Comparison of the ESG Guidelines Used in the European Higher Education Sector with the Principles of the ISO 9001:2015 Quality Management Standard

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Abstract

The use of the Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG) is replacing the ISO 9001:2015 in the European higher education sector. There are numerous challenges in implementing the ESG at the higher education institutions. This study reveals the similarities and the differences of the ESG guidelines and the ISO 9001:2015 principles. The methodology used is pairing the ESG guidelines with matching ISO 9001 principles. The outcome of the study shows that all of the ISO 9001 principles are included in the ESG, but only seven out of ten ESG guidelines are included in the ISO 9001 principles. Those guidelines which cannot be matched are specialized for the higher education sector. The study can help in the introduction of the ESG for institutions with experiences with the ISO 9001 standard.

Keywords: *quality management; higher education; ESG; ISO 9001; guidelines; principles.*

1. Introduction

Standardization facilitates the operation of organizations and business transactions because the relevant standard can be referenced instead of adding complex descriptions of a product or a service. This causes that organizations operating by widely accepted standards can reach competitive advantage (Petőcz & Szabó, 2003) Fitting this trend, higher education institutions are increasingly recognizing the importance of quality management systems (Barraquio, 2018), which should become an integrated part of the organization (Balashova & Gromova, 2017).

The topic of this study is relevant because many higher education institutions in the European Union are currently introducing or will soon introduce the Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG) standard due to accreditation requirements (ESG, 2015). The quality management systems of higher education institutions are becoming more and more unified. This should lead to quality improvements in the European higher education sector. At the same time, institutions are facing a number of new challenges while implementing the ESG standard.

The aim of the current study is to examine the ESG quality management system guidelines and compare them with the principles of the ISO 9001:2015 quality management standard.

The methodology of the research is to analyze the internal quality management guidelines of the ESG and check if they can be corresponded to the principles of the ISO 9001:2015 quality management system.

The research can be utilized by higher education institutions that are in the transition process from the ISO 9001:2015 quality management system to the ESG or operate these two quality management systems in parallel.

2. Quality at higher education institutions

Quality is a key issue in education. Traditionally this can be divided into two main aspects: the efficiency of teaching and the knowledge of graduates (Crombag, 1978). Using this approach, it is clear that the quality of education is largely determined by other factors, such as the supportive, administrative processes and infrastructural capabilities (Bedzsula, 2015).

From the 1990s a growing pressure can be seen on higher education institutions to become market-orientated. There have been several different approaches to increase quality in this sector. European institutions either implemented the ISO 9001 quality management system or a system based on the European Framework for Quality Management (EFQM) (Houston, 2008). The ISO 9001 system uses external agencies and requires extensive documentation. On the other hand, TQM-based systems may be time consuming and subjective in scoring (Srikanthan & Dalrymple, 2007). TQM was originally developed for businesses and this causes issues in its implementation at higher education institutions. This resulted in abandoning this philosophy in the education by many institutions (Green, 2007). Different quality management systems can be used at the same time in one organization, however it is suggested that these systems should be integrated to a unified enterprise management system (Andreeva et al., 2019). In any of these ways, the processes of the organization are standardized. One of the earliest implementation to reach customer satisfaction are the widely used student-surveys. Student satisfaction is one of the most important determinant of program value so universities place great emphasis on this area (Sutherland et al., 2019).

3. The ISO 9001:2015 quality management standard

There are many standards and methods of quality management. The widest-used general quality management system in Europe is the ISO 9001:2015, but in addition there are a number of industry-specific quality management standards as well. The use of a quality management system based on the ISO 9001:2015 quality management standard (referred as ISO 9001

from now on) is widely accepted in many sectors, including in the higher education.

In the 1970s, ISO began issuing international standards. The ISO 9001 was introduced in 1987 (Siva et al., 2016). Since the 1980s, more and more industry-specific standards were developed. Today, approximately 40% of the European standards are based on ISO standards (Schmuck, 2010). Applying the ISO 9001 standard results in learning intervention inside the organization (Castka, 2018). The ISO 9001 quality management standard is a general quality management standard, which is advantageous as it can be used by any organization. However, its disadvantage comes from its general nature, it lacks specialization to the individual needs of different industries. The European Union created the ESG which is specialized for the higher education sector.

The ISO 9001 standard is based on seven principles. The purpose of the principles is to improve the quality of the organization in accordance with the criteria defined by the standard. The principles are the following (ISO, 2015):

1. *Customer focus:* Organizations depend on their customers, so it is important to understand the needs of current and future customers, meet and strive to exceed their requirements and expectations.
2. *Leadership:* Leaders on all levels of the organization should create the unity of goals. They should also create and maintain an internal environment in which employees can participate in achieving the goals of the organization.
3. *Engagement of people:* The essence of the organization is their employees at all levels. The involvement of employees allows them to use their capabilities to create value.
4. *Process approach:* The desired result can be achieved more effectively and efficiently if the activities and the resources associated with them are treated as processes. Unlike before 2015, the ISO 9001:2015 standard also includes the systems approach in this principle, which was previously a separated principle (Certop, 2015). The essence of the systems approach is to identify, understand and manage the interconnected processes as a system, which contributes to the organization achieving its goals.
5. *Improvement:* Continuous improvement of the entire operation of the organization should be a constant goal of the organization.
6. *Evidence-based decision making:* Decisions should be based on the analysis of data, facts and other available information.
7. *Relationship management:* The organization and its suppliers are interdependent, and their mutually beneficial relationship enhances the value-creating capacity of both.

There is a significant relationship between TQM and ISO 9001 principles, as a general adoption of TQM principles was done at issuing the by ISO 9001:2000 standard in year 2000 (Dellana & Kros, 2018).

4. Comparison of the ESG guidelines with the ISO 9001:2015 principles

At the Lisbon Summit in 2000 the Member States of the European Union decided to work more closely together on creating a single European education area (OFI, 2011). The first version of the ESG was accepted in Bergen in 2005 (ESG, 2005). The currently used version was accepted in 2015 (ESG, 2015). As the first edition took place in Bergen, the ESG is often referred as the Bergen directives, despite the fact that the current ESG 2015 version was released in Brussels. The ESG aims to develop the European Higher Education Area (EHEA). The ESG guidelines provide guidance to higher education institutions to improve their quality. The higher education institutions in the countries of the EHEA are very different by size, organizational structure, functions and geographical location, the ESG uses general guidelines that can be used in such a diverse system. With generalization, the ESG accepts

the autonomy of higher education institutions and the specificities of educational areas. (OFI, 2012) Although the ESG clearly states its guidelines, it does not exactly state how to fulfil them giving freedom to the institutions when applying the ESG. The general nature of ESG is similar to the ISO 9001 standard. However, ISO 9001 can be used in diverse industries, ESG is only helpful in the higher education sector. The ten ESG guidelines are discussed below and compared to the ISO 9001 principles. In each of them the ESG guideline is described briefly.

4.1. Policy for quality assurance

Regarding to the ESG institutions should have a publicly available quality policy, which should be in line with their institutional strategy. The quality policy has to developed internally but external stakeholders should be involved in the development process. The quality policy should emphasize the quality culture of the organization and should reflect the two main areas of higher education institutions: teaching and research. The implementation and monitoring of the quality policy should be done by the institution itself. This can be considered as a very general approach to quality policy. This ESG only generally suggest the content of the quality policy, which can be very different in individual realizations (Manatos et al., 2017). Quality policy should become an essence in the life of the institution (Rezenau, 2011) and should be generally known at all levels of the organization (Randhawa & Ahuja, 2018). The key of the successful implementation is in the quality-oriented organizational culture, which is needed for facilitating changes (Todorut & Bojincă, 2013, Hebbar & Mathew, 2017). A research on quality policies of British, German, Austrian and Hungarian high-ranked universities revealed that only 16.7% of them had transparent, publicly available quality policies (Benke et al., 2019).

According to the ISO 9001 quality management system, organizations need to have a quality policy and also have to set quality goals. These goals should be derived from the quality policy (Illés et al., 2017). As a Romanian case shows when adapting the ISO 9001 quality management system at universities, first the quality policy has to formulated following by quality objectives, the quality manual and descriptions of the operational processes (Moldovan, 2012). The quality policy and the quality objectives have to be clearly communicated to stakeholders. The "Policy for quality assurance" ESG guideline is included in the ISO 9001 "Leadership" principle because both of them are about the goals and objectives of the organization.

4.2. Design and approval of programs

This ESG guideline requires that institutions should have the necessary processes for planning and approving their educational programs. Programs should be designed in accordance with the objectives, including the learning outcomes. Institutions should state and communicate the outcome qualifications of their programs. They should provide transferable knowledge and skills to the students for their personal development and career. Programs should be in line with the strategy of the institution. Students and stakeholders should be involved in the development process. Programs should be approved through a formal institutional approval process.

The origins of the process approach can be traced back when the process characteristics approach replaced the product characteristics approach (Castello et al., 2020). Processes are very important in current quality management systems. The ISO 9001 requires defining the key operational processes to help organizations in improving their processes. The processes should be described standardized and uniform. Processes need to be identified and properly managed (Tănase & Velica, 2015). They should be repeatable and documented (Benner & Veloso, 2008). According to a study this can lead enhanced performance in project organizations (Din et al., 2011). The complexity of the processes affects the intervention possibilities at audits

(Castka & Balzarova, 2018).

The "Design and approval of programs" guideline can be interpreted as a special case of the "Process approach" of the ISO 9001 standard. While the ISO 9001 is very general about the processes, the ESG highlights one very important process in the higher education sector: the design and approval of programs.

4.3. Student-centered learning, teaching and assessment

Institutions using ESG should ensure that their programs encourage the active participation of students in the previously mentioned two guidelines. Students should take an active role in the creation of the learning process. Higher education institutions should respect student diversity and should have flexibility in learning paths and pedagogical methods. Teaching should be evaluated regularly. There should be predefined processes for managing student complaints.

There are debates about who is the customer of the higher education. While commonly it can be stated that the customer is the student (Jain et al., 2011), there are other approaches as well (Bedzsula, 2015). Vauterin et al. (2011) argue that the customers are future employers. Employees and administrative staff can also be considered as customers (Sunder, 2016). Some researchers state that quality can be judged by all stakeholders of the education (Veress, 1999).

It is generally accepted that universities should shift from product-led to customer-led approach (Angell et al., 2010). There are several different methods to measure the quality and customer satisfaction in higher education, such as the HEdPERF scale, the ECSI model (Sultan & Hong, 2010) or student satisfaction surveys. Shu et al. (2019) distinguished 20 factors in 4 groups in satisfaction of the university-industry cooperation. Jain et al. (2011) identified two primary dimensions in student satisfaction: program quality and quality of life. Using new pedagogical methods, such as gamification or new technologies can enhance student interest and motivation (Dovleac et al., 2019).

The "Student-centered learning, teaching and assessment" ESG guideline is very similar to the ISO 9001 "Customer focus" principle. While the ISO 9001 does not give a detailed guidance, the goal to reach customer satisfaction is the same in both cases. To be able to make this as a match between the ESG guideline and the ISO 9001 principle, we have to accept the mainstream opinion, that the customer of the higher education institutions are their students. Students are not only customers, but suppliers as well (Sunder, 2016, Foster, 2017), so the "Relationship management" ISO 9001 principle is also part of this ESG guideline. However, while the ISO 9001 principle concerns all suppliers, the ESG only cares students, not other suppliers.

4.4. Student admission, progression, recognition and certification

In the title of this ESG guideline the four main phases of student "life-cycle" appears. There should be predefined regulations of these processes. These should be made publicly available, implemented consistently and transparently. Information on student progression needs to be collected, monitored, and if needed, the necessary activities have to be done. Student work recognition is an important issue. The ESG specifies the use of the Lisbon Recognition Convention (1997), which made a strong boost in the international recognition of qualifications (Manatos et al., 2017). The recognition of qualifications internationally results in comparable standards and conformity for the labor market (Lapina et al., 2016). Recognizing students' work in other areas are important as well. A research shows that when students are involved in quality assurance procedures, their work should be recognized officially (Mourad, 2013).

This ESG guideline is very specific for the higher education sector. It does not comply with any of the ISO 9001 principles.

4.5. Teaching staff

Regarding to the ESG teachers should be competent and institutions should use fair and transparent recruitment processes. The teaching environment should be supportive, so teachers can do their work effectively. Higher education institutions should provide possibilities of professional development and have to strengthen the connection between teaching and research. They should encourage innovative teaching methods. An UK business school survey with over 25000 responses concluded that virtual learning environment is the third most important element specified in student satisfaction (Sutherland et al., 2019). A Polish research recommends to have internal marketing among the staff focusing on quality assurance in order create a quality culture (Mourad, 2013). Quality problems should be solved involving the staff (Nelyubina et al., 2016), which is the most valuable asset in higher education (Sunder, 2016). The lecturer can be considered as one of the most important dimension of quality (Hill et al., 2003).

The "Teaching staff" guideline of the ESG fits the ISO 9001 "Engagement of people" principle. However, the ESG guideline is narrower, as it mentions only teachers, while the ISO 9001 covers all working staff at the organization. At higher education institutions this means that this ESG guideline does not cover the administrative staff. An issue can arise from this perspective. The administrative staff is not involved in designing the quality assurance system, but they are needed in the implementation, which can negatively affect the organizational culture (Mourad, 2013).

4.6. Learning resources and student support

ESG requires that higher education institutions should allocate adequate funding and resources to support learning and teaching activities. These resources can be physical resources, IT infrastructure and human support. The quality assurance system should ensure that the resources are accessible to students and they can reach them. The administrative staff is responsible for support activities.

There are different views on the connection of learning resources and student satisfaction. Several studies show that the general category of student resources has only moderate effect on student satisfaction (Sutherland et al., 2019). Some state that the problem is in making proper use in these resources by the students (Hewitt & Clayton, 1999). Hill et al. (2003) found that student support is one of the most important dimension of quality in higher education.

This ESG guideline is unique in its nature as it is specialized to the higher education sector. Learning resources and student support are not mentioned by the general ISO 9001 standard. These can be somewhat considered as needed for customer satisfaction, but giving the exact guideline of ESG they cannot be obviously connected to any ISO 9001 principle. So the content of this ESG guideline is not part of the ISO 9001.

4.7. Information management

This ESG guideline is about decision making based on proper information. Institutions should ensure the collection, analysis, and utilization of relevant information for effective program and activity management. Institutions should collect and manage data about key performance indicators, students, satisfaction, learning resources, student support and career paths. Information management can be considered as a leadership role (Trivellas & Dargenidou, 2009). In practice, data is collected in processes and they are used to make decisions in another part of these processes, or other processes (Kozma, 2013). A study conducted in Jordan reveals a potential problem

with centralizing decisions instead of involving stakeholders (Al-Fuqaha, 2014). This can be considered as an important issue in Europe as well. Faculty management should include the staff in decision making as well (Green, 2007).

Overall, quality management systems enhance the decision making processes (Rodríguez-Mantilla et al., 2020). The ISO 9001 standard also contains this approach, where it is called "Evidence-based decision making". This is the ISO 9001 principle which equals the "Information management" ESG guideline.

4.8. Public information

ESG requires higher education institutions to publish information on their activities, including their programs, selection criteria, learning outcomes, teaching and assessment procedures, pass rates and learning opportunities. All of these information should be publicly available. Providing students with accurate information is very important (Mourad, 2013). The national quality insurance systems enhance this process (Mause, 2010).

This guideline is specific to the ESG, as companies are not required to operate publicly, so ISO 9001 does not require anything in this regard, however, it does not prohibit it.

4.9. On-going monitoring and periodic review of programs

According to the ESG institutions should continuously monitor and periodically review their programs in order to monitor the achievement of their objectives, the satisfaction of their students and meeting the needs of society. The review should consider the content of the program in light of the newest research results. The periodic reviews lead to the continuous development of programs. The actions planned or already taken have to be communicated to all concerned including their results. As higher education institutions are in competition with each other, they should continuously improve their programs to attract more students (Man & Kato, 2010). Constantly questioning whether the programs are reaching the expected outcomes is the base of the review process (Redmond et al., 2008). Alzamil (2019) suggests an integrated quality development model which can be used in the higher education. This model is based on the Deming cycle and the Boehm spiral model. Regarding to Sunder (2016), failing to involve the students can pose a risk in development processes. Differentiation and the credibility of the degree are the most important benefits of continuous improvement (Mourad, 2013).

This ESG guideline is contained in the "Improvement" principle of ISO 9001 in relation to the higher education environment. In case of the ISO 9001 the continuous improvement phenomenon means not only reviewing the programs, but continuously developing the quality management system, monitoring strategic planning and the realization of mission and vision statements (Barraquio, 2018).

4.10. Cyclical external quality assurance

Regarding to the ESG guidelines, higher education institutions have to be externally audited cyclically. This is done by the national accreditation committees by predefined schedule in each country (Mertova & Webster, 2009, Mourad, 2013, Manatos & Sarrico, 2017). This can happen in different levels of the organization, such as on program, faculty or institution level. This is a general way to maintain and increase quality.

A study concluded that there can be both internal and external evaluations of programs, through several ways, such as surveys, focus groups, rankings, evaluations and accreditations (Tasopoulou & Tsiotras, 2017). A well-structured evaluation should be structured, systematic, ongoing and sustainable (Makhoul, 2019). Accreditation should be based on facts and quality, meeting the needs of the stakeholders, but it should be free from politics (Narang, 2012). An agile approach can be to

conduct an internal evaluation every semester based on the data of the accreditation office (Al-Fuqaha, 2014). Internal evaluation should include the resources, competences and processes of the organization (Deac et al., 2012). A critics of accreditation is that using only this tool is a not a quality system on its own. Just keeping standards and regulations are not enough for quality (Lamanauskas, 2009).

External quality control (also known as external audit) is also the base of certification according to the ISO 9001 standard. External audits provide information for evidence-based decision making, so the "Cyclical external quality assurance" ESG guideline can be paired with the "Evidence-based decision making" ISO 9001 principle.

5. Conclusions

This research paired the ESG guidelines with the ISO 9001 quality management standard principles. Seven of the ESG guidelines can be matched with ISO 9001 principles as shown in Table 1.

ESG 2015 internal quality guidelines	Related ISO 9001:2015 principles
1. Policy for quality assurance	2. Leadership
2. Design and approval of programs	4. Process approach
3. Student-centered learning, teaching and assessment	1. Customer focus (presumption: students are the customers) 7. Relationship management (not all suppliers are included)
4. Student admission, progression, recognition and certification	-
5. Teaching staff	3. Engagement of people (excluding the administrative staff)
6. Learning resources and student support	-
7. Information management	6. Evidence-based decision making
8. Public information	-
9. On-going monitoring and periodic review of programs	5. Improvement
10. Cyclical external quality assurance	6. Evidence-based decision making

Table 1. Compliance of the ESG guidelines and the ISO 9001 principles
Source: own research

Seven out of the ten guidelines of ESG could be matched with ISO principle. Three of them are different to the ISO 9001 standard because of its general nature. These three guidelines are the following: student admission, progression, recognition and certification; learning resources and student support; public information. The first two is about students and their progress in the education. These cannot be included in the ISO 9001 standard because of their industry-specific nature which can be used only in the education. The third guideline which is not present in the ISO 9001 is about the publicity of the information. As companies are typically operate privately, this cannot be the common goal in their case.

All of the seven ISO 9001 principles appear in the ESG guidelines. However, there are some limitations. Regarding the "Customer focus" and the "Relationship management" principles we have to assume that students are the main customers of higher education, and also consider them as suppliers (Jain et al., 2011, Sunder, 2016, Foster, 2017). Regarding the "Engagement of people" the ESG considers only the academic staff and does not give recommendations about the administrative staff, which is a drawback of ESG.

Overall, there is high match between the ISO 9001 and ESG. Both of them are useable in the education, but the ESG fits it much better because its specialized nature. There are guidelines that are especially useable in the higher education sector only. The ESG better suits the higher education institutions than the ISO 9001, so its use in the higher education sector is recommended.

The results of this study can be utilized by higher education institutions implementing ESG instead or in parallel with the ISO

9001 quality management system.

The study has a focus on ESG which causes limitation in the results. The results can be particularly useful in Europe. Outside Europe other quality management systems may be used in the higher education, such as the Baldrige-criteria in the USA (Houston, 2008). The topic of this study is to show the methods used in Europe, so other quality management systems are not analyzed in this paper.

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