality indicators, which can be continuously collected, systematized and analysed, in order to find adequate corrective measures for eliminating the identified shortcomings and problems. Consequently, it can be expected that the national standards for quality assurance will be met, that the quality of the provided service will be at an enviable level and that it will constantly improve. It follows that the implementation of QMS establishes the quality in the daily work of the institution, raises the level of organization and improves the performance of the institution. Within the QMS, what has particularly emphasized is a commitment to leadership, focus on the user, design and development, which is very important for the improvement and sustainability of the HEI.

The research findings regarding the application of the international standard ISO 9001: 2015 in the higher education sector in Serbia indicated the insufficient application of this tool. The reasons for poor implementation can be various, from the lack of information about the importance of international standards within the management and leadership of the higher education institution to financial reasons, which are especially important for budgetary institutions. Therefore, this paper has practical importance for many higher education actors such as policy makers, HEIs management and other stakeholders, as it provides guidance on decision-making regarding QMS implementation in the quality assurance function.

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