

**Stakeholder Satisfaction Driven Quality Management in Higher Education**

How the voice of stakeholders can be considered to improve Quality Management Systems of Higher Education Institutions

Gdańsk, 2025

# SUMMARY

# Abstract

# INTRODUCTION [10-15]

## Background on Higher Education Management (JPSZ) [2-3]

In a modern, super quickly evolving economy, knowledge and scientific development play a key role (cf. Castro Laszlo & Laszlo, 2002). Therefore results of the work of higher education institutions (HEI) become a key determinant of the widely perceived success in the modern economy, serving as a driving force for economic development (cf. Puente et al., 2021). In this context, universities play significant role due to their impact on innovations commercialised with technology industries. As it can be observed that “higher education is a reflection of the social, scientific, technical, and economic potential of any country” (Grudowski, 2020), then finding effective solutions for quality management systems of HEI seems to be all the more critical. How challenging it may be is reflected in opinions that “the search for solutions concerning organisation and management (…) is an endless story” (Leja & Pawlak, 2021).

For a better understanding of management challenges for universities, it is important to refer to their historical evolution background. Universities underwent transformations, starting from the 12th century, induced by both external conditions (varying influences of secular and ecclesiastical authorities, technological changes, politics and demographics) and new ideas emerging among the elites or those working at universities. Brief summary of main stages of universities evolution has been presented in the Table 1.

Table 1 Trends in Changes in European Universities from the Middle Ages to the Present

| **Time Period** | **Description of the Main Trends in Changes in European Universities** |
| --- | --- |
| 12th century | Emerging organizations originating from associations of teachers and students forming in cities independently of monastic schools. A key facilitating factor was urbanization. |
| 13th century | The establishment and support of universities by the ruling authorities. |
| 14th century | Increased professionalization and secularization of society, leading to a growing demand for education. Enhanced employment opportunities through education resulted in an increase in the number of students. |
| 15th century | Rulers began to recognize the potential of an educated workforce and provided greater support for the education of an ever-increasing number of students. |
| 16th century | A saturation of the market with graduates led to rising unemployment among educated individuals. There emerged a perceived threat to aristocratic dominance from educated individuals originating from lower social strata. |
| 17th century | The aristocratization of education through the limitation of scholarships for poorer students and an increased emphasis on the socializing role of education. |
| 18th century | A heightened demand for education in new disciplines, fueled by technological advancements and changes in state organization. This period also saw the deconfessionalization of universities and their increased subordination to state authorities. |
| 19th century | The state-supported implementation of the university model as formulated by Kant and realized through the Humboldt model, with research becoming the dominant focus. |
| First quarter of the 20th century | The flourishing of the liberal university model, inspired by non-German concepts of academic freedom in teaching and research, led to the idea of *Lehr- und Lernfreiheit*. |
| Second quarter of the 20th century | The influence of socialist totalitarian regimes led to the subordination of universities to the state, with research increasingly commissioned by the state to support prevailing ideologies. |
| Third quarter of the 20th century | A post-war return to pre-war university ideals, though implemented under the new conditions of rapid technological development and the marketization of education. |
| Fourth quarter of the 20th century | The internationalization of universities, education, and science, supported by state and international regulations. |

Source: (Cwynar, 2005; De Ridder-Symoens, 2020; Kim, 2009; Leja, 2011; Szefler, 2024)

It’s worth noting that the stages of universities’ evolution described briefly in Table 1 show an increasing speed of modifications of concepts for the role of HEI, especially in the 20th century. What is not presented in this simplified form is the fact that a number of these changes were happening in parallel in different regions of the world. The most significant parallel development of universities is between the English-American private universities market and continental European universities, with public universities being impacted by governments. While for private universities, cooperation with business became quite natural and the range of it developed significantly at the same time, public universities in Europe were enhancing more the area of research and teaching that serves society. While these different concepts of what university should be existed together multiple globalisation processes led to the emergence of the concept of triple helix to describe modern economies where universities, businesses and governments cooperate in a mutually reinforcing system. Nevertheless, one of the most important objectives remains preparing the student for future independence. As Geitz and de Geus write “(...) an important goal of higher education is to support students to exercise control over their own learning and to help them develop skills and learn strategies to take the lead. It should aim to educate students in such a way that they become self-regulative learners, resulting in a lifelong, sustainable impact on their personal and professional development” (Geitz & de Geus, 2019, p. 2). This reality coexists with a high recognition of the academic culture which has roots in the medieval universities’ predecessors even from the 12th century. Some the most important manifestations of the academic culture is “ commitment to collegiality coupled with autonomy” and “emphasis on peer review and individual specialization” (Austin, 1990, p. 65). Topic of organisational culture is discussed in more depth in section 3.4.

Given the considerations outlined above, it can be noticed that from a management perspective, HEIs differ from traditional business organisations. They need to consider both business and government relations, but it’s also necessary to cooperate with other universities with which they compete. Overall environment of the university relations seems to be very complex. The most significant parties that HEIs’ managers need to consider are presented in Figure 1.



Figure 1 The University’s Relational Environment

Source: (Leja, 2019, p. 13; Szefler, 2024)

Despite numerous groups that need to be considered, another complexity from a management perspective is the high impact of prestige economy within the academic motivations mix (Blackmore & Kandiko, 2011, p. 400), which leads to a preference for prestige-maximisation over profit-maximisation (Tayar & Jack, 2013, p. 154). Also, universities provide a long-term “production” cycle, as either research or teaching results are not fully predictable, as they have a strong human factor. Because of it, any improvement activities will “require a ‘can-do’ attitude and a creative and flexible approach to defining goals and refining working practices” (Newby, 1999, p. 266).

The authors of this study propose to include a set of stakeholder management tools within quality management systems to support continuous improvement processes in the environment of higher education institutions. The role of stakeholders for HEIs will be discussed in a more detailed way in the following subsection.

## The Role of Stakeholders in Higher Education (JPSZ) [2-3]

In today’s rapidly changing economic and academic environment, the role of stakeholders has become increasingly vital to the governance, performance, and quality assurance of higher education institutions. These institutions are intricately woven into a complex ecosystem of relationships which are related to various obligations and expectations. In some cases, these expectations may become mutually incompatible. From the management of the HEI perspective, understanding at least the main groups that are crucial for shaping the quality of the institution’s services becomes almost mandatory. The importance of that is even stronger because of the specificity of higher education and scientific services, where various groups are shaping the quality, and at the same time, the other various groups are perceiving it and assessing. Moreover, the environment of these complex relations is not static. It evolves, expressing multiple social, economic and technological changes.

The most commonly recognised stakeholder groups of universities are students and overall university employees. They together form a community that can be perceived as a university. As the services of HEI are so much intangible, it could exist without any infrastructure, but cannot without students and teachers who are scientists. This understanding has its roots in the traditional model of the university as a place for sharing and acquiring scientific knowledge. It’s also important to emphasise that nowadays university employees are not only academics but also all administrative and supportive staff, who deliver a crucial contribution to the quality of the institutions’ overall services. Students, after graduation, become alumni, and then they gain the opportunity to verify their skills and competence in real life. This process may lead to a change in their perception of the quality of the university services. Good education and great skills bring value not only to former students but also to the businesses they contribute to. As such, another important stakeholder group are employers. In the scientific environment, any progress comes through creativity, critical inquiry, and peer verification. These processes cannot be fully effective without established cooperation with scientists from other institutions worldwide. From this perspective, other HEIs – even competitors – become stakeholders as potential partners in collaboration. Sometimes it comes in the form of bilateral cooperation or broader networks and consortia involving multiple institutions. Universities possess significant potential to have a great impact on society. That’s why, for most of their history, universities have been of great interest to authorities and policymakers. This attention may be an expression of the overall society’s interests, but sometimes, especially for public universities, it entails regulatory oversight aligned with the priorities of funders.

Within such a complex environment, the traditional quality assurance approach appears to be insufficient. Focusing solely on internal compliance and performance may lead to adhering to perfect internal procedures that are no longer relevant. It may also cause the emergence of a perception of reality which is far from facts. Therefore, applying principles of Total Quality Management appears to be appropriate. These are customer focus, fact-based management, human-oriented management and continuous improvement. These principles will be discussed in more detail in subsection 4.1. With regard to HEIs, it is challenging to determine a consistent definition of the customer, which often leads to issues with the application of the TQM systems and practices (cf. Owlia & Aspinwall, 1997, p. 529; Vijaya Sunder, 2016, p. 162). Although TQM has a proven track record of many successful applications in a wide range of businesses, there is very limited evidence of analogical in HEIs. There are several reasons identified in the literature on the topic, and one of them is the ambiguity surrounding the definition of customer. In the context of universities, it seems to be more natural to adopt the concept of stakeholders instead and apply insights from the stakeholder management theory in order to strengthen quality management processes of HEIs. One of the pioneers of that theoretical foundation is Robert Edward Freeman, who defined in 1984 the *Stakeholder Management Capability* (Zakhem, 2008). According to Freeman “an organization which understands its stakeholder map and the stakes of each group, which has organizational processes to take these groups and their stakes into account routinely as part of the standard operating procedures of the organization and which implements a set of transactions or bargains to balance the interests of these stakeholders to achieve the organization’s purpose, would be said to have high (or superior) stakeholders management capability” (Freeman, 2010). This approach is reflected in the normative quality system, based on the TQM foundations, related to managing educational institutions, which is the ISO 21001:2018 standard. One example is requirement 4.2 *Understanding the needs and expectations of interested* parties, which states that: “the organization shall determine: a) the interested parties that are relevant to the EOMS (Educational Organisation Management System); b) the relevant requirements of these interested parties” (ISO 21001, 2018). Much research shows that organisations which listen and adapt to their stakeholders’ feedback tend to increase their legitimacy, trust and relevance, which positively impact their business results (cf. Freeman et al., 2010; Kennon et al., 2009). This is achieved through the improving quality of the organisation’s services.

Given the above, for higher education institutions, it appears undeniable that continuous improvement of quality cannot occur without a high level of stakeholder management practices. As with modern quality management systems requirements and stakeholder management practices, the key responsibilities are within the leadership of the organisation. These are managers who shape the organisation’s quality culture that might support successful quality improvements for various stakeholders. More on this topic will be discussed in subsection 3.4. However, a good quality culture is the core of a healthy and successful organisation, the inherent part of any improvement is the effective feedback and measurement of improvements. For so complex services such as those offered by universities, measuring quality for their interested groups remains a significant challenge, as it is not easy to determine how well the organisation is satisfying the requirements of its stakeholders.

## Importance of Stakeholders Satisfaction (JPSZ) [2-3]

The concept of measuring satisfaction originates from the well-grounded research on organisational performance. In the field of service quality, customer satisfaction has become one of the primary measures. Many of these indicators are based on customers’ overall perception of how well the organisation serves them. According to research by Iacobucci et al. and Spreng and MacKoy, there is a correlation between service quality and customer satisfaction (cf. Iacobucci et al., 1995, pp. 280–281; Spreng & Mackoy, 1996, pp. 203–204). Furthermore, there are widely used measures like the Customer Satisfaction Index (CSI) and Net Promoter Score (NPS), which assess the overall customer satisfaction. These are applied as high-level indexes that can serve as a general overall trend indicator inspiring more detailed research on the quality level and enabling more consistent improvements design.

Perception of quality has a strong theoretical and practical background in the field of quality sciences. Several of the most recognised service quality models lead to the conclusion that consumers’ perception of quality is the central factor integrating many other detailed quality-related measures. One of the foundations for this idea is found in the work of Parasuraman, Zeithaml and Berry, who created the service quality model (SERVQUAL) which emphasises the meaning of measuring the gap between expected service and perceived service (cf. Parasuraman et al., 1985, p. 44; Stoma, 2012, p. 65). As a result of the popularity of SERVQUAL much research has been conducted and other parameters added in order to better understand different factors’ impact on the service quality and their mutual relations. One example of these enhanced service quality models is the integrated service quality model proposed by Gummesson, presented in the Figure 2.

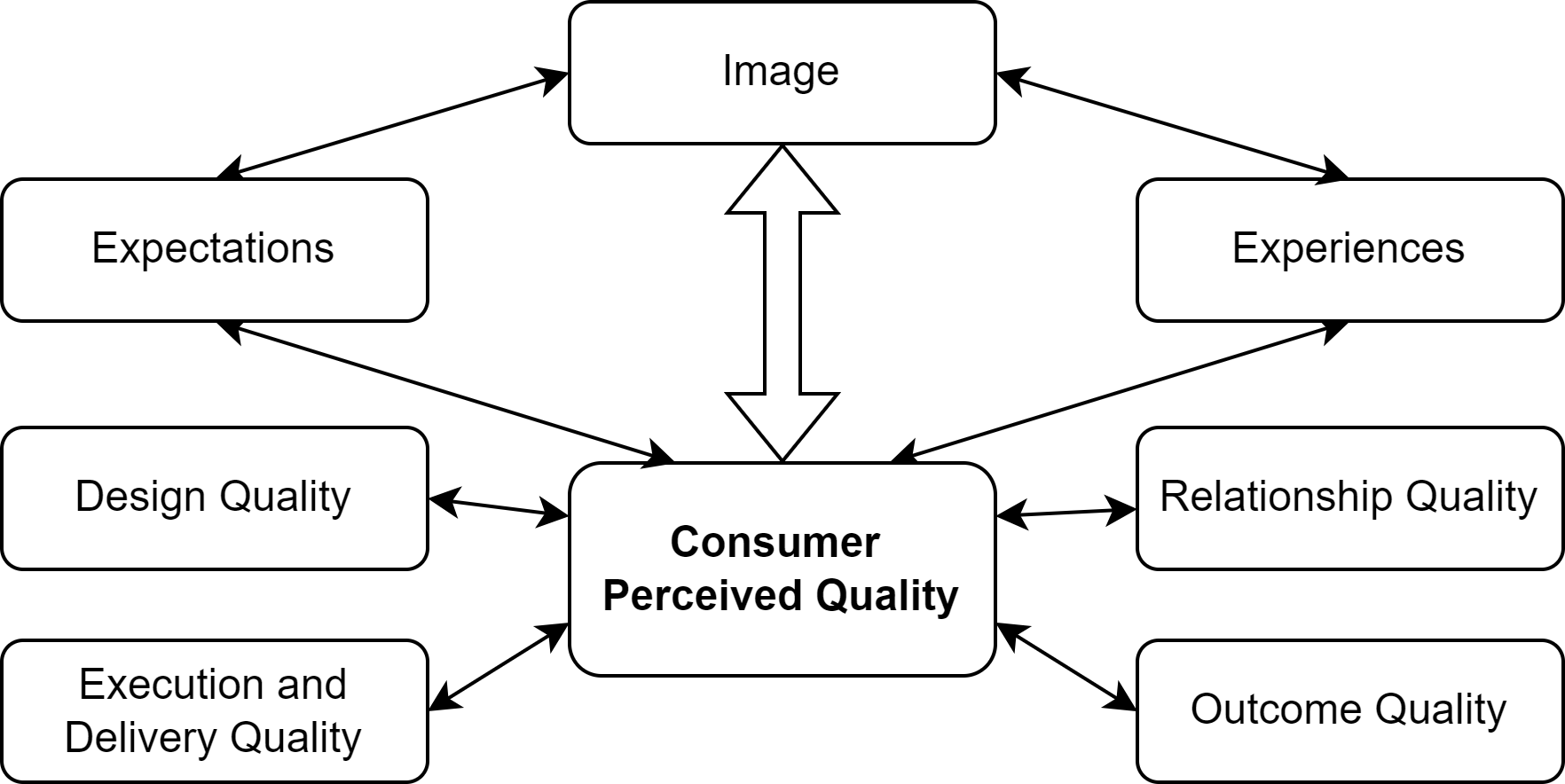


Figure 2 Integrated service quality model 4Q

Source: own compilation based on (Gummesson, 2008; Stoma, 2012, p. 53; Szefler, 2024)

Gummesson’s model of service quality emphasises the role of relationships, which, in a more complex service outcome receivers environment, can be linked to concepts developed in stakeholder management theory. This aspect appears to be especially important considering the conditions of the higher education institutions. The model proposed by Spreng and MacKoy (1996), presented in the Figure 3, adds important elements such as desires and expectations, which are essential when addressing the complexities of measuring HEIs’ stakeholder satisfaction and attempts to understand factors shaping its levels.

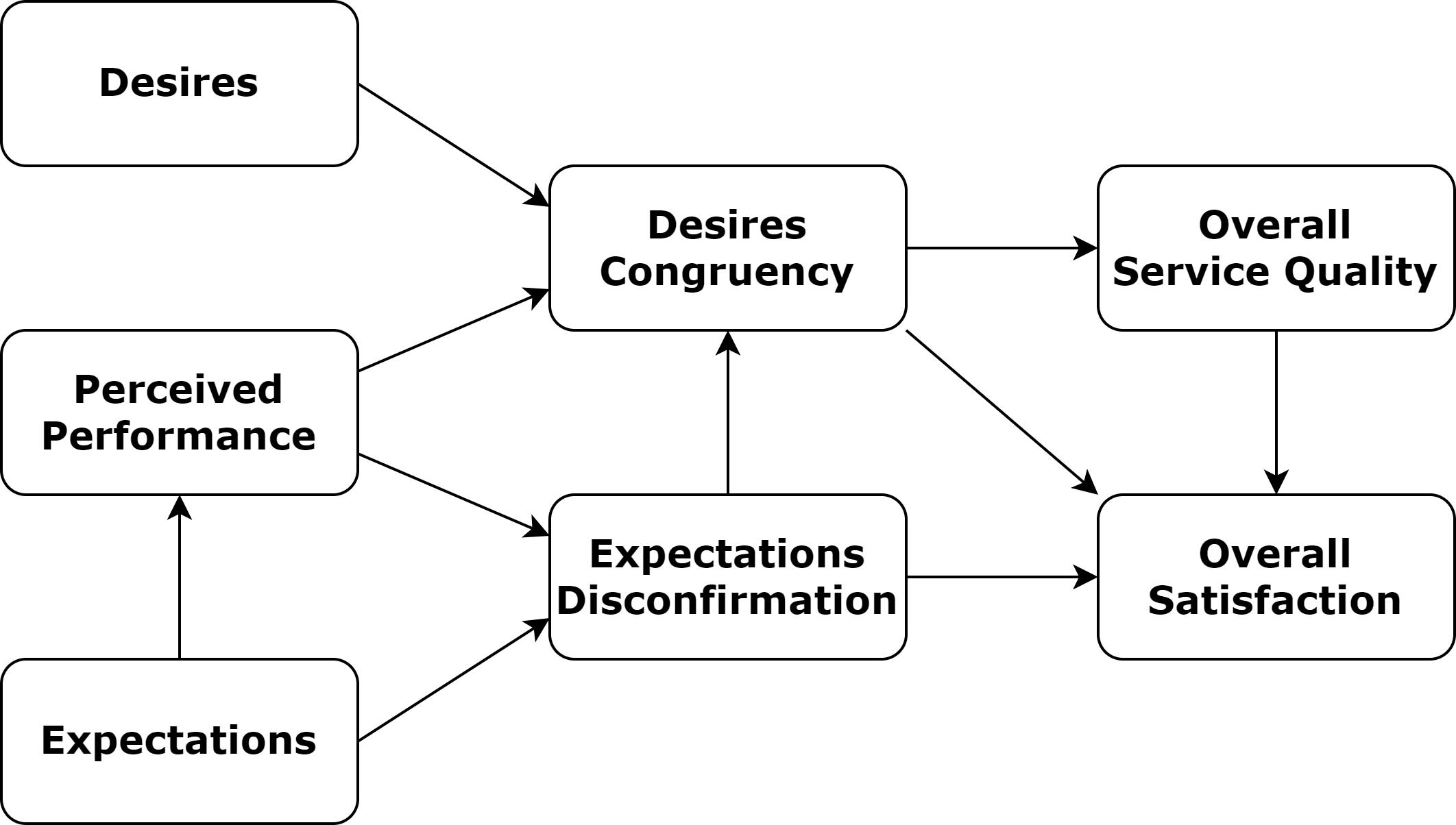


Figure 3 Satisfaction-Service Quality Model

Source: (Spreng & Mackoy, 1996, p. 203)

Similarly to customer satisfaction, comparable concepts can be applied to stakeholders’ satisfaction measures, allowing for the inclusion of voices from a much broader range of interested groups beyond just clients (users / consumers) of the organisation’s products. While this type of research might be more complex and challenging, the idea stems from the same roots and aims to develop an index that captures the overall impact of various factors shaping the organisation’s stakeholders’ satisfaction as the key aggregated indicator of the organisation’s performance. Another key reason why stakeholder satisfaction is especially relevant for universities is its impact on the perceived reputation (cf. Mendoza-Villafaina & López-Mosquera, 2024; Qazi et al., 2022). In the context of the HEI market, institutional reputation is a very important measure of both academic standing and scientific impact. This likely explains why the mechanisms of the prestige economy rules (see subsection 1.1) exert such an influence on the institutional behaviour. This reinforces the role of stakeholder satisfaction as a natural and essential performance measure for universities. As an aggregated high-level indicator, it needs to be used as a foundation for further research and organisational learning on the important factors driving the long-term stakeholder satisfaction. It is worth emphasising the importance of adopting a long-term perspective. Since HEIs “products” are the result of long-term processes, the only appropriate perspective for management and improvements efforts assessment is the long-term. This adds an additional layer of complexity and challenges to quality management, making the art of managing HEIs even more demanding.

## Overview of Quality Management in Higher Education (PGR)

## Objectives and Structure of the Monograph (PGR)

# Understanding Stakeholder Satisfaction in Higher Education [25-30]

Many classical management concepts focus on understanding the organisation and its behaviours to support management capabilities (cf. Hollander et al., 1973). This chapter will present a wide background showing how to better understand stakeholders of HEIs and their satisfaction. This will constitute the fundamentals for the successful implementation of the stakeholder satisfaction-driven quality management processes. As a first step, the authors will propose a definition of higher education stakeholders that will be put in a historical context compliant with stakeholder management and quality management theories. The next step will be the presentation of the multiple research studies on different possible stakeholder groups for HEIs, with the theoretical suggestions for the most important of them. After that, the focus of this work will be put on ways to determine expectations and needs of those key stakeholder groups and methods of measuring their satisfaction in the context of wider research on relations between satisfaction indexes and other stakeholders’ related measures.

## Definition of Stakeholders in Higher Education (JPSZ) [7-8]

Universities typically precede entry into the workforce, imparting advanced knowledge and skills to many individuals (cf. Al-Turki et al., 2008, p. 215; Czarnik & Turek, 2014, p. 31) but their role is much more significant as their service quality impacts numerous social groups and underpins a modern economy (Leja, 2003, p. 5). Since higher education services’ are highly intangible and dependent on cooperation between many groups and their “perceived quality is a consequence of consumer satisfaction” (Athiyaman, 1997, p. 538) we should consider multiple consumers (or recipients) to assess HEIs’ quality. These recipients are often also vital participants of the key processes who both enable and benefit from university activities. It means these groups has some kind of interest held within university services’ outcomes. That’s why we call them **stakeholders** or interested parties. To clarify who these stakeholders are or may be, we must examine the evolution of the stakeholder concept and its various definitions. This precision is essential for operationalising “university stakeholders” meaning for the perspective of quality management.

However, the term “stakeholder” first appeared in the early eighteenth century to denote “a person who holds a stake or stakes in a bet” (Ramirez, 1999, p. 101), within management sciences it recognised since “1963 when researchers in an internal memorandum at the Stanford Research Institute (SRI)” (Turkulainen et al., 2015, p. 7) defined stakeholders as “those groups on which the organisation is dependent for its continued survival” (Mitchell et al., 1997, p. 856). The pioneer works on the stakeholder management has been done by R. Edward Freeman in 1983 and 1984 (cf. Freeman & McVea, 2001). Freeman and other stakeholder theory researchers trace the historical roots of stakeholder thinking to Adam Smith – 18th century – and to Berle and Means as well as Chester Barnard – a 1st half of 20th century (Andriof & Waddock, 2017; Freeman, 2010, p. 32). Freeman’s original topology included “shareholders, employees, customers, suppliers, lenders and the community” (Freeman, 2010, p. 32).

There are four main research streams influencing contemporary stakeholder theory in management. These are corporate planning, systems theory, corporate social responsibility and organisational theory (Freeman & McVea, 2001). The summary of influence of these streams on the stakeholder concept’s the evolution is presented in Table 2.

Table 2 Evolution of the Stakeholder Concept – Influence of Various Research Domains

| **Research Domain** | **Influences on the Definition of “Stakeholder”** |
| --- | --- |
| Corporate  planning | The firm plans with regard to its specific resources and environment, so both historical data and forecasts become essential planning inputs. Satisfaction metrics begin to emerge for those groups without whose support the firm cannot survive, although analyses of these groups’ potential behaviours are carried out only at a very general level. The role of stakeholders’ interests (benefits) in corporate development is recognised. |
| Systems theory | The firm is viewed as a discrete system interacting with its external environment. C. W. Churchman: “A social system should serve its clients,” and in a corporate context these clients include employees, shareholders and other interested societal groups.  R. L. Ackoff: “Objectivity is a social result of interaction within a large group of people,” and collective perceptions of what constitutes objective truth influence the organisation. He therefore advocates interactive planning. |
| CSR  (coroporate  social  responsibility) | Stakeholder analysis frames these groups as potential constraints on the firm. CSR is often portrayed as a “luxury add‑on” for wealthy companies—a form of insurance against losses rather than a core strategic contribution.  In 1970, M. Friedman argued that social‑benefit actions can yield long‑term payoffs.  H. Mintzberg’s 1980s research found a positive correlation between CSR activities and higher stock valuations.  In the 1980s, W. C. Frederick introduced the transition from CSR1 (Corporate Social Responsibility) to CSR2 (Corporate Social Responsiveness).  P. F. Drucker noted that motivations for CSR vary, citing examples of philanthropists such as A. Carnegie and J. Rosenwald. |
| Theory  of organization | P. Selznick defined an organisation as “the arrangement of personnel to support goal achievement through the allocation of functions and responsibilities,” embedded within an environment of inter-acting groups.  He described the tensions between owners and various constituencies seeking to influence organisational action. |
| Motivation  theories | Theory X: Personnel seek to participate in decision making and assume responsibility.  Theory Y: “Lifetime employment” systems create conditions for complex, specialised production. |
| Political theories | Fiduciary Responsibility Principle: Managers owe duties not only to owners (shareholders) but also to other stakeholder groups and to society at large. |

Source: authors’ synthesis based on Andriof & Waddock (2017); Atherton et al. (2011); Drucker (1984); Freeman (2010); Friedman (1970); Jackson (1982); Keremidchiev (2021); Mintzberg (1983); Selznick (1948); Zucker (1987) from Szefler (2024)(Andriof & Waddock, 2017; Atherton et al., 2011; Drucker, 1984; Freeman, 2010; Friedman, 1970; Jackson, 1982; Keremidchiev, 2021; Mintzberg, 1983; Selznick, 1948; Szefler, 2024; Zucker, 1987)

Contemporary literature describes numerous stakeholder definitions, each emphasising different relational dimensions. Awareness of these relationships is important as since the second half of 20th century, management research have highlighted the significance of a firm’s external environment for its development. The substantial part of it are reciprocal relationships between various stakeholder groups and the enterprise. S. Miles’s comprehensive review distilled four primary classes of stakeholder definitions. Most existing definitions can be mapped—either to one class or to a combination—among these four:

* **Claimant:** Individuals or groups who hold a claim on the organisation and pursue it, yet lack the power to guarantee managerial recognition of that claim.
* **Recipient:** Individuals or groups who are passive recipients of the organisation’s outputs.
* **Influencer:** Individuals or groups capable of affecting organisational actions and actively pursuing that influence.
* **Collaborator:** Individuals or groups who cooperate with the organisation without seeking to influence it (Miles, 2017).

The development and variety of stakeholder definitions are presented in the Table x among selected definitions in chronological order with assignment to classes identified by S. Miles.

Table 3 Selected Definitions of “Stakeholders” in Management Literature (Chronological Order); assigned to Definition Classes per S. Miles [C = Claimant, R = Recipient, I = Influencer, Co = Collabolator]

| Author  (year) | Class  [C, R, I, Co][[1]](#footnote-1) | Definition |
| --- | --- | --- |
| SRI (1963) | I-Co | Groups without whose support the organisation will cease to exist. |
| Rhenman (1964) | C-R | An individual or group that has some interest (*Interessent*) in the organisation—one of the earliest terms, reflecting the notion of “interest”. |
| Freeman (1984) | I-R | All persons and groups influenced by the organisation or who can influence the achievement of its objectives. |
| Freeman (1984) | I-R | Anything that influences the organisation or is influenced by it. |
| Carroll  (1989) | C | Individuals or groups with whom the organisation interacts and who have a “stake” or legitimate interest in the firm – also described as a “claim,” “interest,” or “right.” |
| Hill and Jones (1992) | C-Co | Entities that have a legitimate claim on the organisation—established through an exchange relationship. |
| Nutt andBackhoff (1992) | I-R | All parties that will be affected by or will affect the organisation’s strategy. |
| Carson (1993) | R | Those significantly affected (influenced) by the organisation’s actions. |
| Clarkson  (1994) | I | An invested stakeholder: someone who has some control over the organisation’s activities. |
| Clarkson  (1994) | Co-R | Those who bear some form of risk as a result of having invested valuable human or financial capital in the organisation. |
| Freeman  (1994) | Co | Participants in the human process of joint value creation. |
| Clarkson (1994) | R | Those exposed to risk as a result of the organisation’s activities. |
| Bryson (1995) | C-R | Any group or organisation that can demand attention, resources or outputs from the focal organisation—or that can be affected by its results. |
| Clarkson (1995) | I-C-Co-R | Primary stakeholders: Those without whose ongoing involvement the organisation cannot survive as an economic entity.  Secondary stakeholders: Those who influence or are influenced by the organisation but who do not engage in transactions with it and whose absence would not threaten its survival—yet who may still cause significant harm. |
| Donaldson  and Preston (1995) | I-C-Co-R | Persons or groups with legitimate interests in the procedural and/or substantive aspects of corporate activity—identified via their investments in the organisation, regardless of whether the organisation reciprocates functional interests. |
| Starik (1995) | I-C-Co-R | Any naturally occurring entity. |
| Jones  (1995) | I-C | An organisation is characterised by relationships with many groups and individuals (“stakeholders”), each of which has the power to affect or share in the firm’s outcomes. |
| Murphy et al. (1997) | I-C-Co | Stakeholder groups that have a vital stake (interest) in the firm’s activities – without their sanction and support, the business would cease to exist. |
| Nuti  (1997) | C-Co-R | Holders of legitimate stakes or interests in the organisation’s activities, either directly through market transactions or indirectly via exposure to external effects. |
| Clarkson (1998) | C-R | Individuals or entities that have a stake, something to gain or lose, from the organisation’s actions. |
| Eden and Ackermann (1998) | C-Co | People or small groups with the power and authority to respond, negotiate and shape the organisation’s strategic future. |
| Burrows J. (1999) | C | Persons or groups who believe the university (organisation) has an obligation to them and who act accordingly.  In higher education contexts this is often expressed as a “stakeholder community”. |
| Post et al. (2002) | R-I-Co | Individuals and entities that voluntarily or involuntarily contribute to the organisation’s capacity to create wealth and undertake activities, thus becoming potential beneficiaries and/or risk bearers. |
| Heugens and  van  Oosterhout (2002) | C-R-I-Co | Contractual obligations, because they: - are based on some form of mutual agreement,  - aim to achieve mutual benefits or prevent harm,  - comprise a set of mutually recognised future rights and duties, either implied or specified in the contract terms. |
| Johnson  and Scholes (2002) | R-I | Persons or groups that the organisation depends on to achieve its own objectives, and upon whom the organisation depends in return. |
| Phillips et al. (2003) | I | Those who can help or hinder the organisation in achieving its objectives. |
| Phillips (2003) | C | Those to whom the organisation has moral obligations. |
| Lea (2004) | R | Those directly affected (influenced) by the organisation’s actions. |
| Bourne (2005) | C-R-I-Co | Persons or groups that have an interest or some form of rights or ownership in the project (organisation), who may contribute knowledge or support, or who may influence or be influenced by the endeavour. |
| Lamberg et al. (2008) | C-R-I | Based on explicit or presumed agreements about mutually recognised rights and duties, aimed at achieving mutual benefits or preventing harm. |
| Fassin (2009) | C-I | A stakeholder is anyone with a stake in the organisation analogous to a shareholder’s stake. |
| ISO 26000:2010 | C-R-I | Individuals or groups interested in the organisation’s decisions or activities. |
| Eskerod and Huemann (2013) | R | Interested in (having a stake in) or constrained by the organisation. |

Source: author’s synthesis based on Bryson (2004), Donaldson & Preston (1995, p. 67), Eskerod et al. (2015), Freeman & McVea (2001), Jastrzębska (2016), Leja (2011), McGrath & Whitty (2017), Miles (2017), Neave (2002, p. 20), Szymaniec-Mlicka (2016, p. 310) and Szefler (2024). (Bryson, 2004; Donaldson & Preston, 1995; Eskerod et al., 2015; Freeman & McVea, 2001; Jastrzębska, 2016; Leja, 2011; McGrath & Whitty, 2017; Miles, 2017; Neave, 2002; Szefler, 2024; Szymaniec-Mlicka, 2016)

Most of the definitions in Table 3, directly or indirectly, recognise both individuals and groups as stakeholders. These definitions have been formulated by the authors of this work so as to emphasise their generality. In other words, wherever the original author referred to a “company” or “enterprise,” we have captured the essence of stakeholder via the broader term “organisation.” A historical review of these definitions shows that the major phase of their development occurred in the late twentieth century, when highly elaborated, wide‑spectrum definitions emerged (e.g. Clarkson; Donaldson & Preston). The diversity and breadth of these definitions is striking: some focus narrowly on a single stakeholder dimension, while others are so expansive as to be difficult to apply in practice (e.g. Starik). Classifying definitions according to Miles’s schema aids in identifying which aspects each one emphasises. Differences in how stakeholders are defined reflect underlying theoretical divergences regarding their role in management. The principal types of stakeholder theory are summarised in Table X.

Table 4 Types of Stakeholder Theories

| **Type  of theory** | **Description** |
| --- | --- |
| 1. Descriptive  (empirical) | Theories describing certain empirical behaviours of companies and/or managers (managerialism, organizational psychology/sociology). They refer only to the behaviour of managers and organizations (organisation theory, decision theory). |
| 2. Instrumental | Theories indicating that specific outcomes are more likely to be achieved if companies or managers act in certain ways. Analyses of competitive behaviours referencing relationships, transactions, and relational contracts (social network theories, transaction cost theory). |
| 3. Normative | Theories establishing certain norms, indicating that companies or managers should act in a specific way. Analyses may concern: system-oriented principles (e.g., utilitarianism, libertarianism, social contract theories), organization-oriented principles (e.g., principal-agent theory), and ethical system-oriented principles (social contract and categorical imperative theories). |
| 4. Managerial | Theories defining the area of stakeholder management. Not only descriptions of existing situations or causal predictions, but also recommendations regarding attitudes, structures, and practices. The key element is simultaneously addressing the interests of all significant stake-holders, both in shaping organizational structures and policies as well as in making specific decisions. This requirement applies to everyone influencing organizational policy, not just managers – also shareholders, government representatives, etc. Managers are not the only ones entitled to control and manage the organization (possibility of empowering teams). This stakeholder-focused awareness does not solve the issue of long-term stakeholder identification or assessing their relevance to the organization. These theories emphasize that not all stakeholders (regardless of how they are identified) should be equally involved in all processes and decisions. |
| 5. Metaphorical (narrative) | Metaphorical (narrative) theories that use metaphors to describe how stakeholders create and exchange value. The unit of analysis is participants in organizational processes. This approach tends to focus on stories rather than theoretical constructions. |

Source: Own elaboration based on Donaldson and Preston, 1995; Marcinkowska, 2011; Nita, 2016 from Szefler, 2024 (Donaldson & Preston, 1995; Marcinkowska, 2011; Nita, 2016; Szefler, 2024)

Just as defining the client is crucial for quality management in general, recognizing key stakeholder groups is essential for quality management at a university. Due to the practical implications and conclusions offered for managing quality at universities the authors of this work aligns most closely with managerial theories. Considering the specific nature of universities and the context of quality management, stakeholders can be defined as:

**individuals or groups interested in the high quality of a university’s outcomes significant from the perspective of organizational management”.**

This definition allows for the recognition of many groups as potential stakeholders, depending on their relationship with the university. This includes not only those who influence the university or make claims on it, but also those who receive something from it. The second part related to the significance from the management perspective emphasizes the need for those managing the organization to continuously analyze the full spectrum of potential stakeholders in order to identify those that are most important for managerial decision-making.

In this context, it's worth examining the key factors influencing stakeholder management capability (Freeman, 2010; Zakhem, 2008). According to Freeman, stakeholder management capability is expressed through the ability to apply three stages of stakeholder analysis and then implement the conclusions. These stages are defined as:

1. Identification and understanding of who the organization’s stakeholders are and what are their perceived stakes.
2. Identification and understanding of organizational processes used to either implicitly or explicitly manage the organisation’s relationships with its stakeholders, and whether these processes “fit” with the rational “stakeholder map of the organisation.
3. Identification and understanding of transactions or bargains among organization and its stakeholders and deduce whether these negotiation “fir” with the stakeholder map and the organisational processes for stakeholders (Freeman, 2010, p. 53).

According to Freeman, effective implementation of the conclusions from these analyses results in organisations with high stakeholder management capability that:

1. Design and implement communication processes with multiple stakeholders;
2. Openly negotiate with stakeholders on key issues and strive for voluntary win-win agreements;
3. Generalize the marketing approach to serve many stakeholders—particularly investing significantly (including attention) in understanding stakeholder needs, using, for instance, marketing research tools and techniques to segment and understand the multidimensional nature of stakeholder groups;
4. Involve boundary spanners (opinion leaders) in strategy formulation;
5. Are proactive—anticipate stakeholder concerns and try to influence the stakeholder environment;
6. Allocate resources in ways consistent with stakeholder concerns;
7. “Think” in terms of serving stakeholders (cf. Freeman, 2010; Zakhem, 2008) (cf. Freeman, 2010; Zakhem, 2008).

To successfully develop organisational stakeholder management capabilities there are several tool helpful for mapping stakeholders. Some of underlying concepts for them has been created within research filed of social responsibility. Very important classification of stakeholders, created by Mitchell et al., identifies seven types of stakeholder groups based on three core characteristics: **power**, **legitimacy**, and **urgency** (Mitchell et al., 1997):

* **Power** refers to a stakeholder’s ability to effectively influence the institution’s actions in line with their expectations.
* **Legitimacy** refers to relationships with the institution that result in legal, customary, or moral rights or obligations.
* **Urgency** refers to how quickly institutional leadership responds to stakeholder needs, especially when: (1) the relationship or demand is time-sensitive, and (2) it is important or critical to the stakeholder.

Based on these characteristics, Mitchell et al. define the following stakeholder groups:

1. **Dormant** – has power only
2. **Discretionary** – has legitimacy only
3. **Demanding** – has urgency only
4. **Dominant** – has power and legitimacy
5. **Dependent** – has legitimacy and urgency
6. **Dangerous** – has power and urgency
7. **Definitive** – has all three: power, legitimacy, and urgency
8. **Insignificant** (org. non-stakeholder)– lacks power, legitimacy, and urgency (Mitchell et al., 1997)

While Mitchell et al. propose excluding those who lack all three attributes from being considered stakeholders, based on earlier theoretical analyses, such groups should rather be labelled as *insignificant stakeholders* from the perspective of management—not *non-stakeholders*. Other classes of stakeholders within this classification are named in the way that seem to provides some guidance for managing relations with them.

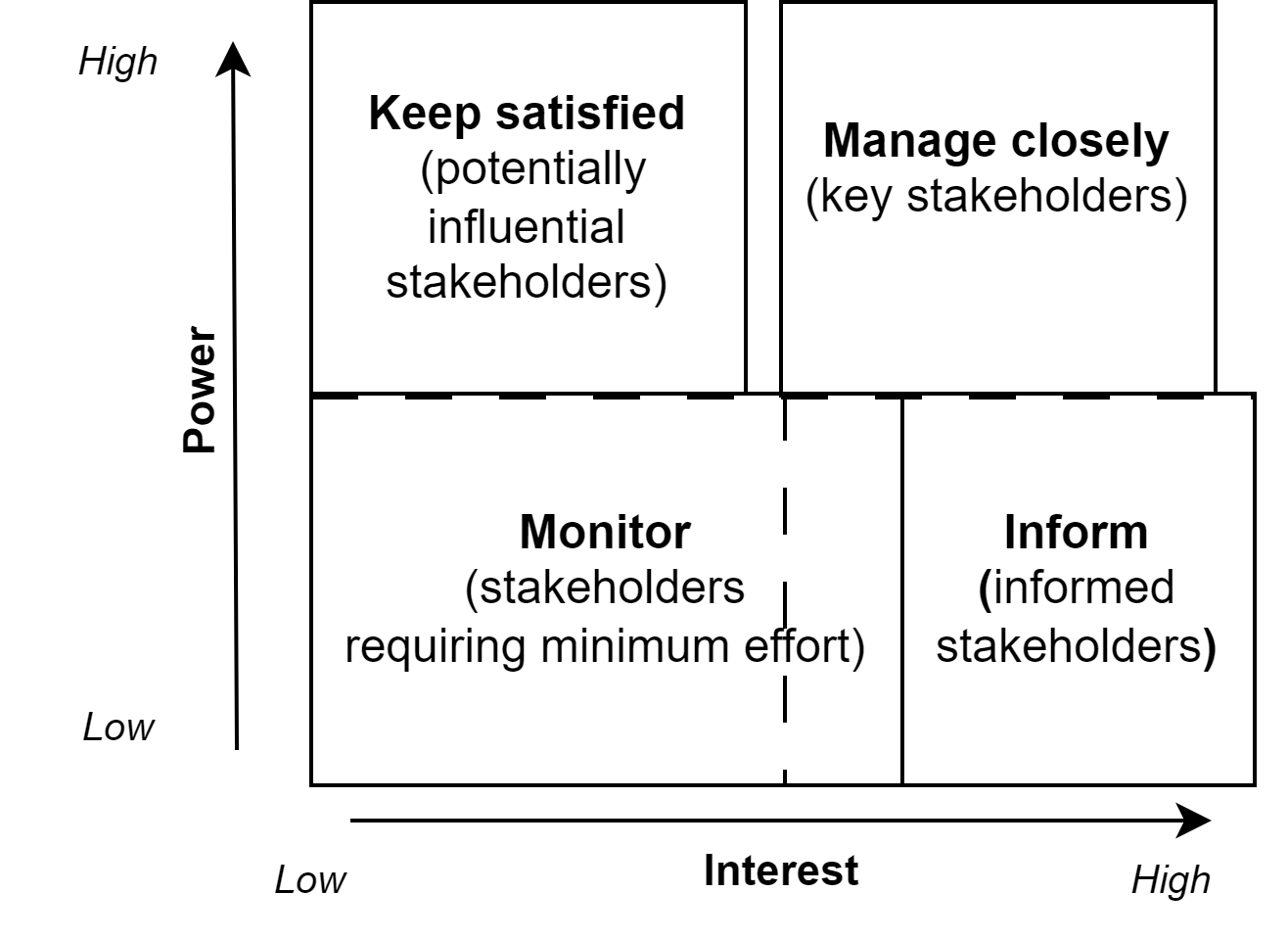


Figure 4 Strategic Directions Based on Stakeholder Power and Interest

Source: Al-Khafaji et al., 2009, p 163 (Al‐Khafaji et al., 2009, p. 163)

However, this is one of the most commonly known classifications there is wide research on stakeholders which results in many other approaches to how stakeholder groups could be mapped. Some of these provide even clear directions for management. In the Figure 4 has been presented one example of such mapping approach. In context of universities the process of managing stakeholder relationships in universities can follow three key stages based on previous analyses:

1. **Creating and Developing Stakeholder Relationship Strategies.** Based on identifying stakeholders within academic, research, business, and societal pillars.
2. **Directing and Managing Stakeholder Relationship Strategies.** Formulating actions for communication and engagement to reflect stakeholder interests.
3. **Monitoring and Controlling Strategy Execution.** Tracking and orchestrating activities aligned with academic, research, business, and social pillars (Fleaca et al., 2017, p. 937).

As we can see the starting point is the identification of stakeholders. In context of universities it is really important as every HEI has its particular circumstances that may affect the position of different stakeholders groups in their stakeholder map. Nevertheless the starting point for the analysis should be the identification of wide range of possible stakeholders in general that will help to identify those groups that are important for the particular institution. Research on possible stakeholders groups for HEIs is discussed in the next subchapter.

## Key Stakeholder Groups for HEI (JPSZ) [7-8]

After discussing various definitions and characteristics of stakeholders (see Table 3) that allow for classifying certain groups by classes or types, it is worth analysing what specific examples of groups are identified in the subject literature as stakeholders of HEIs. A particularly relevant reference in this context is the study by R. Quezada (2011), who, based on selected classical (1984–2001) and extended (2002–2006) stakeholder typologies, developed a list later used in research aimed at identifying specific stakeholder groups for selected Spanish universities. This list includes the following groups:

1. Employees
2. Clients, consumers, or users
3. Shareholders, owners
4. National or regional government
5. Suppliers and distributors
6. Local community
7. Trade unions
8. Creditors or investors
9. Non-profit organizations
10. Non-governmental organizations
11. Regulatory bodies, public administration
12. Business partners
13. Competitors
14. Media
15. Management, board
16. Natural environment
17. Political parties
18. Future generations
19. Professional associations
20. Customer associations (Quezada, 2011)

Based on a broader literature review, it has been found that although this list is already quite long, it is far from describing all potential stakeholders for HEIs. It is also noticeable that the list does not reflect the specific characteristics of universities, despite having been used in research conducted for this type of organization. The category "Clients, consumers, or users" in particular draws attention, as in the context of a university it is not entirely clear which specific groups this category encompasses. Many works in the literature also propose various forms of stakeholder group categorization for higher education institutions. In the Table 5 is presented an example of a set of stakeholder groups along with assigned sample stakeholder categories. This is much more comprehensive list, identified based on literature, taking into account the specific nature of universities.

Table 5 Selected examples of university stakeholders and categories to which they may be assigned

| **No.** | **Stakeholders** | **Categories** |
| --- | --- | --- |
| 1 | Alumni (former students) | Individual donors, suppliers |
| 2 | Regulatory agencies | Government regulators |
| 3 | Employment agencies | “Clients” (recipients of educational service outcomes) |
| 4 | Analysts | Financial intermediaries |
| 5 | Banks (funding providers) | Financial intermediaries |
| 6 | Technology transfer offices | Knowledge codifiers |
| 7 | Patent office | Knowledge codifiers |
| 8 | Providers of products and services | Suppliers |
| 9 | Food suppliers | Suppliers |
| 10 | Directors | Individual donors |
| 11 | Directors (chancellors) | Management |
| 12 | Deans (and associate deans) | Management |
| 13 | Insurance companies | Suppliers |
| 14 | Foundations | Group or organizational donors; non-governmental regulators; collaborations |
| 15 | Venture capital funds | Knowledge transfer supporters |
| 16 | Business incubators | Knowledge transfer supporters |
| 17 | Other universities and institutes | Suppliers; collaborations |
| 18 | Secondary education institutions | Suppliers |
| 19 | Supporting institutions | Government regulators |
| 20 | Distance higher education institutions | Potential competitors |
| 21 | Chambers of commerce | Communities |
| 22 | Administrative staff | Employees |
| 23 | Research staff | Knowledge providers; employees |
| 24 | Teaching staff | Knowledge providers; employees |
| 25 | Academic staff | Knowledge providers; employees |
| 26 | Accreditation commission | Government regulators |
| 27 | Consortia (partnerships) | Alliances and partnerships |
| 28 | Media | Opinion makers, communities |
| 29 | Fund managers | Financial intermediaries |
| 30 | Ministry of Higher Education and Science | Government regulators |
| 31 | New consortia (partnerships) | Potential competitors |
| 32 | Social security organizations | Government regulators |
| 33 | Support organizers | Co-managing entities |
| 34 | Accreditation bodies | Non-governmental regulators |
| 35 | Tax authorities | Government regulators |
| 36 | State funding agencies | Government regulators |
| 37 | Science or technology parks | Knowledge transfer supporters |
| 38 | Political parties | Government regulators; communities |
| 39 | Joint venture partners | “Clients” (recipients of research service outcomes) |
| 40 | Service partners (service recipients) | “Clients” (recipients of research service outcomes) |
| 41 | Service personnel | Employees |
| 42 | Employers (current and future) | “Clients” (recipients of educational service outcomes) |
| 43 | Employees | Employees |
| 44 | Public relations professionals | Suppliers |
| 45 | Company training programs (or for companies) | Substitute competition |
| 46 | Private higher education institutions | Direct competition |
| 47 | Utility companies | Suppliers |
| 48 | Industry | Group or organizational donors; knowledge supporters |
| 49 | Friends | Individual donors |
| 50 | Future students | “Clients” (recipients of educational service outcomes) |
| 51 | Public higher education institutions | Direct competition |
| 52 | Research councils | Group or organizational donors; government regulators |
| 53 | Boards of directors | Co-managing entities |
| 54 | Rectors (and vice-rectors) | Management |
| 55 | Parents | Individual donors |
| 56 | Families of students | “Clients” (recipients of educational service outcomes) |
| 57 | Government | Co-managing entities |
| 58 | Special interest groups | Communities |
| 59 | Society | Communities |
| 60 | Social funding entities | “Clients” (recipients of educational service outcomes) |
| 61 | Business community | Communities |
| 62 | Local community (including neighbourhoods) | Communities |
| 63 | Sponsors | Co-managing entities |
| 64 | Religious sponsors | Non-governmental regulators |
| 65 | Special purpose companies | Collaborations, “clients” (recipients of educational service outcomes) |
| 66 | Professional associations | Non-governmental regulators |
| 67 | Students | Knowledge providers; “clients” (recipients of educational service outcomes) |
| 68 | School systems | Communities |
| 69 | Patent offices | Government regulators |
| 70 | Social services | Communities |
| 71 | Central authorities | Co-managing entities; government regulators |
| 72 | Regional/local authorities | Co-managing entities; government regulators |
| 73 | Co-founders of research and educational services | Alliances and partnerships |
| 74 | Institution management board (university council or senate) | Co-managing entities |

Source: Own elaboration based on Avcı et al., 2015; Beerkens & Udam, 2017; Burrows, 1999; Gołata & Sojkin, 2020; Lewandowski & Zieliński, 2012; Mainardes et al., 2010; Maric, 2013; Radko, 2022; Slabá, 2015 from Szefler, 2024. (Avcı et al., 2015; Beerkens & Udam, 2017; Burrows, 1999; Gołata & Sojkin, 2020; Lewandowski & Zieliński, 2012; Mainardes et al., 2010; Maric, 2013; Radko, 2022; Slabá, 2015; Szefler, 2024)

This list may be valuable support for those who start analysis of stakeholders of the particular HEI providing a wide range of different possibilities to be verified if they fit to the context of analysed organisation. At the next step of the analysis it is necessary to assess the importance of those groups. In the literature related to HEIs’ management we can find a wide research related to different stakeholders. However, students and academics seem to be considered as the most important stakeholders. Analysis of how often different groups of stakeholders are researched in context of universities management has been presented in work of one of author’s and its results are presented in the Table 6.

Table 6 Summary of the frequency of references to university stakeholders in the abstracts of the analysed scientific articles

| **Stakeholder group** | **Frequency of Occurrence** |
| --- | --- |
| Students | 278 |
| Lecturers / Researchers | 246 |
| University Authorities | 167 |
| Society / Media / External Environment | 92 |
| Government Representatives (Regional and Central) | 92 |
| Employers / Entrepreneurs/Business Representatives | 63 |
| University Administrative Staff | 49 |
| Alumni | 40 |
| Parents / Guardians / Relatives of Students | 24 |
| Partners / Collaborations (Representatives) | 23 |
| University Suppliers | 5 |

Source: Szefler, 2024

Since each identified stakeholder group may exhibit different characteristics in their relationship with the university, it is worth determining these differences. Mitchell’s typology (see 2.1) can be helpful in this regard. Possible classification of each identified group into stakeholder types is presented in Table 7. This example may serve as support during the stakeholder analysis to consider some typical configurations of power, legitimacy and urgency related to those most typical HEIs’ stakeholders.

Table 7 Example classification of university stakeholders according to the Mitchell et al. typology

| **University Stakeholder Group** | **Type of Stakeholder (Mitchell et al. typology)** |
| --- | --- |
| Students | Dependent (5) or Demanding (3) |
| Alumni | Discretionary (2) or Dormant (1) |
| Parents/Guardians | Discretionary (2) or Dependent (5) |
| Academic and Research Staff | Dependent (5) or Definitive (7) |
| Local and Central Authorities | Dominant (4), Dangerous (6), or Definitive (7) |
| Administrative Staff | Dependent (5) or Definitive (7) |
| Employers | Discretionary (2), Dormant (1), or Dominant (4) |
| Society | Discretionary (2) or Non-Stakeholder (8) |
| Partnership Representatives | Dependent (5), Discretionary (2), or Insignificant (8) |
| Suppliers | Dependent (5), Dominant (4), Discretionary (2), or Insignificant (8) |

Source: own elaboration based on Lewandowski & Zieliński, 2012; Mainardes et al., 2012; Mitchell et al., 1997 from Szefler, 2024 (Lewandowski & Zieliński, 2012; Mainardes et al., 2012; Mitchell et al., 1997; Szefler, 2024)

As this summary shows, each stakeholder group influences the university differently. An important management consideration is that individuals may belong to multiple stakeholder groups, changing how they perceive service quality and satisfaction. For instance, many academics are also graduates. Additionally, given the variety of programmes offered, a university may have several categories of graduates. Some may become entrepreneurs immediately after completing their Bachelor’s degree and go on to employ other graduates of the same university. While finishing their Master’s degree, some may continue their scientific development through doctoral studies and simultaneously teach students at the same university. These represent only the most straightforward examples. In J. Szefler’s research on university stakeholders (cf. Szefler, 2024), qualitative data revealed much more complex relationships with universities. Especially individuals in advanced stages of their careers may develop multiple types of relationships with the university. Some may serve as local government representatives while also being parents of university students and alumni of the institution. Such complexities make HEIs’ stakeholder relationship management particularly challenging. Nevertheless, since many companies have made stakeholders central to strategy in recent decades (Finch et al., 2013), it seems obvious that universities should do the same. Referring to Frederick Laloux, who states: “We are witnessing the emergence of a new perspective – a stakeholder model – which emphasises that companies must be accountable not only to investors but also to customers, employees, suppliers, the local community, the environment, and others. Organisational leadership must balance the often conflicting needs of stakeholders so that, in the long term, everyone is satisfied” (Laloux, 2015, p. 267). Universities, given their stakeholder map complexity, have a great potential to become pioneers in effective stakeholder management. Overall, HEIs should become leaders, not merely followers, in this domain, as such models could be adapted by other organizations. One of the key factors contributing to the extreme complexity of HEIs’ stakeholders map is the variation in expectations and needs across different groups. Further elaboration on this topic will be presented in the next subchapter.

## Expectations and Needs of Stakeholder Groups (JPSZ) [6-7]

Stakeholders’ satisfaction is related to their expectations and needs. As management studies first focused on customers many quality related concepts that has been developed in context of customers can be analogically applied to stakeholders. In the area of quality management sciences there are several tools developed to enhancement of good understanding of customers needs. One of the most popular of them is the house of quality which helps in translating needs of customers, expressed in their own words, into technical parameters of products. In this context customer needs are perceived as descriptions “of the benefits they want the product or service to provide” (Hauser, 1993, p. 61). Similarly in the context of university stakeholders their needs should be understood as their own expressions of benefits they would like to experience as the result of HEI’s performance. Expression of stakeholders’ needs can be closely related to their expectations. According to Olkkonen (2015, p. 60) stakeholder expectations can be defined as a “positive or negative future-oriented assessments of an organization’s ability and willingness that form in the interplay between normative and predictive factors and can, ultimately, convey optimism, hope, cynicism, or pessimism toward the organization and its actions”. When trying to identify stakeholders’ needs and expectations it can be challenging to distinguish between them but it’s important to understand the difference between them even though various service quality models are describing the relation between the level of met expectations and perceived service quality or satisfaction (see Figure 2 and Figure 3).

When analysing university stakeholders many of their needs and expectations may be obvious to management. Then typically first stage of the analysis can be done without an extensive research. During quality improvements activities, as they should be a constat cycles, the feedback loop should be applied. So any the most obvious improvements shouldn’t be postponed due to the lack of extensive research on stakeholders’ needs. Analysing possible attributes of different HEI’s stakeholders several typical circumstances should be considered. The most intensively researched university stakeholders group are students. Members of this group are actively participating in the university's day-to-day functioning. This group includes undergraduate, graduate, doctoral, and postgraduate students. Sometimes, in comparisons where a university is likened to a manufacturing enterprise, the student is equated with raw material at the start of the production process (Pawlikowski, 2010, p. 14). This approach emphasizes that the output of the educational process, measured in absolute terms, may vary only due to differences in the candidates' predispositions and preparation. However, there are many other factor influencing educational service outcomes. A crucial one is motivating students to acquire knowledge and skills. This may be heavily supported or affected by faculty actions and the way how the overall teaching process is organised. Many research on HEIs’ quality focuses on the students’ perception of quality and many factors impacting it, including technical conditions and administrative support. For students, the dominant relational attribute seems to be urgency as in many situations the university leadership’s repose to their actions is relatively quick. This places students in the "demanding" stakeholder type. But in some situations they may be also considered to possess strong legitimacy which would change their categorisation to the “dependent” stakeholder type.

Upon graduation, former students transition into the alumni group. This role change can significantly affect their expectations regarding educational services and alter their perception of service quality and satisfaction. Graduates form a very diverse group, primarily determined by their career path post-graduation. While many university staff are alumni, most of graduates maintain limited contact with the university’s daily operations. Therefore, alumni typically possess only legitimacy. In some situations they might be considered to have some potential influence on the institution. This means they would be categorised as "discretionary" or “dormant” stakeholder type depending on the particular relation with the organisation.

Parents or guardians may have different expectations than both students and alumni. Despite being highly engaged in their wards' matters, they often have minimal direct influence on university operations. Still, they are significant in shaping public opinion about the university and can articulate expectations, such as effective communication of outcomes (cf. Wood & Su, 2019). Thus, in public universities, they may be classified as "discretionary" stakeholders, lacking urgency or power but possessing legitimacy. In some cases for private universities they may be considering as payers for their children’s education so their position would be stronger and for some groups they could be classified as “dominant” or “dependent” stakeholders.

As students, graduates and parents possess different configurations of features similar to some characteristics of customers the group of academic and research staff has some similarities to employees of traditional businesses at the universities these stakeholders also benefits from the higher quality of its performance. The most typical mechanism of benefits is related to the prestige economy. For instance the more prestigious HEI is the more opportunities for better scientific cooperations and development appears. Also when the university is able to attract more talented and motivated candidates academics may benefit from possibility to reach better outcomes of projects students are contributing to and higher reputation resulting from better recognition of students’ successes and achievements. On the other hand the quality of daily work of academics drives perceived quality for students, alumni and parents. Academic and research staff as being one of crucial groups forming a university as active participants in university life they possess the legitimacy and urgency. Depending on their level of power over the university they would be then classified as “dependent” or “definitive” stakeholders.

Another employees group who are also vital stakeholders are administrative staff. They ensure the smooth operation of non-teaching processes. With this role they are greatly affecting satisfaction among students, alumni, and academic staff. Additionally they enable regulatory compliance and public communication by co-designing and implementation of the most of institution’s processes. Thus, like academic staff, they may be classified as "dependent" or "definitive" stakeholders as we can identify them possessing both legitimacy, urgency and in some cases the power as well.

As one the most important processes of HEI, teaching, the overall level of skills and knowledge among students is increasing typically local businesses are heavily benefitting from the outcomes of the university processes. Employers represent a highly diverse group. They may include alumni, staff, government representatives, students, and their families or be entirely unrelated to a specific institution in any other way than giving a job to former university students. From their perspective, competencies of current or future employees are crucial in evaluating educational services. They may have very limited or even no influence on the university but some may cooperate with specific HEIs very closely, even impacting the shape of their programmes. Depending on their factual influence, employers may possess power and legitimacy, classifying them as "dormant", "discretionary", or "dominant" stakeholders.

As employers may benefit from the university services their business could become more successful. This is typically as well with the benefit to the local communities and comes with the interest of local authorities. So despite of the type of HEI representatives of government are important group of stakeholders. Central government authorities are especially important for public universities but also non-public ones are under a major impact of various regulations so for them this group is also very significant. Government representatives (central or local), via institutions they serve, they set operational rules and funding frameworks. These fundings are in many cases not only for public institutions but also through various grant programmes may be accessible for private HEIs as well. Depending on their level (e.g., ministry vs. regional office), these stakeholders may possess various attributes (power, legitimacy, urgency), and are often categorise as "dominant", "dangerous", or "definitive".

Modern university establish various partnerships as they are vital for their development. They include cooperation with other universities, research institutions, businesses, NGOs or other institutions. Considering these partnerships are establish on the basis of mutually beneficial cooperation they typically exhibit legitimacy, sometimes urgency, but rarely power. This result in categorising these stakeholders as "dependent" or "discretionary", though some relations may be so weak that the most relevant would be considering them as “insignificant” from the perspective of the overall institution. As many other organisations universities also have their suppliers. Despite the fact that the core processes of teaching and conducting research may be very slightly depend on the suppliers’ deliveries there may be areas that are highly dependent on some suppliers. One of examples may are IT-related products and services. As many universities implanted options of remote and hybrid modes for learning the dependency on IT systems grows significantly. Also there are scientific research areas that may require extensive technological resources and for those areas suppliers will become a very important stakeholders. Depending on particular suppliers relationship and negotiation position, they may fall under "dependent", "discretionary", "dominant," or even "insignificant" stakeholder categories, especially if they provide auxiliary services with minimal strategic importance.

HEIs operate within a broader social context. There are different groups of people who have varying degrees of personal interest in them. This includes media representatives, local communities, and the general public. These stakeholders often form opinions based on media and external communications. Their relationship with the university is likely marked by legitimacy only, placing them in the "discretionary" or "insignificant” categories of stakeholders.

As it can be notices different HEIs stakeholders groups varies also by the level of knowledge about universities daily operations, circumstances, possibilities and constraints. This impacts the level of variety of their expectations on university performance and their perceptions of its’ services quality. As discussed before one of well-grounded in quality management research ways to assess the level of universities’ quality is to measure the level of their stakeholders’ satisfaction. Further elaboration on this topic will be presented in the next subchapter.

## Methods for Measuring Stakeholder Satisfaction (JPSZ) [6-7]

Universities serve multiple stakeholder groups. Then any typical measures of performance, invented and verified in business organisations, are challenging to apply as a main or general indicator. As it has been discussed in previous chapters of this work there is no single stakeholder group of HEIs that fulfils all measures of the client of traditional business. Then, typical for quality management, customer centricity has to be applied to a set of stakeholder groups. Although there is a wide research focusing on the single groups of stakeholders, e.g. students, to determine the quality of services offered by HEI and to use these measures to track improvements. But, as this was presented already, for university management it is to narrow approach omitting many other important groups that are relevant to consider.

Prestige economy phenomenon relates not only explanation of behaviours of academics (see chapter 1). Typically for assessment of the HEIs’ performance its reputation is the important parameter. This approach is reflected in multiple rankings that are including measures related to reputation of the university as one of important components of the assessment. Some of the most recognised global rankings of universities consider reputation measures as nearly half of the overall score (see Table 8). One of the most popular global rankings, known as Shanghai Ranking, within all criterions refers to the reputation. Even categories related to publications in the most prestigious scientific journals and numerous citations are, in fact, reflecting the reputation. However in the analysis presented in Table 8 has been chosen only those categories that relate to institution’s staff or alumni winning the most prestigious scientific prizes.

Table 8 The share of prestige-related criteria in university rankings evaluation

| **Ranking Name (Year)** | **Share  of the Prestige Criterion** | **Description of the Component Criteria of Prestige** |
| --- | --- | --- |
| QS WUR (2026) | 45% | Academic Reputation: 30%  Employer Reputation: 15% |
| ARWU  Shanghai (2024) | 30% | Alumni of an institution winning Nobel Prizes and Fields Medals: 10%  Staff of an institution winning Nobel Prizes and Fields Medals: 20% |
| THE Times (2025) | 30% | Teaching reputation: 15%  Research reputation: 15% |
| Round  University Ranking (2025) | 18% | Online visibility: 8%  (replaced, used up to 2022, World teaching reputation)  Social media visibility: 8%  (replaced, used up to 2022, World research reputation)  New media impact: 2% (replaced, used up to 2022, Reputation outside region) |

Source: own analysis based on methodologies of Shanghai ranking 2024, QS World University Ranking 2026, Times Higher Education World University Rankings 2025, Round University Ranking 2025 (ARWU, 2024; QS Quacquarelli Symonds, 2025; RUR Round University Ranking, 2025; THE - Times Higher Education, 2024)

Rankings methodology analysis reveals also one important finding about reputation measurement. Performing such a research requires significant resources to ensure it’s reliability for a wide set of institutions. Therefore we can observe that some rankings methodologies are changing to replace reputation surveys with other sources of data that may related to the same phenomenon. Undoubtedly it has been inspired by the Webometrics ranking with the methodology basing only on the web-accessible data but resulted in very comparable outcomes of the ranking (cf. Szefler, 2024, p. 96) to other well recognised global university rankings. This approach allowed the authors of the Webometrics to publish a ranking twice a year which is also an unique feature of this ranking.

Another characteristic of the reputation measures is that they describe long-term trends. However, they seem to well reflect perception of the university performance, they typically do not respond in short-term to actions taken by the university management or any improvements within its processes. Another important factor is that most of stakeholders that can be surveyed to assess the HEIs reputation are not aware of the daily operation of the institution. This results in very loose connection between short-term actions and awareness of majority of respondents. Additionally it should be considered that well-known rankings published for many years also have an impact on the wide-spread opinions about universities’ reputation. So that currently it can be doubted if the reputation surveys results are reflecting “real” reputation or the ranking position from previous years. There are also other rankings that aim to measure results for students. For example Financial Times ranking of business schools is based on surveys among alumni to measure their income after graduation and income changes over 3 years after graduation (Cremonezi et al., 2024). As this approach may be widely accepted to rank business related HEIs and their programmes (e.g. Masters in Management, Masters in Finance, MBA), there are some locally recognized rankings that include as a part of their score the reference to the market results for alumni such as combination of their income and employment rate. A good example of that is the polish Perspektywy ranking which since the 2016 release includes in its methodology the reference to the Polish Graduate Tracking System results (Perspektywy, 2025). The weight of this measure depends on the type of the ranking (type of HEIs) and is varying in different years, but since the first inclusion to the ranking it is a significant part of overall score (ca. 15-20%). Its important to note that the idea of measuring the impact of the studies on graduates’ income and employment chances stems from the fact that typically higher education is the last step of education before employment (cf. Al-Turki et al., 2008, p. 215). However it’s typical situation nowadays, any measurement based on that assumption has to consider some impact of other patterns of students choices when resulted are analysed.

Considering these disadvantages of rankings still they are a very important source of feedback on the university performance, and as their tradition is currently longer than decades they play important role in shaping opinions on certain institution, especially among those who doesn’t have personal experiences with the particular HEI. On the other side of approaches to measurement that could be applied to universities is an adaptation of well known commercial market standard measures. One of the most popular due to its intuitiveness (van Doorn et al., 2013) is the Net Promoter Score (NPS). There are research revealing that measures of satisfaction and NPS are similarly efficient from the perspective of management (de Haan et al., 2015). Then for the educational organisations as HEIs are to consider voice from a wide range of stakeholders measure of satisfactions seem to be a very relevant one. This hypothesis may be confirmed by the guidance provided with the requirements of the ISO 21001:2018 standard, where the satisfaction of different stakeholder groups is mentioned 33 times (Szefler, 2024, p. 252). Satisfaction metric refers to a very subjective parameter of individual perceptions of quality by all study participants and contributors; on the other hand, this method of measurement allows for the elimination of the factor of erroneous assumptions about people's motivation to achieve a certain level of earnings or other so-called objective outcomes of education. The assumption underlying such a measurement concept is that everyone, when pursuing studies or contributing to the overall HEI’s processes, wants to be satisfied with the results received. In the context of universities, the metric developed based on this concept is the Stakeholder Satisfaction Index (SSI). This is an aggregated index built from measurements of satisfaction among selected stakeholder groups. Similarly to commercial companies’ customer satisfaction measures it’s based on the one main question: “All in all, how satisfied or unsatisfied are you with …” (de Haan et al., 2015, p. 4). The subject of this question has to be adjusted to the area of interest of the specific researched stakeholder group. For example students should be asked for their satisfaction with educational services received, but employee groups could be asked for their satisfaction with their work. The scale used for this measurement method typically is the 7-grade Likert scale: *1 = very unsatisfied, 7 = very satisfied* (de Haan et al., 2015, p. 4). Thus, in order to calculate its aggregated value, it is essential to conduct research within each of the selected groups and appropriately assign weights to the component results in order to reflect the significance of the influence of each group on the overall assessment. Various methods can be used to determine these weights, depending on the research objective. These may include both expert methods and methods based on conducting various studies to determine the strength of the mutual influence of the individual stakeholder groups and organizations (or groups of organizations) on each other.

The aggregated Stakeholder Satisfaction Index can be calculated using the formula:

**SSI = ∑ (uₐ × SSIₐ)** (1)

*where:*

* ***u*** *– the weight of the partial SSI   
  (unit: percent)*
* ***SSIₐ*** *– the value of the partial SSI   
  (unit: percent of the maximum score or points according to the chosen scale)*
* ***a*** *– the ordinal number of the stakeholder group* (Grudowski & Szefler, 2015)

For the simplest variant, assuming that the weights of the individual components of the SSI are equal, the formula for the simplified SSI (SSI(simpl)) is as follows:

**SSI(simpl) = (∑ (SSI(a…n))) / n**  (2)

*where:*

* ***a*** *– the ordinal number of the stakeholder group*
* ***n*** *– number of all stakeholder groups in the research*

However the main approach of the satisfaction level measurement is to use only one questions for the overall satisfaction is may be necessary to form some other satisfaction related questions that would refer to more detailed aspects of the perceived satisfaction. As the variety of groups stakeholder groups for universities is typically quite significant some of them could be asked for more than one areas of satisfaction. For such a situation even the partial SSI has to be calculated considering equal or non-equal weights of single questions relevant to one stakeholder group assessment. For this there should be considered following formula for calculating the partial SSI values:

**SSIₐ = (∑ (wᵢ × rᵢ)) / j** (3)

*where:*

* ***w*** *– the weight of an individual stakeholder satisfaction criterion   
  (unit: percent)*
* ***r*** *– the rating value for an individual stakeholder satisfaction criterion  
  (unit: percent of the maximum score or points according to the chosen scale)*
* ***a*** *– the ordinal number or name of the stakeholder group*
* ***i*** *– the number of evaluated criteria*
* ***j*** *– the number of evaluated criterions* (Grudowski & Szefler, 2015)

For calculating the rating value of one criterion there should be used the average score calculated for all answers received for the relevant question in the research tool. When using more then one satisfaction related questions it is proposed to use questionnaires with statements on various aspects of satisfaction. Then answers can be marked on the 7-grade Likert scale from *1 = strongly disagree to 7 = strongly agree*. This approach ensures consistency of the research tool and higher probability of receiving results with less mistakes within respondents’ answers.

Despite of calculation of the aggregate index determining the current overall stakeholders’ satisfaction the research should be conducted in the way that allows to analyse results in order to find some root causes of the current situation and identify some potential areas of improvement. Having already weights reflecting the importance of every stakeholder group for the HEI’s management analysis of results should also focus on the potential impact of any improvements on overall stakeholder satisfaction score. Prior to the quantitative research it is recommended to conduct interviews with several representants of the every relevant stakeholder group as a part of the qualitative research. Such a qualitative deep insight into the opinions on the stakeholders’ satisfaction and factor shaping it can lead to the better design of the questions in the quantitative research survey. Also at the later stage of the analysis of the quantitative research results the knowledge gained after the analysis of interviews may lead to better improvements ideas. Implementation of improvements should be the part of the ongoing development process of the organisation. The continuous improvement is one of the fundamental concepts of Quality Management. Wider elaboration on all foundations of the Quality Management will be presented in the following chapter.

# Foundations of Quality Management [40-60]

## The Concept of Quality (PGR)

Similarly to the entire public sector, the higher education system and institutions are expected to change and apply generally accepted principles and solutions that ensure progress in terms of effectiveness, efficiency, and a significant contribution to the state's development (Massy, 2003).

In the context of pro-quality transformation, universities' social rank may be their weakness and a source of inspiration for new solutions.

However, the main point is that these changes are made to uphold fundamental, traditional, and current values related to higher education, as one of the most critical resources in every country.

Attention to quality is quite natural in higher education. Quality has been the subject of interest for universities since their existence. However, in the second half of the 1980s, an assessment was made on the activities of higher education institutions (HEIs) that acquired public importance in relations with central and local authorities and society (Neave, 1988).

Many aspects have contributed to the growing interest in quality in universities. The most important of these was the adoption by most governments of policies that universalised higher education in place of the old system's elite. This phenomenon created a new situation, significantly changing the nature of the impact on individual institutions, academic staff, and students. These factors include the growing role of the private sector, replacing the public sector as the key employer of university graduates. In these conditions, universities had to start responding to the needs of a more heterogeneous private labour market. Traditionally, higher education institutions' centralised and bureaucratic management systems began to reveal their numerous weaknesses more clearly than before (Weisbrod et al., 2008). The dilemmas surrounding the relationship between productivity and quality raised in many higher education debates have become increasingly complex as expectations about universities come from different, often previously unnoticed, stakeholder groups. Furthermore, the level of trust in the relationship between higher education institutions, the state, and society plays a vital role in determining the characteristics of quality assessment systems.

This complexity has resulted in numerous definitions of quality related to university activities, from quality associated with academic excellence to quality understood as the ratio of "academic efficiency" to operating costs. I. Gvaramadze (2008) states that quality in higher education is a continuous process (sic!) related to values, internal processes, and efficiency. This author claims that quality in universities should be manifested in two contexts: transformation (the process of changing an individual) and improvement (the process of transforming an institution). At the same time, in the same study, the author notes that quality can be a set of values and practices common to the institutional community at various levels (institutional, faculty, subject, or programme). Therefore, it is challenging to consider this type of approach as a contribution to organising the issues discussed.

The difficulties in defining the quality category have led various authors to propose a more pragmatic approach to its understanding in higher education. Among others, these dilemmas were confirmed by a provocatively titled article by C. Ball (1985).

The authors of this monograph believe, similarly to D. Westerheijden et al. that the interpretation of the concept of quality depends on and belongs to the higher education stakeholders. For example, for representatives of central and local authorities, quality is understood in terms such as graduation rates or employability of graduates; for future employers, quality may be related to the competencies of graduates that are important for the organisations they represent. Quality becomes a multidimensional concept based on different views regarding universities and the quality of services they represent (Westerheijden et al., 2007). The multidimensionality of quality in higher education also results from various aspects related to implementing the contemporary mission of higher education.

In addition to the often-emphasised multidimensionality of the quality category in the context of the characteristic features of universities, another critical issue is the dynamics of quality perception, especially about educational services and hopes associated with progress in scientific research. The fundamental principle of total quality management (TQM), continuous improvement, should be considered for a wide range of new challenges in education, the economy, politics, and social phenomena (Ewell, 2010).

Based on a study of the world literature, L. Schindler and his coauthors indicated that considerations regarding the definition of quality in higher education focused on four main trends (Schindler et al., 2015):

1. purposeful linking the concept of quality with the mission of the university, mainly concerning compliance with the standards defined by relevant regulations and institutions enforcing them,
2. distinguishing - quality is associated with the uniqueness of the offer and value image of a given university,
3. transformational - emphasising the importance and effectiveness of university services in the context of influencing the development of students' potential and competencies,
4. responsibility and accountability - to identify and meet the needs, expectations, and requirements of the university's interested parties while ensuring optimal use of resources.

The latter trend is currently accepted in a social context. It is also consistent with the development trends in the public sector.

Although researchers around the world often take on the issue of defining quality in higher education, paradoxically, there needs to be a universal, formally adopted, and most importantly, universally accepted definition in this sector. For example, in the essential document for the EU's pro-quality policy concerning higher education systems, "Standards and Guidelines for Quality Assurance in European Higher Education" (ESG), the only (!) reference to the concept of quality should be considered the sentence: "Quality, although it is not easy to be defined, is mainly the result of the interaction between teachers, students, and the institutional learning environment" (Standards and Guidelines, 2015).

The lack of a clear definition of this fundamental concept in such an important document is a severe shortcoming, clearly noticeable in the case of documents concerning higher education reforms adopted by EU bodies and individual countries. Therefore, it is difficult to conclude that the recommendations presented in the ESG are consistent, even terminologically, not only with the basics of quality management, but also with the basic logic of the mentioned reforms. It is not only about the problem of freedom of interpretation of what quality is in universities, but mainly about the possibility of using a specific semantic convention that facilitates the understanding of many concepts, phenomena, and their effects related to this quality. For example, how can we understand the essence of quality assurance in universities as presented in ESG without defining quality?

Taking into account the various factors pertaining to the definition of quality, along with the distinctive characteristics of services within the public sector, the authors have articulated a definition of quality that is suitable for the context of university activities:

**Quality is defined as the extent to which the needs and expectations of stakeholders are met in relation to the relevant university processes and their results, including the use of resources within these processes, while taking into account both internal and external conditions.**

This definition of quality emphasises the following:

1. The relationship between quality and the level of meeting the needs and requirements of stakeholders, which may be formal (law regulations) and informal (individual expectations);
2. That when referring to quality in a university, in addition to the processes of providing educational services, research and activities related to relations with the external environment should be considered, as well as various types of auxiliary processes (e.g., administration, technical support, finance) and management (assigned to university management and bodies);
3. The critical role of university resources, especially the capital of competencies and attitudes of all groups of employees, including knowledge potential, both in the open and hidden dimensions;
4. The need to pay special attention to the impact of changing conditions of various natures on the functioning of universities; this is particularly important in the case of universities due to the high susceptibility of their management systems to the possibility of destabilisation and its adverse social effects.

The definition also opens up appropriate variants, depending on the group of university stakeholders (e.g., university employees), the categories of processes considered (e.g., education) and resources (e.g., knowledge capital), and the type of conditions considered (e.g., economic policy of local authorities). For example, considering the perception of quality by students, J. Gallifa and P. Batalle proposed the following definitions of the quality dimensions that constitute the SERVQUAL model (Gallifa&Batalle, 2010):

1. **tangible aspects** *-* attractive location of the university, cleanliness, aesthetics and spaciousness of the rooms, reliability, safety of laboratory equipment, neatness of staff,
2. **reliability** *-* completeness, timeliness of classes, availability of lesson plans, schedules, teaching materials, size of student groups conducive to the quality of education, library services, housing services, the structure of the curriculum consistent with substantive and methodological standards, an appropriate number of subjects to choose from,
3. **efficient response, flexibility** *-* speed and correctness of reaction to the changing needs and expectations of students,
4. **assurance** *-* professionalism, teaching abilities, practical experience of academic teachers, fairness of the assessment system, professionalism of administrative staff,
5. **empathy -** understanding and kindness of employees toward students, applying an individualised approach to students, readiness to respond positively to social expectations (volunteering), creating opportunities for students to participate in various additional activities (e.g., science clubs, sports activities, internships in enterprises).

Concerning the identification of gaps that enable the determination of the level of service quality in the SERVQUAL method, Hrnciar and Madzik schematically presented the educational process at the university, proposing a model based on seven gaps, adding two additional gaps concerning the original SERVQUAL model. Two further areas concerning the "classic" model (gaps 6 and 7) make it possible to fully relate the model to the PDCA cycle because the subject of the analysis is also measuring and improving the quality of education. In the presented system of seven gaps, university management indirectly and directly influences improvement activities in all areas (gaps) of quality definition. The authors mentioned define these gaps as follows (Hrnciar&Madzík, 2013):

1. **gap 1** concerns the summary of expectations of key stakeholders (students, employers) and the perception of educational requirements by university management,
   1. **gap 2** is the result of a comparison of management's perception of the requirements regarding the educational process and the effects of their translation into specified study programmes and the educational process,
   2. **gap 3** concerns the comparison of study programme specifications and the reality of the educational process carried out,
   3. **gap 4** is determined based on the assessment of communication with students before, during and after completion of education concerning the planned and implemented programme,
   4. **gap 5** concerns the comparison of the actual educational process and its results perceived by students/employers,
   5. **gap 6** is determined based on a comparison of the perception of education by key stakeholders and the university's internal measurements of educational outcomes; is the answer to the question of whether these internal measurement results are correctly interpreted,
   6. **gap 7** determines whether the results of crucial stakeholder satisfaction measurements translate into practical improvement activities aimed at the quality of education.

As N. Senthilkumar and A. Arulraj note, there are unresolved methodological problems regarding the use of the SERVQUAL scale in higher education institutions (Senthilkumar&Arulraj, 2011):

* 1. many dimensions of quality that have been identified in connection with university activities since they result from the description of individual cases are challenging to consider universal, e.g. in comparative research,
  2. similarly, in many research cases devoted to the education sector described in the literature, the indicated quality dimensions were not verified appropriately, consistent with the necessary methodological rigour (validity and reliability),
  3. the described research is not based on a sufficiently broad perception of the effects of actions expressed by representatives of various stakeholder groups,
  4. many studies lack the necessary size information about samples and methods used to analyse given techniques,
  5. many studies did not include steps related to determining the importance of individual quality dimensions, undermining their results.

Therefore, according to these authors, it is advisable to use the SERVQUAL method mainly as a framework. This skeleton can be modified and used in various contexts, not only sectoral, but also with respect to specific entities (Senthilkumar&Arulraj, 2011).

The following issues should be considered before conducting empirical research to avoid the indicated problems (Gupta&Kaushik, 2018):

1. within the classical dimensions of service quality adopted in the SERVQUAL method, standard parameters should be identified that are, regardless of the areas of knowledge represented, accepted in higher education; thanks to the fact that none of such vital parameters will be omitted, a multidimensional comparative analysis of research results will be possible;
2. to accurately determine the desired directions of changes related to the dimensions of the quality of activities at universities, it is necessary to decide on those parameters that, in particular, correspond to the specificity of entities and research objectives; for example, research on the quality of education in fields related to the social sciences indicates the social image and the structure of the course curriculum as essential elements of assessment, while concerning the field of medical sciences, no significant importance is assigned to these parameters,
3. the assessment scale used, both newly developed and modified, should cover each parameter within the appropriate quality dimension, and this scale should be verified in terms of validity and reliability of measurement;
4. methodological problems in this type of research are caused by respondents' reluctance to provide feedback. Therefore, the primary obligation of researchers is to inform and convince respondents about the need for and authenticity of the study so that relevant and realistic data can be collected, which will allow the formulation of accurate generalisations regarding the results obtained.

An organisation can maintain and improve quality only when activities are based on systematically integrated learning. P. Senge proposed a model of strategic building of learning organisations, which is the basis for solving problems by adapting organisational learning. As with the holistic quality model, its implementation can lead to "generative learning", which increases the ability of an institution or individual to create new solutions to the increasingly complex problems that universities face (Senge et al., 1994).

Examples of solutions to create the basis for an integrated assessment of higher education institutions are models developed by researchers representing various higher education systems throughout the world. Proposals for such solutions were presented by, among others, M. Owlia and E. Aspinwall (1996), M. Lalovic (2002), S. Lagrosen and co-authors (Lagrosen et al., 2004), or M. Tsinidou and co-authors (Tsinidou et al., 2010).

An example of one of them, the HEQAM model (Higher Education Quality Assessment Model), a multielement construct verified using appropriate scientific methods and proposed by A. Noaman and coauthors, is presented in Table x.1

**Table x.1.** Higher Education Institutions Quality Assessment Model (HEQAM).

| **Category** | **Factors in a Category** |
| --- | --- |
| **A. Study Programs** | A 1. A variety of elective modules /modules in areas of expertise  A 2. The programme is planned in detail, e.g. every week  A 3. The curriculum contains prerequisites for individual courses  A 4. Programs improve students' knowledge, skills and competencies A 5. Programmes respond to the needs of the labour market  A 6. Programmes cover scientific topics |
| **B. Employees** | 1. Academic qualifications 2. Work experience 3. Research activities 4. Willingness to collaborate and organisational commitment 5. Relevant Academic Advising   Communication skills |
| **C. Student opportunities for personal development and career** | C1 Career prospects  C2 Institution-business links  C3 Technical skills  C4 Communication skills  C5 Language skills  C6 Employability in curricular programmes  C7 Opportunities to continue studies abroad  C8 Availability of exchange programmes with other universities  C9 Postgraduate study opportunities |
| **D. Infrastructure** | D1 Modern, high-quality laboratories  D2 Catering services  D3 Sports facilities  D4 Medical Facilities  D5 High-quality university administration buildings  D6 Availability of services for the organisation of social and cultural events  D7 Availability of dormitories |
| **E. Service** | E1 The university's website provides academic and administrative services  E2 Efficient, accurate and fast services  E3 Rapid technical support  E4 Availability of e-services from different locations  E5 E-service via social networks |
| **F. Library services** | F1 Availability of textbooks and magazines  F2 Easy borrowing process  F3 Availability of library services by electronic means  F4 Library of electronic sources  F5 Sufficient space for reading and sitting  F6 Operating hours  F7 Librarian collaboration |
| **G. Administrative services** | G1 Efficient and fast delivery of services  G2 Sufficient working hours  G3 Availability of administrative services on the University website  G4 Availability of technical support for e-services  G5 Friendliness of administrative staff  G6 Availability of service materials  G7 Clear guidance and support |
| **H. Location** | H1 Presence of security personnel  H2 Accessibility of facilities for the disabled  H3 Availability of transportation services (off-campus)  H4 Transportation Cost  H5 Transport services between university buildings  H6 Availability of parking spaces |

Sources: own study based on (Noaman et al., 2017).

Although complex and multifaceted, assessing various aspects of quality in higher education institutions is justified and will be needed as long as multiple entities are interested in these results. The duties of university management staff, rectors, deans, and directors, make it necessary to reconcile the interests of various parties related to the organisations they manage. Therefore, the coexistence of different, but at the same time fully justified, interpretations of the concept of quality at the university is natural (Olaskoaga-Larrauri et al., 2016).

An essential condition for properly using the information obtained by applying the mentioned evaluation models and indicators is awareness and understanding of the interactions between various activities of a given institution. The essential condition is that the collected information is used for practical improvement actions (Sarrico et al., 2010).

Concerning the above comments on the concept of excellence and improvement, the essence of these issues in higher education institutions will be presented later in this chapter.

## Category of Excellence (PGR)

As follows from the information presented in this chapter and the views of most authors dealing with the issues under consideration, the concepts of quality and perfection are closely related (Peters & Waterman, 2012). This results from recognising perfection as the symbolic goal of quality activities and improvement as the basis, the critical principle of pro-quality management.

Universities constitute a group of entities in which this relationship is evident because the pursuit of excellence is an element of the academic ethos. At the same time, the diversity of relationships and expectations associated with the many entities involved makes the context of excellence in higher education far more complex than in other service organisations.

Perfection has two faces. On the one hand, it refers to a specific entity concerning their capabilities, including a person or an organisation. On the other hand, perfection is always related to the potential of other appropriate entities in the context of its consideration. Because definitions of excellence are located in changing social, economic, and political contexts, its meaning changes depending on the global environment. This trend is reflected, among others, in:

* the diffusion of standards and practices from the corporate sector,
* the efforts of state authorities to increase the rate of return on budget expenditure on higher education,
* the transition from elite to egalitarian higher education systems or the growing importance of various academic rankings (Rostan&Vaira, 2011).

Global university rankings, intended to confirm the reputation of individual institutions and the strength of national higher education systems, emphasise the concept of academic excellence, with the research sphere dominating. Institutions classified as the organisers of these rankings intend the best to define the horizon of academic excellence and are usually referred to as elite institutions. Nevertheless, is this the right approach?

In the vast majority of cases, national policies tend to award the title of excellent to those academic institutions that are already strong and have a natural advantage in playing the "excellence game".

S. Marginson claims (2011) that rankings shape the status of institutions, allowing the stronger to become even more robust and dooming the weak to further weakening. Universities are encouraged both to strive to become excellent centres of knowledge "production" (traditional research function) and to provide access to such knowledge to increasingly diverse groups of recipients - students (teaching, educational functions) (Bleikie, 2011).

According to K. Strike, perfection should be a concept reflected in the activities of every university, not only selected elite units. Such a concept of excellence, linked to appropriate criteria, would be perceived as more equitable and valuable in terms of benefits for higher education systems. The definition of these criteria should be related to individual universities' goals and values. Therefore, instead of perceiving excellence as a clear-cut category, it should be conceptualised as a multi-variant concept, depending on the type of institutions, their different contexts, and their missions (Strike, 1985).

The criteria approach to the concept of excellence is expressed in a set of universally recognised and appropriate standards for all organisations considered.

The study "The Concept of Excellence in Higher Education", signed by the ENQA organisation, dealing with quality issues in the European Higher Education Area (EHEA), indicates eight elements that should become determinants of the pursuit of excellenceand tangentially demonstrated level of maturity regarding the results of these endeavours[[2]](#footnote-2):

1. **Progressive strategic management with a solid methodological basis.** The mission and goals that determine strategy influence planning and resource acquisition decisions, as well as the ethos and style of practice of a given institution. Both governing bodies and management teams support achieving university goals that promote excellence. One of the features of such an institution is the awareness of one's strengths and weaknesses and the desire to improve. Outstanding institutions demonstrate determination to pursue the highest standards of achievement.
2. **Commitment to academic research and development.** An excellent institution is expected to demonstrate evidence of a well-known, active academic community with academic staff, researchers and students. The quantity and quality of research outputs would be a critical measure of research activity. Still, it is also essential to consider how academic staff engage with their academic discipline through individual study and participation in the broader thematic community. Employees are expected to be competent and engaged in broader academic debate.
3. **High level of academic achievement.** A fundamental measure of an institution's reputation and success is the educational achievements of students and staff in the field of study and research.
4. **Excellent educational process results from the perspective of the expectations of students and graduates.** The excellence of a university is expressed through a high level of satisfaction among students and graduates regarding the provision of the expected quality of teaching, learning, and support, as well as the expected employment and various opportunities for professional development or further education.
5. **High level of satisfaction of various groups of external stakeholders.** The concept of excellence is related to the values perceived by external stakeholders that they obtain from the appropriate results of the university's activities. Examples of such stakeholders include employers, central and local authorities, and organisations benefiting from research results and knowledge transfer.
6. **Support for social, economic and cultural development.** Higher education institutions are recognised as a "social good" that supports society's intellectual, artistic, and technical development and promotes equality, inclusion, and active citizenship.
7. **Commitment to internationalisation.** Academic institutions should strongly emphasise a global perspective as part of their mission and strategy, recognising the importance of competing worldwide and developing an international knowledge economy. Universities should compare their results with equivalent institutions in other countries and participate in international cooperation in academic research and development.
8. **Promoting equality and academic freedom.** A fundamental feature of higher education is its commitment to the value of objective research and knowledge acquisition without political or other forms of intervention. Educational institutions should guarantee equal opportunities for individual expression.

The listed features of an institution adopting a strategy of striving for academic excellence, suggested by experts representing ENQA, only exhaust some aspects of organisational excellence. One of the most noticeable gaps is the need for more reference to the leading principle constituting a condition for improvement, indicated in the context of the concept of Kaizen - respect for people.

In the case of several of the features mentioned above, there is an indirect reference to this condition concerning students or people involved in education and research; this needs to be indicated.

Therefore, it is necessary to supplement the features that characterise excellent universities with practices that reflect respect for people, such as:

* 1. The use of regular evaluations of management's performance by all groups of conditions,
  2. An open and widely accepted employee evaluation process based on the premise of positive things,
  3. Appreciating administrative employees and technical services' contributions to improvement activities, extensive consultation on plans for introduced changes, etc.

However, the characteristics of excellence in academic institutions do not create a coherent model supported by reliable verification based on scientific methods. Therefore, it is also more appropriate for universities to use recognised organisational excellence models (see the comments in the previous section). Of course, the models of excellence described in this monograph should be mentioned, e.g. the American MBNQA (Malcolm Baldrige National Quality Award) model, the EFQM (European Foundation for Quality Management) model, dedicated to the CAF public sector (Grudowski, 2015b; Rosa&Amaral, 2007) or self-assessment according to the ISO 9004:2018 standard. As in the case of university evaluation scales, it is worth considering appropriate modifications to the detailed characteristics of these models to make them easier to understand and use in practice in higher education institutions.

An example of this type of modification is the concept presented in B. Ruben's book (2007) on excellence in American higher education.

This concept focuses on the elements necessary to establish and maintain the status of an excellent university, its organisational units, or its educational programs. The framework of this concept is based on the integration of assessment, planning and improvement approaches. In current practice, the proposed improvement mechanisms are audits of areas (processes) of the management system, management reviews of research and teaching disciplines and strategic planning concerning all functions and levels of management. According to B. Ruben, the level of organisational excellence of a university should result from activities and their effects in the following areas:

1. leadership,
2. goals and plans,
3. beneficiaries and stakeholders,
4. programs and services,
5. department/staff and place of work,
6. evaluation and use of information,
7. results and achievements.

Areas 1–5 are the basic building blocks of the capacity of an academic institution. Area 6 focuses on the methods and procedures used to assess and analyse quality and effectiveness in areas 1–5. Assessment area 7 considers the results and achievements documented in the assessment process.

The prevailing opinion on the European-rooted excellence model developed by EFQM experts is that it can be successfully applied to higher education institutions as a practical, comprehensive approach enabling systematic process improvement. At the same time, the best way to use this model is its adaptation, dedicated to a given organisational culture, and not the use of the basic version, which is not easy when it comes to direct interpretation in the academic environment (Dahlgaard-Park, 2008).

An important issue regarding the methodological correctness of scientific research conducted using the EFQM model is its internal consistency as a complex construct representing the modern quality management paradigm. Thanks to research conducted, among others, by A. Calvo-Mora and co-authors (Calvo-Mora et al., 2006) and R. Ismail and co-authors (Ismail et al., 2015), the validity and reliability of this model were confirmed, which is a condition for its use in research on management systemsbased on TQM principles in universities.

Based on a literature review, R. Laurett and L. Mendes (2019) found that the results of international research on the EFQM model in higher education reveal the following critical factors determining the effective and efficient application of the model:

1. Strong internal motivation and commitment of university top management;
2. Genuine commitment and cooperation of people representing every group of university employees,
3. Training and development of staff appropriate to the functions performed;
4. Appropriate use of communication and information exchange systems (ICT);
5. Systematic processes of monitoring, evaluation and measurement (efficient corrective actions) and external supporting environment.

The authors, as mentioned earlier, also indicated typical barriers encountered in universities representing various higher education systems in terms of introducing solutions based on organisational excellence, based on the TQM concept, including the EFQM model that reflects it (Laurett&Mendes, 2019):

* 1. Lack of commitment and enthusiasm of management and employees, often resulting from the time-consuming nature of the change process and the lack of quickly noticeable, positive results;
  2. Lack of resources (time, human and financial resources), including competencies necessary to support process improvement; the lack of resources dedicated to improvement activities may result in the need for employees to perform additional tasks without the expected, appropriate gratification;
  3. Lack of previous experience and practical skills in the field introducing pro-quality solutions;
  4. High complexity of university processes and related problems in communication within the organisation.

A shortcoming of research on quality and excellence in higher education is that most of its subjects are the university's internal stakeholders, i.e., students and academic teachers. To fill the gap related to focused research, other university stakeholder groups should contribute to enriching knowledge in this area. This participation is important in an in-depth assessment of individual universities and higher education systems' broad perception.

Another area for improvement, in the context of the effectiveness of process improvement strategies, especially in more prominent universities, is the impact of appropriately designed and functioning IT systems. It is challenging to imagine that management systems would function effectively in organisations as complex as universities without the support of integrated IT solutions. They are necessary to collect and process data, monitor complex processes and projects, and make facts-based decisions.

For natural reasons, the issue of excellence in higher education is related to the sphere of education (teaching) and scientific research.

Excellence in teaching is determined by factors such as charisma, inspiring attitudes and personalities of individual lecturers, organisation of presentations, ongoing interaction with students as participants, and the extent to which the information provided allows for achieving educational goals, including appropriate strategic assumptions. University. Academic excellence can be linked to both student satisfaction and student outcomes. Another manifestation of excellence in teaching is the high level of student involvement in acquiring knowledge.

L. Elton presented teaching excellence as a five-element construct, in which each component is a feature necessary for the definition and functioning of the whole (Elton, 1998):

1. Teaching excellence at a university is a multidimensional concept, and its dimensions require individualised forms of recognition and highlighting related activities;
2. If the level of teaching quality is to be constantly improved, teaching excellence must become a priority goal at the university and its organisational units;
3. The criteria creating an individual pattern of teaching excellence (quality) can be established in the same way as the criteria of research excellence; however, they are much more complex when it comes to interpretation and should not be used by people or teams without appropriate substantive preparation and practical experience in the field of pro-quality management.
4. A necessary condition for the effective pursuit of teaching excellence at the individual level is the didactic professionalism of an academic teacher;
5. Excellence in teaching represented by individual academic teachers is a necessary but insufficient condition for an excellent educational process; excellence should also be an integral part of the university's organisational culture, including its organisational units; however, this culture can be developed based on the excellence of individuals - leaders.

As noted by G. Gordon and co-authors (Gordon et al., 2003), the view is often expressed that the so-called Teaching excellence, representing the appropriately defined and independently verified characteristics of an academic teacher, should be an obligation for all teaching staff. However, they state that while an appropriate level of teaching competencies should be expected from all academic teachers, the previously mentioned status should distinguish teachers who are models of teaching excellence for others.

One of the characteristic solutions in developing the research excellence concept, which impacts many higher education systems, is the Research Excellence Framework (REF) evaluation system adopted in Great Britain. The idea of excellence has been applied to assessing the quality and value of research in higher education institutions. As in other higher education systems, excellence in research activity is evaluated using quantitative measures, mainly bibliometric indicators, involvement in the implementation of research projects and income from research. The REF aims to rank and compare the performance of higher education institutions against international standards to highlight accountability for public investment in research and provide evidence of the benefits of these investments.

The methodology adopted in the REF system is based on a set of evaluation criteria and the following levels classifying the degree of excellence (quality) of research activities:

1. World-leading level in terms of originality, relevance and reliability research,
2. Internationally outstanding in terms of originality, relevance and reliability but not meeting the highest standards of excellence,
3. A level recognised worldwide for originality, relevance and methodological rigour,
4. Nationally recognised level in terms of originality, importance and reliability research,
5. Low-quality, nationally recognised work that does not meet the assessment requirements.

The primary result of the assessment is the overall quality profile assigned to each applicant institution and, consequently, the appropriate allocation of research funds. Research Funding Councils are committed to allocating funds based on the level of research excellence achieved and to funding excellent research in all its forms, wherever it is located. The consequence of this policy is the concentration of research activities in those institutions that can demonstrate that the research results obtained correspond to a level recognised worldwide.

It is worth emphasising here the importance of conditions related to the factor that has a critical impact on improving university activities, including the efficiency of scientific research - human capital management.

As part of the "Human Resources Strategy for Researchers" (HRS4R) initiative promoted by the European Commission in 2005, the main goal was to increase the attractiveness of mobility, working conditions, and the careers of scientists in Europe.

The university receiving a distinction in connection with this initiative should undertake systemic activities aimed at the quality of staff, including employee satisfaction with the working conditions offered to them. Such a distinction, by definition, refers directly to the idea of excellence because it is called "HR Excellence in Research". Institutions seeking to obtain this distinction should treat participation in the HRS4R initiative as a continuous process that involves regular assessment of progress in implementing and complying with the principles of the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers, performed by experts.

[<https://cdn5.euraxess.org/sites/default/files/domains/pl/karta_i_kodeks_broszura_pl.pdf>],

However, the level of interest in similar projects should not constitute the basis for formulating far-reaching conclusions regarding the maturity of individual higher education systems. This phenomenon should become an element of a broader debate on the social value and credibility of various initiatives, such as accreditation in higher education or certification of management systems. Most importantly, obtaining awards, distinctions, certificates, or accreditations should not constitute an aim for managing higher education entities. This substitute masks the need to undertake practical improvement activities at universities.

B. Readings, representing the critical trend referring to contemporary management concepts in higher education, in his provocative but also inspiring book "The University in Ruins," used the term "University of Excellence" (Readings, 1996). This author stated that the modern university had become a "bureaucratised corporation" and that the current university crisis in Western countries is caused by a fundamental change in its social role. The result of the current situation, according to Readings, is the promotion of the "University of Excellence" model. However, as a concept derived from business strategies, excellence exposes university traditions to the ruthless forces of market capitalism, and the main criterion of excellence becomes educational and scientific productivity associated with the pressure for efficiency in the factory.

In promoting organisational excellence, it is unacceptable to marginalise traditional academic values and replace them with rigid productivity indicators. According to the author, the critical point is the postulate by K. Strike (1985) to treat excellence as a multi-variant concept, depending on the organisational culture of the academic institution and its specific contexts.

Improvement activities should be identified, planned and supported at the university's central level, in its organisational units (faculties, institutes, departments) and to individual employees. In the latter case, there should be no exceptions when it comes to groups of employees, and the basis is, of course, the genuine activity of the management staff.

Considering the above deliberations, including the opinions of many researchers, the author believes that, in practice, the excellence category is intended to serve a motivating function. It cannot be assigned only to those areas of university activities that are distinguished by certificates or accreditations.

Setting expectations for excellence or improvement would ensure that the focus is on developing an improvement strategy that responds to contemporary achievements and challenges.

## The Quality Assurance Approach (PGR)

The concept and role of quality assurance

Systems of national, regional, local and intra-institutional regulations, called quality assurance - QA, constitute the basis for processes declared as quality systems in higher education worldwide. They are established in universities operating on market principles in the United States, within autonomous systems of public institutions in Great Britain, systems supervised by relevant ministries in many EU countries, and in strictly controlled conditions. by the state, such as in China. The attractiveness of this approach, from the point of view of individual governments, is that quality assurance systems establish various forms of supervision over higher education, which is well in line with the demand for accountability of universities.

These systems can be used to encourage actions consistent with the policies of state and local authorities and even indirectly influence the appropriately directed development of the private sector (Jarvis, 2014).

The emergence of QA regulations can, therefore, be seen as the result of changes in public opinion about the social role of the university or graduate education strategy and, at the same time, a set of political instruments developed to allocate institutional resources to activities consistent with the interests of the state. Marketisation or the application of economic rationalism in program offerings, research financing, and employment practices increasingly reflect the role of quasi-market mechanisms, causing some elements of academic activity to be promoted and others marginalised. Management through regulations within national quality assurance systems is a logical consequence of the triumph of the state subordinating the university to instrumental market forces and economic interests (Jarvis, 2014).

It is difficult to find a clear answer to why the concept currently most commonly used in the context of the system of activities for quality in higher education is "quality assurance". According to the presently applicable semantic convention, quality management covers a much more comprehensive range of important factors influencing quality than quality assurance. This results directly from the "quality assurance" definition presented in the ISO 9000:2015 standard[[3]](#footnote-3). "Quality assurance" is a concept introduced to the field of higher education from the world of business, mainly from the production sector, as well as, among others, the terms "quality inspection", "quality control", "continuous improvement" or the above-mentioned "excellence".

The direct reference in this case is the quality assurance system, created over 40 years ago as a mechanism for building trust in manufacturer-supplier relationships (Crozier et al., 2006).

The emphasis on "quality assurance" as a critical concept regarding quality in higher education, currently associated instead with one of the earlier stages of the evolution of approaches to quality, is characteristic, as previously mentioned, not only in the European Higher Education Area. Also, in the United States, QA is commonly associated with the system of quality activities in universities (Ryan, 2015).

This situation, although for pragmatic reasons should not constitute a significant barrier to practical activities in the area under consideration, is not favourable in terms of coherence and uniformity of reference to the undisputed achievements of management based on the quality criterion, in particular concepts and models referring to the principles of TQM. Not only researchers of this issue but also practitioners treat quality assurance as only a fragment of a comprehensive management system, including processes, resources, attitudes and relationships that influence the quality of products or services.

The source document presenting standards and guidelines for quality assurance in the EHEA (ESG) includes the following sentence: "The term 'quality assurance' refers to all activities within the continuous improvement cycle, i.e. activities related to quality assurance and improvement" (Standards and Guidelines..., 2015). When assessing such terms, it is challenging to understand why a new system of concepts regarding quality and related activities is being created, reserved for higher education. For clarity reasons, this system needs to be more consistent with the long-established and widely accepted definitions given in the ISO 9000 series standards or with the current solutions introduced by ISO regarding management systems in the education sector (ISO 21001).

Although recognised by specialists, this situation has yet to be widely reflected in specific actions and new versions of relevant documents regarding the development strategy of higher education systems. So far, activities in this area have only been incidental. In France, for example, the translation of ESG used the term "quality management" instead of "quality assurance" to assign a sense of responsibility for quality to appropriate groups of university employees.

Moreover, the semantic context of quality activities at universities should depend on their performers and addressees, i.e., for example, quality management defines a broader, contemporary social perspective, quality control concerns the activities of regulatory and supervisory bodies, and quality improvement is associated with internal conditions of individual higher education institutions.

For these reasons, it would be more appropriate to use the terminology adopted with quality management systems in the relevant ISO standards, especially in official publications, including legal regulations regarding higher education. It would therefore be advisable to introduce the concept of "quality management", with a possible addition indicating the entity or object of management (e.g. university quality management system, education quality management).

According to F. Worthington and J. Hodgson (2005), the essential role of quality assurance in higher education should be to create a culture conducive to continuous organisational and professional development and self-regulation. Based on a complex institutional and legal infrastructure, QA should ensure an increasingly better ratio of the value offered by universities to the costs of their operation, which aligns with the needs of the global knowledge-based economy and learning society. One of the leading researchers of quality issues in higher education, L. Harvey (2018), editor of the journal "Quality in Higher Education", based on the 20-year history of this renowned periodical, indicated the issues that constitute the most common problems and challenges related to the concept of "quality assurance" concerning universities.

The first of these issues is the need to adjust the processes associated with quality assurance in universities to fit the specific characteristics of the university. In the vast majority of cases, employees performing teaching and research functions have negative opinions of the quality assurance processes at their universities. They need to see the relationship between the quality of the results of their academic work and the processes of internal quality assurance systems established at their Alma Mater. However, they perceive an increased burden of administrative duties that consume significant resources and do not create value for key stakeholder groups, particularly students (Harvey, 2018; Harvey&Newton, 2004).

Another unfavourable phenomenon, closely related to the previous one, is the prevalence of sceptical and even cynical attitudes to quality assurance processes, especially among academic teachers.

Due to the primary mistakes made by the university management when introducing this type of solution, the academic staff accepts them as a necessary evil, a "game for the sake of a game", which means that instead of achieving noble, socially desirable goals, frustration and waste of resources deepen (Newton, 2002). A study conducted in Australia by G. Anderson allowed the author to conclude that academics treat high-quality research and teaching as their obligation resulting from the academic ethos. Still, they resist quality assurance processes at their universities (Anderson, 2006).

One of the most frequently criticised internal quality of education assurance systems processes is student evaluation of classes/programs/academic teachers. Such an assessment should be preceded by extensive internal consultations conducted reliably, with full respect for the will and rights of respondents and assessed persons. This action is, among other things, to prevent some university employees from recognising the quality assurance system as a basis for undermining their professionalism or even as a pretext for dismissing them (Cheng, 2009).

Considering the above factors, a thesis can be formulated that unless individualised solutions, consistent with its organisational culture, are created at a given university as part of genuine cooperation and extensive consultations with the relevant stakeholder groups, they will be made at considerable expense and doomed to the failure of pseudo-quality assurance systems that arouse resistance from employees.

Quality Assurance Standards and Guidelines for HEIs in European Higher Education Area

The previously mentioned document - "Standards and Guidelines for Quality Assurance in the European Higher Education Area" (ESG), was adopted in Bergen in 2005 and consisted of a total of 23 standards and related guidelines divided into three parts:

1. Standards and guidelines for internal quality assurance (7 standards),
2. Standards and guidelines for external quality assurance (8 standards),
3. Standards and guidelines for quality assurance agencies (8 standards).

During the ministerial conference in Yerevan in May 2015, an amended, current version of the standards and guidelines was issued. The division into the above-mentioned categories regarding higher education quality assurance has been maintained. The total number of standards increased to 24. The most significant changes were in the standards in category 1 - internal quality assurance.

ESG have the following objectives (Standards and Guidelines…, 2015):

* 1. define a common framework for quality assurance systems for learning and teaching at European, national and institutional levels,
  2. enable ensuring and improving the quality of education,
  3. strengthen mutual trust, thus facilitating recognition and mobility within a given country and beyond its borders,
  4. provide information on quality assurance in the EHEA.

ESG is based on the following four quality assurance principles in EHEA (Standards and Guidelines…, 2015):

1. universities bear the primary responsibility for the quality of education and its provision,
2. quality assurance is a response to the diversity of higher education systems, universities, programs and students,
3. quality assurance supports the development of a quality culture,
4. quality assurance considers the needs and expectations of students, all other stakeholders and society.

Table X.2 presents the current form of ESG, including their brief characteristics divided into the three mentioned categories regarding entities affected by activities defined as quality assurance in the EHEA.

Declared references to the needs and expectations of various stakeholder groups and the quality culture should be considered necessary for pro-quality activities in any organisation, especially concerning such a complex public university with numerous complicated relationships. However, these references were practically not developed in the document presenting ESG, which undermines the significance of these declarations.

The official document introducing ESG noted: 'ESG focuses on ensuring the quality of learning and teaching in higher education, including ensuring the quality of the learning environment and appropriate links to research and innovation. In addition, universities have strategies and processes to safeguard and improve the quality of other activities, e.g. research and management (Standards and Guidelines…, 2015). However, despite references to university processes other than learning and teaching (education), it should be clearly stated that the educational process is the main object covered by ESG. It is not without reason that quality-related activities in higher education, in the formal dimension in EU countries and other regions, are identified mainly with the quality of education.

According to the author, the need for a more appropriate emphasis on management and support processes, as well as scientific activities and relations with external stakeholders, is a fundamental shortcoming of ESG.

Considering the comprehensive nature and importance of their relationships and impacts, only systemically presented requirements and recommendations regarding all university processes can improve results in these areas. It is also impossible not to notice the lack of appropriate references emphasising the role of the involvement of leaders in pro-quality changes - university management - as another necessary condition for the success of pro-quality changes at the university.

A similar role to European standards and guidelines for quality assurance is played, mainly in North American countries, by the International Quality Principles adopted in 2016 by the International Quality Group of the Council for Higher Education Accreditation (CIQG)[[4]](#footnote-4).

**TABLE X.2. Quality Assurance Standards and Guidelines**

|  |  |  |  |
| --- | --- | --- | --- |
| **Type of standards** | **Component Standards** | **Characteristics of the standard** | **General content of the**  **standard guidelines** |
| **Internal Quality**  **Assurance** | * 1. Quality Assurance Policy | HEIs should have a published quality assurance policy for their strategic management. Internal stakeholders should develop and implement this policy through appropriate structures and processes, ensuring the participation of external stakeholders. | Conditions to be met  by a quality assurance policy |
| 1.2. Design and approval of programmes | Universities should have appropriate processes in place to design and approve programmes. Curricula should be designed in such a way as to enable them to achieve their objectives, including learning outcomes. The qualification to which the programme leads should be defined and presented and refer to the relevant level of the National Qualifications Framework for Higher Education and the Qualifications Framework for the EHEA | Conditions to be met by curricula |
| 1.3. Education (learning and teaching) and student-centred assessment | HEIs should ensure that curricula are implemented in a way that encourages students to play an active role in shaping the learning process and that a student assessment system reflects this approach | Conditions to be met by student-centred education and assessment |
| 1.4. Admissions, progression, recognition of achievements and qualifications, and diplomas | HEIs should apply consistently previously adopted and published regulations, covering all stages of activities related to students, i.e. admission to studies, progression during studies, recognition of achievements and qualifications, and diplomas. | Conditions for recruitment, supervision of progress, recognition of qualifications, diplomas and diplomas |
| 1.5. Teaching staff | HEIs should ensure they have teaching staff with appropriate competencies and apply fair and transparent recruitment and staff development processes. | Conditions for the management of teaching staff |
| 1.6. Teaching resources and student support | HEIs should have adequate funding for teaching activities (learning and teaching) and provide sufficient and easily accessible teaching resources and support for students. | Terms and conditions for services supporting students' learning and livelihoods |
| 1.7. Information management | Universities should collect, analyse and use relevant information to effectively manage programmes and other activities. | Sources and types of information about the education process and their use |
| 1.8. Public disclosure | HEIs should publish information about their activities m.in and the programmes they provide. They should be clear, accurate, objective, up-to-date and easily accessible. | Publication of information on the educational process and its outcomes |
| 1.9. Continuous monitoring and periodic reviews of programmes | Universities should monitor and periodically review programmes to ensure that they meet their objectives and respond to the needs of students and society. These reviews should lead to continuous improvement of the program. All interested parties should be informed of the actions planned or undertaken as a result of them | Conditions to be met by curricular reviews and the information used in their |
| 1.10. Cyclicality of external quality assurance | HEIs should be subject to external quality assurance regularly in line with ESG. | Appropriateness of a cyclical and continuous external evaluation process |
| **External Quality**  **Assurance** | 2.1. Taking into account the effects of internal quality assurance | External quality assurance should consider the effectiveness of the internal quality assurance processes discussed in ESG Part 1. | The Importance of the Relationship Between External and Internal Quality Assurance |
| 2.2. Designing methods fit for purpose | External quality assurance should be defined and designed precisely in such a way as to guarantee the adequacy of the solutions to the objectives and objectives set for them, taking into account the relevant legal regulations. Stakeholders should be involved in the design and continuous improvement of these solutions. | Conditions and assumptions to be taken into account when planning external quality assurance processes |
| 2.3. Implementation of processes | External quality assurance processes should be reliable, valid, pre-defined, applied consistently and published. These include a self-assessment or similar mechanism, an external evaluation, typically a visit, a report resulting from an external assessment, and a coherent evaluation follow-up. | Conditions and assumptions that should be taken into account in the implementation of external quality assurance processes. Indication of follow-up to the evaluation. |
| 2.4. Assessment experts | External expert groups should carry out external quality assurance evaluations with the participation of the student(s) | Criteria for the selection of experts to evaluate the quality assurance system of HEIs |
| 2.5. Results criteria | Any results or evaluations resulting from external quality assurance should be based on unambiguous and published criteria that are applied consistently, regardless of whether the process leads to a formal decision. | Various forms of external evaluation results as a basis for the pro-quality activities of HEIs |
| 2.6. Reports | Expert reports should be published in a complete, explicit, and written manner accessible to academia, external partners, and other interested parties. If the Agency makes any formal decisions based on the reports, these decisions should be published together with the report. | Conditions to be met by external expert reports |
| 2.7. Complaints and appeals | Complaint and appeal processes should be clearly defined when external quality assurance processes are designed and communicated to HEIs | Conditions for lodging and handling complaints concerning the external evaluation process |
| **Quality**  **Assurance**  **Agencies** | 3.1. Quality assurance activities, policies, and processes | Agencies should regularly carry out external quality assurance activities, as set out in Part 2 of the European Standards and Guidelines. They should have unambiguous goals that are inscribed in their universally accessible mission. These objectives should be reflected in the Agency's day-to-day operations. Agencies should ensure the involvement of stakeholders in their management and activities. | Transparency of the Agency's objectives, types and objectives |
| 3.2. Official status | Agencies should operate based on established legal bases and be formally recognised by the competent public authorities as quality assurance agencies. | The position of the Agency in the legal system of the |
| 3.3. Independence | Agencies should be independent and operate autonomously. They should be fully responsible for their actions and the results of those actions and should not be influenced by third parties. | Types and factors of agency independence |
| 3.4. Thematic analyses | Agencies should regularly publish reports that present and analyse the overall results of external quality assurance activities. | Using information from the Agency's activities as a basis for structured analyses of the higher education system |
| 3.5. Resources | Agencies should have adequate financial and human resources to conduct their activities properly. | The need for stable state financial support for the Agency's activities |
| 3.6. Internal quality assurance and professional ethics / professional operation | Agencies should have internal assurance processes to define, ensure and improve quality and excellence in their activities. | Conditions to be met by the Agency's internal quality assurance system |
| 3.7. Cyclical external review of the agencies | Agencies should undergo an external review at least every five years to demonstrate compliance with the European Standards and Guidelines. | The need for agencies to be subject to an independent external review |

Source: own elaboration (Standards and Guidelines…, 2015).

According to the declaration of this organisation, these principles are consistent with the presented ENQA standards and guidelines or UNESCO-OECD guidelines (2005). These principles are presented in Table x.3.

**TABLE X.3.** Quality Principles for Higher Education Institutions adopted by the Council for Higher Education Accreditation - International Quality Group

|  |  |
| --- | --- |
| **Principle** | **Description** |
| 1. **Quality and Higher Education Providers** | Ensuring and achieving quality in higher education is a fundamental responsibility of providers and their staff. |
| 1. **Quality and Students** | Educating students should always meet high-quality standards, regardless of the learning outcomes. |
| 1. **Quality and Society** | The quality of tertiary education is assessed based on how well it responds to the needs of society, inspires public trust and upholds public trust. |
| 1. **Quality and Government** | Local and central governments play a significant role in encouraging and supporting high-quality higher education. |
| 1. **Quality and Accountability** | It is the responsibility of higher education institutions and accreditation bodies to have a solid commitment to quality accountability and to validate it regularly. |
| 1. **Quality and Quality Assurance Bodies** | Quality assurance and accreditation bodies, working with higher education institutions and their management, staff and students, are responsible for implementing processes, tools and measures of learning outcomes that help create a shared understanding of quality. |
| 1. **Quality and Change** | High-quality higher education must be flexible, creative, innovative, developing, and evolving to meet students' needs, justify society's trust, and preserve diversity. |

Source: Retrieved from <https://www.chea.org/guidelines-quality-provision-cross-border-higher-education>.

As Table x.3 shows, the principles adopted by CIQG, when compared with the ENQA standards and guidelines, define a more comprehensive nature and a broader scope of quality activities in higher education. They refer to the importance of stakeholders omitted in ESG, such as central and local authorities and society, and indicate the role of many relationships within the quality assurance system. They also emphasise the importance of changes (improvement) in academic institutions. This form fits better into the development trends of the public services sector and highlights the university's independence in decisions made.

Quality assurance is, as it is worth noting, an essential issue in the context of international academic cooperation. As pointed out by F. Trifiro, the higher education systems of different countries, and especially their external quality assurance agencies in higher education, need tools to build mutual trust in international academic cooperation. These instruments should support the efficient functioning of a system composed of four elements necessary in this context: information available to interested parties, an appropriate level of trust between interested parties, and their actual cooperation within mutually supported networks (Trifiro, 2015).

As part of its quality improvement activities, ENQA received funding for the Erasmus Mundus project entitled "Quality Ensuring Cross-Border Higher Education" (QACHE). The project was implemented from 2013 to 2016 and aimed to improve the exchange of information both within the EHEA countries themselves, as well as between the EHEA and other regions of the world, thanks to the mutual understanding of different approaches to Cross-Border Higher Education ( CBHE), ensuring its quality and opening up to the development of this field. The partnership included higher education quality assurance agencies from four European countries: Australia, the Arab Network for Quality Assurance in Higher Education (ANQAHE), and the Asia-Pacific Quality Network (APQN). As a result of the activities undertaken by this consortium, the following CBHE principles were adopted:

1. quality assurance agencies of sending and receiving countries should provide complete information about their quality assurance systems to understand and build mutual trust;
2. quality assurance agencies of sending and receiving countries should seek to coordinate and cooperate in their reviews and audits of cross-border higher education to eliminate regulatory gaps and duplication of efforts and to reduce the regulatory burden on the higher education institutions concerned;
3. networks of quality assurance agencies should facilitate cooperation between individual national or regional agencies and disseminate and support the implementation of the QACHE toolkit*.*

Therefore, such agencies should integrate their approaches with the mentioned elements, supporting universities' international cooperation in student education and employee internships.

Only if the level of mutual trust expected by the relevant parties (states, universities) regarding the value of such cooperation is achieved can the national quality assurance system in higher education be considered complete. It would be challenging to evaluate such a system positively when it does not rationally fit into the development of globally practised science and does not support mobility in this area.

Therefore, when postulating the introduction of appropriate changes to system models, it should be emphasised that the "formal façade" is certainly not a sufficient condition for effective and efficient quality activities. Therefore, it is not a condition to decree the need to establish even the best-prepared rules, standards, recommendations, or toolkits and, on this basis, to comply with documents such as quality books, procedures, instructions, regulations, or regulations that are described in detail and adapted to the sanctioned requirements. It is also not a systematic diagnosis of results, e.g., student surveys, analysis of teaching results, or observations, because, as practice shows, this type of research often becomes an end and not the basis for actual improvement activities.

A necessary condition for the success of these changes is the creation, cultivation, and development of an authentic quality culture in a higher education institution based on:

* + 1. Respect for the participation and contribution of all stakeholder groups associated with this extensive involvement,
    2. Appropriate competencies in quality management concepts, systems, methods and tools - especially in the group of leaders,
    3. a balanced share of "top-down" and "bottom-up" initiatives with clear support of the latter,
    4. systematic knowledge sharing and exchange of good practices within a given institution. A necessary condition for the success of internal transformations and initiatives that are beneficial in terms of quality is also the maturity and competence in the field of activities for the quality of the staff of national agencies dealing by law with quality assurance in the area of higher education (Loukkola, 2012).

The methods currently used by these agencies focus on something other than the previously mentioned aspects of excellence, such as the state of the quality culture at the university or openness to international cooperation. In addition to the previously given suggestions for changes regarding ESG, it is worth taking into account the following issues:

* 1. A declaration regarding the introduction of practical initiatives to develop a culture of quality and improvement, also in the spirit of internationalisation, should constitute one of the critical elements of the mission of agencies established as part of national quality assurance systems in higher education,
  2. assessments carried out as part of external quality assurance should highlight and support the dissemination of the best global practices for the development of a culture of quality and improvement, which means that
  3. systemic mechanisms for distinguishing this type of achievement should motivate universities to introduce and permanently support them through significant direct or indirect financial benefits.

## Quality Culture (PGR)

One of the challenges facing a modern university is to create an environment that strengthens and promotes its internal culture of quality, which is the result of relationships within a set of values and practices common to the community of a given academic institution at various levels (university, faculty, program, subject). The internal culture of quality should logically link with institutional planning processes to support the achievement of the fundamental goals of the academic institution (Vettori et al., 2007).

Developing an organisation's quality culture is strongly related to developing other types of culture, such as leadership, communication, or organisational culture. An interesting way to find an analytical approach to different cultures is suggested by E. Schein, who states that organisational culture is a response to the organisation's challenges. The methods of operation adopted in the organisation are related to a specific challenge or problem. In higher education, the analysis of quality culture would start with the question of how the higher education organisation meets the challenge of improving quality in a specific activity area, e.g. in education or research. The quality culture model creates a framework of concepts that help analyse concepts and changes in various areas important for quality culture and identify its strengths and weaknesses (Ehlers, 2009).

Quality culture, according to the European University Association (EUA), is an organisational culture that is characterised by two separate categories of elements: values, beliefs, expectations, and commitment to quality of all groups of university employees, and elements of a structural/management nature based on specific processes that aim to coordinate individual efforts (European University Association, 2006).

Figure x.1 presents a synthetic definition of quality culture for higher education institutions according to the EUA. The figure indicates that quality culture's structural/managerial and psychological (soft) elements should not be considered separately but integrated through communication, participation, and trust.

Quality culture is associated with positively understood collective responsibility for the results of a given organisation. Its essence and the chances of a positive impact on university processes result from an appropriate balance of management involvement with bottom-up involvement of academic and administrative staff and students, supported by reference to shared values, desired attitudes, and behaviours within the institution (Bendermacher et al., 2017).

**FIGURE x.1.** Components of quality culture in higher education institutions according to EUA



Source: Own elaboration based on (European University Association, 2010).

Based on the Quality Culture Project results, EUA experts noted that an influential internal quality culture requires a high degree of institutional autonomy. Universities' autonomy implies institutions' right to make independent organisational and administrative decisions, set priorities, manage the budget, organise staff recruitment and student admission mechanisms, and design appropriate educational forms and content. A quality culture limits unnecessary bureaucracy and thus emphasises continuous improvement rather than formulaic, retroactive control activities (European University Association, 2005).

The essential feature of the internal quality culture is transparency, which creates the right conditions for appropriate public financing of the university and ensures stability in its legal environment. Transparency and responsibility for public resources require universities to develop an internal culture of quality that will enable them to achieve socially desirable goals. The condition for the effectiveness of universities is the flexibility of response and optimisation of decision-making processes to involve stakeholders in a significant relationship with the quality of the culture.

Therefore, a quality culture requires strong, visionary, strategic leadership at the university and complementary bottom-up initiatives. Ensuring complete and widespread awareness of the importance of properly designing and implementing quality activities prepares institutions for external reviews/accreditation. The approach defined in this way highlights the need to change the way of thinking from conservative quality assurance to progressive thinking based on improvement, in which a quality culture fosters continuous commitment.

In the long term, adequately formed quality cultures of various universities can effectively support the creation of academic networks, the exchange of best practices, and better conditions for internationalisation.

G. Bendermacher et al., using the achievements of over 30 most frequently cited authors dealing with various aspects of organisational culture in higher education institutions, presented the factors that support the development of quality culture at universities and those that constitute barriers in this context. These factors are presented in Table x.4, considering the elements defining the quality culture presented in Figure x.1.

**TABLE x.4.** Factors supporting and barriers to the development of quality culture in higher education institutions, including its elements indicated by the EUA

| **Supporting factors** | **Barriers** |
| --- | --- |
| **Structural/Governance Elements** | |
| * A realistic strategy for continuous improvement * Quality Management System (np. ISO 21001) * Focus on processes * Involving staff and students in organisational decision-making * Taking into account changing stakeholder requirements * Clear rules, procedures, systems, obligations | * Hierarchical structure with typical divisions within employee groups * Lack of staff and student involvement in organisational decision-making * Neglecting to change stakeholder requirements * Lack of policies, systems, and procedures * No planned resources * Only top-down quality management initiatives * Excessive pressure on research results |
| **Psychological elements (soft)** | |
| * Flexible, people-oriented management cultures * The presence and interpenetration of different cultures * Common (educational) quality values * Commitment and leadership skills * Accurately allocate resources * Creating local partnerships * A climate of trust and understanding * Possibility of performing various functions, * Communicating the rules clearly * Communication/Quality Information * Tasks and responsibilities requirements are clear to everyone | * Rigid, inspection-oriented management cultures * The presence of robust cultures focused on disciplining * The dominant one is the research culture, underestimating the area of education * Lack of leadership skills * Lack of communication/quality information at the university * Lack of sharing of best practices across the organisation * Lack of proper communication channels |

Source: own elaboration based on (Bendermacher et al., 2017).

The analysis of the information presented in Table x.4 confirms the purposefulness of the essential conditions related to introducing changes in organisations. The organisational structure of universities is, by the nature of these entities, very complicated and, therefore, more sensitive to even minor mistakes made by the management. It does not easily succumb to change patterns that work in other organisations, most often rejecting them with very unfavourable consequences in terms of the attitude of the staff. Therefore, in the case of universities, it is more important for management to devote attention to shaping a positive quality culture, including a pro-quality climate, than to invest in tempting solutions, technologies, and external accreditations.

The author accepts the quality culture model presented in Figure x.2, which considers the synthesis of its elements consistent with the EUA concept and is determined based on many studies conducted in various world regions.

**FIGURE x.2.** Quality culture in higher education, its elements and their mutual relations

Source: own study based on (Ehlers, 2009).

As Figure x.2 shows, this model consists of 4 essential elements:

1. **Structural elements** are concepts, systems, processes, tools and mechanisms used at the university, formalised to a greater or lesser extent, ultimately exerting the desired impact on the quality of the university's activities and their effects. These are elements adapted for internal purposes, such as internal quality assurance systems based on ESG resulting from national regulations, normative management systems according to ISO standards implemented in the university / its organisational units (e.g. ISO 9001, ISO 21001, ISO/IEC 27001), excellence models - e.g. EFQM, CAF, the concepts of Lean Management, Six Sigma or Lean Six Sigma and a whole range of methods, tools and techniques for designing, supervising and improving quality. These are also processes and their formalised descriptions (procedures, schedules, plans), resulting from the solutions adopted at the university and external, such as domestic and foreign accreditations and certificates regarding the quality of education in specific fields or the authorisation to award degrees/ titles in specific fields, disciplines or professional or scientific specialities.
2. **Supporting factors** enable universities to integrate structural elements - e.g. internal quality systems - with their organisational culture. They allow individuals and teams to introduce new processes, regulations, mechanisms and principles necessary in quality systems and incorporate them into their activities.
3. **Elements of quality culture(s),** such as shared values, behavioural norms, rituals, patterns of conduct, or artefacts, are influenced by the previously presented elements, which are manifested, among others, in their successive redefinition. "Heroes" symbolise successes in improving university processes, expressed in the awards they are granted and can promote quality development in organisations. Values regarding the educational sphere, as well as scientific research, are agreed upon and documented. The organisation has common symbols, practices, histories, and patterns that stakeholders respect. In the case of higher education institutions, the phenomenon of quality culture differs significantly from that of more homogeneous organisations, such as manufacturing companies. The heterogeneous nature of universities, which are organised, among others, within faculty, institute or department structures, makes quality culture a category that concerns these organisational units rather than the university as a whole. Quality culture is always part of the unique overall culture of an organisation, and as a specific construct, it cannot be transferred directly to other organisations. However, it should be researched and analysed in a given unit, and on this basis, constructive conclusions should be drawn regarding its positive direction of development.
4. **The cross-cutting elements** that connect the various aspects within groups 1-3 previously described are participation, trust, and communication. Communicating and participating among individuals and teams is essential to harmonising different subcultures and ensuring universal involvement. Commitment as a mechanism results from internal motivation to make additional effort at work and the tendency to care about its quality. Engagement comes from providing employees with incentives, involving them in organisational decision-making, aligning management values, and appealing to employee expertise. Trust is a necessary condition for stimulating mentioned individual and collective efforts, which in turn constitute a condition for transforming the quality potential of an organisation into culturally rooted realities expressed in symbols, artefacts, values, rituals, and other elements of quality culture.

In addition to the four groups of elements proposed by U. Ehlers described above, two additional aspects should be indicated that complement, in the author's opinion, the model of quality culture in universities. These are **a sense of ownership** and **empowerment of employees** in their activities for quality. The sense of ownership reflects a naturally and positively motivated responsibility for developing a quality culture in universities. It contributes to the development of this culture by facilitating mutual support and strengthening the identity of university staff empowerment, which, in turn, allows employees to initiate improvements. This tendency affects the freedom of action of employees when using their experience and specialist knowledge in practice.

L. Harvey (2007), as part of the summary of the conference devoted to the pan-European initiative "Quality Culture Project", formulated the following conclusions regarding the culture of quality in universities:

* + - Quality culture is primarily concerned with the behaviour and interactions of various university stakeholder groups, not the operation of a formal quality system.
    - The culture of quality is based on partnership and cooperation, sharing experience connections and teamwork.
    - Leadership within a quality culture should serve an inspiring function and not be a manifestation of dictatorial attitudes. Leaders should be identified and engaged at all levels, not just within the university's senior management group.
    - The quality culture always warmly accepts substantive critical assessment, including various types of external formal evaluations and agreed internal assessments, without excluding any group of employees - including management.
  + The beneficiaries of quality culture are university stakeholders. Still, special attention should be paid to students, the most important group of clients of these organisations from a broader social perspective.
  + Quality culture promotes positive changes, supports innovation, and allows employees to take risks, admit failures and learn from mistakes.
  + The activities of external institutions within the quality assurance framework may inhibit the development of a progressive quality culture if the effects of these activities constitute "high stakes" for the university management. This may lead to risk aversion on the part of employees. Suppose there is too much to lose due to poor external evaluation results. In that case, the effect may be a pseudo-culture of quality that is reduced to following rules and conservatism rather than supporting creativity.
  + The incompatibility between the strategic goals for quality at the university and its organisational units and the goals of the quality assurance processes also constitutes a barrier to developing a quality culture, especially if the quality assurance processes do not reflect the natural work practices of the staff. This inconsistency is exacerbated by the unfortunately common situation where effective corrective actions are not taken after internal or external reviews of the quality assurance system.
  + A culture of quality requires an approach based on teamwork. An influential quality culture also seeks to engage everyone in innovative quality improvement.
  + The university's external quality assurance procedures should be flexible enough to reflect its internal quality procedures and culture. On the other hand, internal procedures should not be an uncritical reflection of these external processes if they do not support the development of a specific quality culture. In this regard, a certain degree of autonomy is necessary to develop a quality culture that recognises and encompasses internal quality activities. An institution with a robust and progress-oriented quality culture provides a basis for improvement, and external quality assurance becomes a less critical addition.
    - To the greatest extent possible, employers should be involved in quality improvement processes (not only the educational process) because, thanks to their experiences, it is possible to effectively develop a quality culture and contribute to increasing student satisfaction. Overall, in many respects, employers seem to be an untapped "resource" in this context, especially in the applied sciences.
    - The culture of quality is reflected in the adoption of a reflective, self-critical approach by the university's student and staff community. Therefore, it promotes comprehensive evaluations of the results obtained, needs, expectations, and problems.

# Quality Management Concepts and Methodologies for Higher Education [40-60]

## Total Quality Management (TQM) as the Basis of Improvement (PGR)

Since the creation and popularisation of the TQM concept, it has been emphasised that it should occupy an important place among the approaches enabling the improvement of universities.

At the end of the 1980s, T. Stuelpnagel (1989) suggested that university management should be aware of the positive changes in various organisations concerning applying elements of the TQM concept in them and strive to develop programs supporting its dissemination.

I. Saunders and M. Walker (1991) stated that the most significant challenge in implementing TQM in universities is to design an appropriate management system structure, encouraging all groups of employees to improve the quality of the activities in which they participate. Designing a system framework that should be directly linked to the structural elements shaping the quality culture (see Figure x.2) is only a tiny part of the necessary activities. The introduction of TQM will only bring benefits if university management properly develops the soft psychological elements that contribute to its quality culture.

TQM naturally fits into the characteristics of higher education because it is an approach that treats this complexity and diversity as factors increasing the chance of introducing the expected rights, a basis and inspiration for essential changes (James &James, 1998); (Vazzana &Winter, 1997).

In 1996, B. Burkhalter (1996) noted that approximately 160 universities in the United States had introduced programs based on the TQM concept, and over 50% of all universities there had established quality councils. The scale of this phenomenon resulted from, among others, incentive programs and guidelines addressed to universities by leading American corporations, as indicated by B. Ruben (1995).

The Total Quality Forum, sponsored by companies such as American Express, Baxter, Ford, General Motors, IBM, Milliken, Motorola, Procter & Gamble, 3M, and Xerox, has made significant contributions to fostering dialogue and implementing exciting initiatives through formal partnerships. Such targeted, fruitful, honest, and not just declared cooperation between universities and private and public organisations is one of the effects of the great social potential represented by TQM and the quality issue.

Research conducted by S. Trapitsin et al. (2015) made it possible to identify specific features conducive to the introduction of the TQM concept in the academic environment, such as:

* + - organisational climate positively assessed by employees, triggering positive emotional reactions from university employees and students,
    - agreed and respected standards regarding teaching work and acquiring knowledge,
    - fair, in employees' opinion, rewarding their efforts and achievements.

In turn, M. Asif et al. (2013), summarising the results of their research, conclude that, apart from the commitment and strong, progressive leadership represented by the authorities of the academic institution, two key factors play a crucial role in contributing to the success of projects based on the concept of TQM in universities. These are general awareness and involvement of employees in process-focused management and perception of quality from the perspective of the needs and expectations of all internal and external university stakeholders.

Although TQM emphasises integrative, systematic management of the organisation, it can be noticed that published empirical research on universities focuses instead on individual elements of these systems, e.g., only on the educational process, student satisfaction, or relations with the economic environment, and not on their holistic approach. As noted by R. Laurett and L. Mendes (2019), the interaction and interconnections between various elements and components of TQM still need to be sufficiently researched concerning university management, especially from a systemic perspective.

Future research should focus on integrating theories from various fields of social sciences to identify the critical relationships between the mentioned TQM components in a holistic approach. For this purpose, advanced statistical methods, such as structural equation modelling (SEM), should be used to estimate complex system dependencies. The issue of cultural differences between individual systems and higher education institutions in different regions of the world remains critical.

One of the most important trends in this research is the evaluation of higher education institutions concerning criteria that significantly impact the success of initiatives based on the TQM concept. However, as previously emphasised, the importance of these factors changes depending on the context of the organisation and its specific cultural conditions. Thus, applying commonly known and repeatedly verified solutions in universities, such as formal models representing the essence of the TQM concept, is a good practice. Mention should be made here, among others: EFQM, CAF excellence model, or, to a narrower extent, a normative management system consistent with the high-level structure (HLS), e.g., ISO 21001, ISO 9001.

Due to the compatibility of the features characterising TQM and models of organisational excellence or the principles of normative management systems, they can be used in a configuration conducive to shaping a quality culture at a university. Similar arguments can be made regarding the applications of Lean Management, Six Sigma concepts, and their derivatives.

The use of TQM practices in universities remains controversial in the academic community worldwide, and its benefits still need to be considered unconvincing or adequately demonstrated. Referring to these unfavourable phenomena, J. Koch and J. Fisher note that the fundamental problem is the university management's superficial, incorrect treatment of the TQM concept. It is usually considered an approach intended to support improving those activities or systems that cannot be improved so that their effects give the relevant stakeholders the value they expect (Koch&&Fisher, 1998). Improvement must concern only activities designed accurately in the context of the needs of recipients or users. The problems with noticing and understanding this simple, fundamental principle of quality management are, according to the author, the most common explanation for the controversies mentioned above and, in his opinion, unfounded criticism of the TQM concept.

The traditional culture of an academic institution may, on the one hand, support pro-quality changes and, on the other hand, constitute an obstacle to implementing TQM. In the first case, it would be necessary to emphasise the beneficial impact of the significant potential, very diversified, comprehensive tacit knowledge of universities and the great opportunities to introduce important process innovations. Problems may result, among others, from inefficient hierarchical structures, clear divisions in employee groups and their negative mutual attitudes.

According to M. Cruickshank (2003), efforts should be concentrated on two fundamental issues for change processes based on the TQM concept to be successful in universities. Firstly, it is of fundamental importance, in this context, that the culture of higher education institutions be appropriately diagnosed and appropriately prepared for changes in the staff's attitudes, values, and beliefs. Since TQM as a management concept is associated with the business sphere, the advisability of its application in the academic environment may raise numerous concerns related to the activation of ruthless market mechanisms (Youssef et al., 1998). The sceptical approach of university employees can be overcome by appropriately providing them with knowledge about the phenomenon that has been TQM for about 50 years and demonstrating its beneficial impact on various areas of organisational activity. The critical factor for the success of any change is support building active, committed leadership.

The second issue that requires special attention and determines the success of changes based on TQM, according to M. Cruickshank (2003), is the popularisation of the perception of universities as a system of interrelated elements - processes and the resources used in them. As part of a systems approach, universities should proactively develop self-assessment as a management method at the institutional and program levels and integrate formally mandated quality assurance initiatives into the institution's strategic plans. This aspect should also be considered an element of cultural change, meaning the need to identify good quality practices, ensure a genuine commitment to quality on the part of employees, ensure transparent accountability mechanisms, value the input of stakeholders and initiate improvement activities.

## Lean Management (PGR)

One of the first publications in the world literature containing theoretical considerations regarding the need and possibilities of using the Lean Management concept in higher education entities was an article published in 2000 by J. Dahlgaard and P. Østergaard (2000) entitled "TQM and lean thinking in higher education". This work concluded that higher education systems need to reorient their structures to enable Lean Management to improve their processes.

According to E. Cudney and her co-authors (Cudney et al., 2020), an extensive study on the applications of the concepts of Lean Management, Six Sigma and Lean Six Sigma in higher education, the first work relating to practical applications regarding the possibility of using LM elements in this area, should be attributed to M. (Bob) Emiliani. In 2004, this author published a case study in which he presented the use of selected LM methods and tools in designing and implementing a study program at a university (Emiliani, 2004).

The concept of "Lean University" was used by C. Comm and D. Mathaisel [2005] concerning sustainable development. P. Hines and S. Lethbridge (2008) found great potential in higher education institutions to eliminate waste and increase the value of activities in the context of stakeholder expectations. At the same time, these authors noticed that universities constitute an unfavourable environment for introducing LM due to the typical reluctance, mainly of the scientific community, to introduce changes quickly. M. Doman [2011] indicated that the principles and practices of LM can be successfully applied to administrative processes in the university environment. In turn, C. Carvalho and co-authors (Carvalho et al., 2013) described the effects of the Lean Learning Academy project, consisting of the cooperation of five European universities and five international companies in connection with a training program for engineers in the field of Lean Manufacturing. This project developed a successful alternative to traditional teaching methods in engineering courses based on LM principles.

The previously mentioned J. Dahlgaard and P. Østergaard defined eight categories of losses (muda) in the context of higher education institutions [Dahlgaard&Østergaard 2000]:

1. Uncoordinated teaching, coaching, and examination activities result in students needing help passing their courses.
2. PhD students who need assistance finding a job and have no opportunity for lifelong learning.
3. Planning courses with substantive content for which students still need to obtain the appropriate qualifications.
4. Courses and subjects that do not contribute to creating real value for key stakeholders (students, employers),
5. Poor logistical planning for education and examinations means that students, academic teachers, and support staff must move unnecessarily from place to place or correct errors for which they are not responsible.
6. Lack of proper control of infrastructure supporting education regarding time, costs and quality.
7. Unnecessary expectations of teachers and students related to implementing supporting processes that must be coordinated with the basic processes.
8. Designing courses and support activities that do not meet the needs of stakeholders - customers in higher education and beyond.

J. Douglas et al. proposed an interpretation of eight categories of losses *(muda)* adopted in the classical LM approach concerning the context of higher education processes. They also presented practical examples of waste and associated costs for various stakeholders, suggesting solutions to eliminate waste. These researchers noticed that the dominant category of improvement initiatives in universities using the LM concept are projects related to administrative and service processes. However, they emphasised that "if Lean Management is to avoid the fate of TQM in the case of universities, it must also cover key processes - education and research" (Douglas et al., 2015).

J. Douglas and co-authors also noted that the literature indicates four general categories of losses occurring in the processes of higher education institutions. The first is losses (waste) concerning human potential - when universities must fully use the knowledge and skills of employees and other key stakeholders. Process losses - refer to deficiencies in the design, implementation, supervision and improvement of university processes. Information losses – occur when the information available to appropriate people is insufficient to effectively and efficiently support university processes. The fourth category refers to losses when the university does not use its material resources effectively (Douglas et al., 2015).

Regarding publications directly dealing with the issues of LM in higher education, books by W. Balzer (2010) and the previously mentioned M. Emiliani (2015a, b) should be mentioned. Balzer introduced the concept of Lean (in) Higher Education (LeanHE - LHE) in the title of his monograph. This author has developed a clear conceptual framework and practical advice for preparing and implementing LHE in an academic institution. Balzer stated that the well-documented benefits associated with using LM in various sectors of activity, both manufacturing and services (e.g. in healthcare), create a solid basis for LHE as a strategic organisational model for radical improvement of every university process. He presented several examples of American universities where elements of the LHE concept were introduced and the associated benefits recorded in these organisations.

The books by M. Emiliani are very accessible guides dedicated to management staff working in administrative positions at universities and academic teachers. Emiliani shared his extensive experience using the LM concept in the work of an academic teacher. He also described his observations regarding the functioning of universities as organisations. The author noted that the LM concept is consistent with elements of the academic tradition, such as collective decision-making, openness to the environment and the needs of interested parties. LM cannot justify employee layoff plans, forced adoption of corporate management system models, or guarantee a 100% graduation rate (Emiliani, 2015b). M. Emiliani also stated that although many professors accurately identify problems and introduce improvements in their immediate environment, most often, unfortunately, they do not refer to the natural sources of irregularities in their parent organisation and are limited to the activities of a given person.

LHE - the theoretical and practical trend proposed by Balzer - positively fits into contemporary trends related to the development of education systems. These trends are reflected in the growing interest in this issue among representatives of universities from various regions of the world.

The idea of creating the LeanHE Hub organisation was born in 2013. It was renamed LeanHE in 2016. Today, LeanHE gathers a community of practitioners who use LM and related progressive management concepts in higher education. The LeanHE organisation brings together approximately 60 universities in 3 regional sections: European, American and Australian-Asian (leanhe.org). The mission of LeanHE is to promote continuous improvement in higher education by creating networks, sharing best practices and supporting the implementation of a series of international conferences. This organisation has adopted the following values as the basis for its activities:

* Respect for people.
* Valuing people's time and effort.
* Valuing diversity.
* Valuing creativity.
* Acting with integrity.
* Challenging the status quo through continuous improvement.
* Taking an action-orientated approach.
* Taking risks.
* Learning from mistakes.
* Enjoying our endeavours.

Thanks to the mindful introduction of the LM concept, supported by appropriate competencies, and in cooperation with university administration employees, academic teachers can improve the practices that bother them by sharing their ideas with others. This way of collaboration, in turn, allows for developing a progressive quality culture and integrating the most often antagonised groups of university employees (Emiliani, 2015a).

In addition to pointing out the benefits and advantages, we should remember various types of problems, whether real or recognised by experts as potential threats regarding LM in the higher education sector. W. Balzer et al. (Balzer et al., 2016) note that the LHE concept, despite numerous successful initiatives of this type, has not yet received such solid evidence of specific benefits and standardised approaches as in the enterprise sector, effectively motivating its wider use. The lack of convincing scientific evidence of the positive impact of LM on organisational performance in the service sector has been noticed by other authors, e.g., concerning healthcare facilities, and this issue was highlighted by N. Burgess (2012). It is worth noting that the basis of LM-pull systemoperation is natural for services generally not "pushed" or provided in stock. So, simplifying a bit, we can say that services are Lean regarding the flow type! The challenge facing this entire sector, including public services, is how to "push" some of its capabilities to the markets to improve efficiency without losing quality (Arfmann et al., 2014).

M. Sunder and S. Mahalingam (2018) indicate the following factors that may limit interest in the LM concept or negatively affect its possible applications:

* + The LM concept is often wrongly associated with activities aimed at reducing employment, which is ironically emphasised by the acronym LEAN (*Less* *Employees Are Needed );* however, this is a significant distortion of the basic principle of LM - respect for people, the negative connotations of which should be avoided;
  + Students and employers, as critical stakeholders, should be treated not as typical customers but as prosumers, co-creators of the effects of university activities; without their participation, improvement projects will not achieve the desired effects; therefore, the inclusion of these two groups; among others, a system for planning projects based on LM and related training are highly recommended;
* The often observed definition of LM as the basis for grass-roots initiatives, although fundamentally accurate, is a tactical error because it somehow "exempts" the university management from the necessary involvement and participation; exclusion of management from active participation in improvement activities dooms the entire project to failure;
* The use of the LM concept should not exclude the application of other pro-quality solutions because the practical side of improvement becomes incomplete, especially in a complex university environment, e.g. selected elements and processes related to the Six Sigma concept, especially in its scientific approach, measurement of process variability, data analysis and reference possibilities, may be beneficial; normative management systems are also helpful in this context because LM does not refer to standardised practices, which in the case of large institutions play an essential role in organising many processes; there is no evidence in the literature that the introduction of LM brought quick positive effects at any university; this does not coincide with the declaration of obtaining almost immediate benefits, which is routinely repeated as an advantage of this concept;
* The LM concept should not be presented solely as a set of methods and tools but rather as a strategic concept of change common to all university employees; what matters most is in-depth knowledge and experience of everyday organisational reality - they enable leaders to take actions that improve results.

As it is known, the LM concept emphasises improvement based mainly on small, often difficult-to-identify changes and their results. It can be another disincentive, especially for a group of university decision-makers, due to the need for visible benefits confirming the effectiveness of management decisions.

## Six Sigma and Lean Six Sigma (PGR)

Similarly to the LM concept, the first studies, supported by research results, on the applications of the Six Sigma concept in HE appeared in the first years of the 21st century. In 2005, L. Zhao (2005) presented a theoretical approach to improving the quality of higher education based on the principles adopted in the Six Sigma concept. The author indicated the following five principles, commonly associated with the TQM concept, that should accompany improvement activities using the Six Sigma concept (Zhao, 2005):

1. Recognising and striving to meet the needs of students, university employees, employers and societies.
2. Making decisions based on data and facts.
3. Focusing on process management.
4. Emphasising the importance of teamwork.
5. Developing the spirit of innovation.

M. Maciel-Monteon et al. tackled a similar issue. Based on the results of studies at various universities around the world, they proposed a multi-item scale for assessing the attitudes of university employees, where the Six Sigma concept was introduced. The main elements of this scale are:

* management involvement,
* training and education,
* selection of improvement teams,
* connection of Six Sigma with the university strategy,
* change of organisational culture,
* connection of Six Sigma with human resources management, c
* connection of Six Sigma with key stakeholders (customers),
* connections - establishing Six Sigma with suppliers,
* adopting clear measures of assessed processes,
* communication and obtained benefits.

These elements are described by explanatory variables that constitute the basis for expressing opinions of the surveyed people (Maciel-Monteon et al., 2020).

L. Weinstein et al. (2008) presented an original educational program addressed to MBA students, within which they planned and implemented improvement projects based on Six Sigma in local companies. These authors, analysing the course and effects of this program, noticed that the effectiveness of improvement processes in the university environment does not result from an appropriately configured set of facts, theories and tools but is primarily based on the elements of team culture - beliefs, values, behaviours and orientation.

S. Ho et al. (2006) believe that the Six Sigma concept is a platform for promoting and introducing statistical education into various educational programs in higher education. It should be noted, however, that the challenge associated with improvement projects using Six Sigma in many cases is the need to use more or less advanced statistical tools. It is assumed that qualifications of at least a "Green Belt" area condition for participation in a Six Sigma improvement team. This condition may create a significant barrier for students whose participation in these initiatives is needed and university employees. This applies for natural reasons, especially to people associated with humanities and social sciences.

Using an approach based on project management principles to improve processes typical of Six Sigma (DMAIC cycle) in education is the dominant research subject in applying this concept in higher education. This issue was analysed, among others, by E. Cudney and D. Kanigolla (2014). These authors stated that educating students in the field of quality management, based on the design approach adopted in the concept of Six Sigma and Design for Six Sigma, positively influenced the value of the educational service perceived by students. Similar conclusions were also formulated by, among others, B. Babajide and T. Moore (2015) and E. Cudney and co-authors (2014).

When assessing the applications of the Six Sigma concept in higher education, it should be noted that it is not used as a method of increasing the effectiveness of activities at universities - e.g. by saving time, reducing variability or eliminating unnecessary activities. However, to a greater extent, it is associated with the increasingly better adaptation of the teaching service to the expectations of students (more practice!) and employers who need employees who understand this practice. This function is crucial, but it does not exhaust the possible applications.

For these reasons, there is a natural need to integrate both key quality concepts of Lean Management and Six Sigma. The previously mentioned LM practices, although enthusiastically accepted as relatively simple, bottom-up solutions, are often ignored by university management staff due to false arguments based on superficial knowledge about their lack of scientific basis. Six Sigma, as a concept based on solid, recognised scientific methods, including statistical analysis and experiment planning, gives greater credibility to the improvement activities undertaken, especially in the scientific community. For these reasons, it is appropriate to consider using an approach that integrates both concepts - Lean Six Sigma (LSS).

As noted earlier, the LSS concept is not only a combination of Lean Management and Six Sigma but also ensures the synergy of their joint effect. If LM is implemented without using Six Sigma elements, the potential opportunities associated with scientifically based data analysis tools that allow the use of the full potential of improvement in the organisation are usually omitted. However, suppose Six Sigma is adopted without elements of the Lean concept. In that case, a solid set of tools and a structured approach to improvement do not have a practice-proven strategy enabling widespread participation and application in the organisation. The hybrid LSS approach brings better results than either because it integrates the human and process aspects of the organisational ecosystem.

The goal of LSS is to transform an organisation, usually functionally oriented, into a process-oriented organisation, using the management of improvement projects based on the DMAIC cycle characteristic of the Six Sigma concept (Sunder, 2015).

Despite the growing importance of LSS in various sectors of global economies, including public services, very few universities use this concept to improve processes (Antony, 2014). M. Sunder (2016) indicated several examples of universities that, in his opinion, stand out in the use of this concept. These are Heriott-Watt University and Kings College (Great Britain), Miami University, Valdosta State University, University of North Carolina and University of Central Florida (USA) or National University of Singapore (Singapore).

In another study, J. Antony et al. (2012) identified four elements of the complex university environment which, according to the opinion of researchers from various countries, should contribute to the proper adaptation of the LSS concept in this type of environment:

1. **Inseparability** - unlike the manufacturing sector, in higher education, as with many other services, production and consumption cannot be separated as two value chain elements. Teaching and learning make one joint process.
2. **Immeasurability** - the intangible nature of the educational process significantly differs from the measurement of its characteristics, for example, the efficiency of a production process in which there are physical properties and well-known measurement procedures. Many features confirming the appropriate education quality or scientific research level can only be assessed descriptively. Moreover, quality measures in higher education may need to be individualised in close connection with the quality culture of a given university.
3. **Social importance** - higher education is essential for every country's social and economic development. Universities, whose mission is to create and transfer knowledge, are critical to the global socio-economic ecosystem. Compared to other areas of life, universities are responsible for preparing staff to earn money and pay taxes and for sustainably shaping the quality of life in their surroundings.
4. **Inadequacy and conceptual inconsistency - essential concepts in the business sector do not have** equivalents in the context of higher education. A classic example is the ever-present debate surrounding the idea of "customer" regarding students. Some researchers accept the thesis that a student should be treated in the same way as a company's customer. However, many do not agree with this thesis because, for example, not all students' immediate expectations are consistent with those of other key university stakeholders (e.g. employers) or may change significantly during the education process. A specific approach to the concept of "customer" in higher education also implies a different understanding of typical related issues, e.g. customer satisfaction or customer loyalty.

According to N. Simons, the American Association for Quality, one of the most distinguished organisations for the development of quality knowledge, recommends the use of Lean Six Sigma as a management strategy in universities since this concept (Simons, 2013):

* makes it easier to meet various accreditation requirements,
* serves as a universal pattern of behaviour when solving problems,
* promotes solutions that ensure the involvement of all employee groups, leading to process improvement,
* indicates appropriate metrics for monitoring the quality of critical processes,
* emphasises the role of various process groups as management objects, including by visualising the problems that arise in them,
* uses information regarding the needs of internal and external stakeholders,
* helps to identify and reduce hidden costs.

J. Antony et al. indicated barriers and critical success factors (CSFs) regarding introducing the LSS concept in higher education institutions. Typical barriers were (Antony et al., 2012):

* lack of proper understanding of university processes,
* lack of understanding of the value of processes in the context of stakeholder expectations,
* lack of awareness of the benefits of Lean Six Sigma in the public service sector,
* treating Lean Six Sigma as a way to quickly fix current problems rather than as an opportunity to improve the management system continuously,
* lack of vision of the desired organisational culture.

Critical success factors for LSS initiatives in higher education responding to the problems mentioned above are (Antony et al., 2012):

* + uncompromising support and commitment of top management,
  + ensuring effective communication at all levels,
  + strategic and visionary leadership,
  + project selection and setting priorities based on risk and opportunity analysis,
  + quality-oriented, progressive organisational culture.

It is worth noting that the expected problems and the factors supporting change processes in universities are very similar to those indicated in the global scientific literature related to quality management issues in the public services sector.

Researching the attitudes of, for example, university administration employees can show the management whether, given the current state of organisational culture, implementing this type of strategy may receive active support from this group. Thanks to a detailed analysis of respondents' attitudes regarding individual explanatory variables, it is possible to define precisely targeted improvement actions. The lack of such references most often leads to implementation errors, resulting in employees returning to their old ways of behaving, and an LSS initiative that needs to be maintained correctly will fail sooner or later.

## Normative Management Systems (PGR)

When discussing contemporary concepts of quality management in higher education, one must include normative (standardised) management systems, primarily those described by models presented in international standards published by ISO.

Implementing quality management systems (QMS) in universities, e.g., according to ISO 9001, can be very diverse. This diversity results from different motives and needs of individual entities. One such premise is, for example, the requirements of international organisations adopted as part of the system for recognising specialised qualifications (diplomas) of graduates of a given type of university. Quality management systems are implemented and certified in universities, selected faculties, and individual departments or laboratories. It is not easy to indicate which of these approaches is optimal. An implementation method confirmed in large organisations is pilot implementation on a smaller scale (e.g. a selected university department or a selected central administration unit) and using positive experiences in other organisational units.

Even though the use of QMS according to the ISO 9001 standard in higher education institutions worldwide is quite common, the interest in this phenomenon still needs to be higher than in the group of enterprises. This tendency is due to many reasons, including:

* + Lack of intense "market" - external factors motivating universities to implement and certify QMS or other normative systems; in enterprises, there is natural pressure from different companies - customers, mainly related to building trust in the supply chain or creating joint activities for quality within the cooperation network;
* Governments of individual countries rarely decide to support this type of initiative through, for example, systems of subsidies or material incentives for universities, unlike other categories of entities in the public sector, such as public administration or health care;
* The stable situation, especially for large public universities, which often have a monopoly position in their services in a given region due to historical conditions, a well-established positive image or a rich technical and living infrastructure that is difficult to replace. They have no internal solid motivation to incur additional costs related to the implementation, certification and maintenance of such management systems;
* Non-recognition of the certificate of compliance of the normative management system at the university as a document confirming, at least to some extent, the fulfilment of the requirements of national education quality assurance systems (accreditation);
* ISO 9001 and other international standards defining models of management systems are usually negatively perceived by liberal-minded university staff who do not have adequate knowledge about them; they appear as rigid, command-oriented sets of additional bureaucratic requirements, the introduction of which will probably not improve anything, and will probably limit academic freedom and contribute to further waste of resources.

Due to the flexibility of structures and the more fleeting nature of service relationships, especially in the group of academic teachers, there may be many problems that a routinely introduced QMS according to the ISO 9001 standard will not help solve but may even increase their burdensomeness.

As a result of their empirical research, K. O'Mahony and T. Garavan noticed that many universities were making severe mistakes related to the formal requirement of the ISO 9001 standard-setting quality goals. Instead of referring to stakeholders' real needs and expectations, these goals usually have a pseudo-qualitative character, as they concern traditional bureaucratic practices and statistical and settlement legal requirements (O'Mahony& Garavan, 2012). The same authors used a four-element analytical model in research on implementing a QMS in higher education. This model consists of leadership and sponsorship of improvement projects, stakeholder involvement, quality culture and management systems, techniques and tools. These researchers found that top management leadership and sponsorship are the most critical drivers of successful quality system implementation. They also focused on rational processes for implementing a QMS and techniques and methods to improve processes (O'Mahony&Garavan, 2012).

R. Ab Wahid (2019), based on a systematic literature review, identified the following key factors which, regardless of location, have a dominant impact on the success of the process of introducing and efficient functioning of the QMS according to the ISO 9001 standard in higher education:

* + Involvement of people in activities related to the management system, including top management, academic teachers, and other university employees; such widespread involvement should concern the planning and implementation stages and the ongoing operation and improvement of such a system. It is necessary, at the beginning of this process, to plan appropriate resources to compensate for the additional duties of those performing these activities (e.g. additional remuneration, exemption from other duties, training during working hours); although it seems controversial, practice confirms the desirability of actively involving students in these activities;
  + Ensuring high-quality training and appropriate substantive preparation for employees, including necessarily the management staff; the time, form and content of training should, of course, vary depending on the functions and responsibilities of individual people in the relevant processes related to the management system; when planning this type of training, no group of university employees can be omitted; it is worth having socially active students and doctoral students participate in them;
  + Treating the implementation of a QMS as a transformation aimed at creating and strengthening a quality culture. For this purpose, various strategies dedicated to specific groups of employees can be used, such as:
    - * selecting and building the potential of change leaders in various groups,
      * creating improvement teams with a representative composition for various groups of employees/students,
      * team goal setting using key performance indicators ków,
      * planning improvement projects on an annual basis;
  + Introduction of a realistic internal system of improvement suggestions along with appropriate motivating mechanisms;
  + Including representatives of all key stakeholder groups in activities related to the QMS, not only internal but also external - especially employers; this is a requirement related to section 4 of ISO 9001 - "Context of the organisation", but also an element of shaping the university's quality culture with a pragmatic basis;
  + Monitoring processes within the scope of the QMS should not be limited to traditionally used solutions, such as student surveys assessing academic teachers. Peer evaluation methods should be introduced more widely*,* research with the participation of employers and the evaluation of the management staff by employees, which, if its consequences are visible, should be an element of building trust and a climate of fair relations in the organisation.

In addition to this information, it should be noted that in universities with internal quality of education assurance systems based on regulations in force in a given country, normative quality systems should be integrated with them. For example, in European countries, the standards and guidelines developed by ENQA (ESG) constitute requirements for the quality of the effects of the educational process, within the meaning of the ISO 9001 standard, and for natural reasons, they are a crucial element of the QMS implemented in universities. Consequently, all resources, including human resources, processes and documented information, become part of the QMS.

Similarly, the relationship between the standards of commercial accreditation organisations and the requirements contained in the ISO 9001 standard can be considered. E. Dumond and T. Johnson compared the standards of the prestigious Association to Advance Collegiate Schools of Business (AACSB) accreditation and the requirements of the ISO 9001 standard. They concluded that the AACSB organisation should include some elements of the ISO 9001 standard and process practices related to normative management systems to improve the accreditation process. These include the introduction of a formalised internal audit as an essential mechanism for ongoing supervision of the management (sub)system, the implementation of a realistically planned process approach, systematic continuous improvement, and the use of other QMS principles according to ISO 9001 as fundamental elements of the quality culture at the university or its organisational unit (Dumond&Johnson, 2013).

To summarise the thread on using QMS according to the ISO 9001 standard in higher education, the conclusions of recent research conducted in Lithuania are worth mentioning. This research involved 26 universities (over 50% of all universities in Lithuania) in which QMS was introduced according to the ISO 9001 standard. According to respondents, the ISO 9001 standard was perceived as a set of good management practices consistent with the mission and vision of the university, which can be modified following the institution's needs. Representatives of the surveyed universities stated that this system has a positive impact on the image of the university, communication with external stakeholders, supervision of documents and processes, effects of research and administrative activities and the quality of education (Kasperavičiūtė-Černiauskienė&Serafinas, 2018). They should not be disregarded even when recognising that these positive opinions are not fully representative of other countries, and they should create an idealised image of the conditions accompanying the introduction of normative management systems in higher education institutions that are too superficial. As mentioned earlier, the dynamically growing diversity and innovation of solutions regarding management systems causes the shortcomings of these standards indicated so far, such as:

* Excessive generality of requirements,
* Lack of explicit sector/industry references,
* Omitting important factors affecting management efficiency have been mostly eliminated and should not cause problems.

Referring to specific factors regarding the organisational culture of an academic institution and potential or actual barriers, in the author's opinion, the development of normative management systems on a global scale should be treated as an opportunity to improve management quality in higher education systems. It can be concluded that it is consistent with scientific and technical progress trends and social and economic development.

In recent years, as a result of the demand reported by experts, standards have been published that define issues related to the management of organisations more precisely than before. These positive changes include various categories of organisations (e.g. enterprises operating in multiple sectors of the economy, public organisations) as well as different spheres of activities, resources or problems that the management system is to address, e.g. quality of products or services, environment, occupational safety, information security, risk, energy, documentation, anti-corruption activities, crises, mass events, sustainable development, etc.

Thanks to this diversity, the standardisation of management system models opens up many interesting application possibilities in a heterogeneous university environment.

Taking into account education - the critical area of university activities, and referring to the previously presented conditions accompanying the implementation of QMS according to the ISO 9001 standard, it is necessary to present one of the newer, still little-known standards - the ISO 21001 - Educational organisations. Management systems for educational organisations. Requirements and guidelines for use (ISO 21001, 2018).

The predecessor of ISO 21001, developed in 2003 and amended by ISO in 2007, document IWA 231 (International Workshop Agreement) "Quality management systems. Guidelines for the application of ISO 9001:2000 in education" was withdrawn due to the revisions of the ISO 9001 standard.

In 2010, the ISO 29990 standard "Educational services in non-formal education and training. Basic requirements for service providers" was issued. Due to its limited use in the educational system, this standard has received little public interest. Therefore, organisations providing educational services, including universities, have requested the development of a standard subject to certification, i.e. containing requirements that meet the needs of the environment of these organisations. Various educational institutions can now choose to be certified based on the requirements of the ISO 21001:2018 standard to avoid ambiguities related to the terminology used in the ISO 9001:2015 standard.

One of the significant differences between ISO 9001 and ISO 21001 is the principles that form the basis of both systems. The seven principles of the QMS system according to ISO 9001, i.e. customer orientation, leadership, people involvement, process approach, improvement, decision-making based on evidence and relationship management, have been included in the ISO 21001 standard and supplemented to 11 principles.

1. Focus on the needs of learners and other beneficiaries.
2. Visionary leadership.
3. Employee involvement.
4. Process approach.
5. Continuous improvement.
6. Evidence-based decisions.
7. Relationship management.
8. Social responsibility of an educational organisation.
9. Accessibility and fairness.
10. Ethical behaviour within the educational process.
11. Security and data protection.

It is visible that these principles, although published only three years later than the QMS principles according to ISO 9001, were already defined in a new, extended system of factors determining global sustainable development goals, better reflecting the idea of Industry 4.0.

The requirements in the ISO 21001 standard are general. They can be used in educational organisations, supporting their development of competence potential through teaching, training or research, regardless of the type and size of these entities and the academic service provided (Anttila &Jussila, 2017).

The arrangement and nature of the requirements in this standard correspond to universal solutions used, among others, in the ISO 9001:2015 standard. Thanks to the universal ten-chapter structure, adopting ISO 21001 requirements should be easy for organisations that have already obtained a certificate for their management system.

Referring to the concept presented in the ISO 21001 standard, Figure X.3 presents the educational organisation management system's role (EMOS) as an essential element in ensuring compliance with the adopted vision as part of implementing the university's mission.

**FIGURE X.3.** The educational organisation's management system (EOMS) role is in the university's mission and vision.



Sources: Own elaboration based on (ISO 21001, 2018).

As one can see, this management system is based on an appropriately developed quality culture at the university. When EOMS is implemented in an organisational unit (e.g. a university department), the elements presented in Figure X. 3 should be related to this unit.

Table X.5 lists the elements constituting the content of the main sections (chapters) of the ISO 21001 standard. At the same time, Figure x. 4 presents the relationships of these EOMS elements as a diagram of an open system based on the universal PDCA cycle of continuous improvement.

In one of the first articles on applications of ISO 21001 in higher education, E. Wibisono, analysing the layout and content of this standard, notes that "customers" of education systems, as in the case of other services, actively participate in the education process. This relation suggests emphasising intensified communication between the institution (university) and its students. This aspect is highlighted in this new standard. E. Wibisono notes that the scope of the elements of the ISO 21001 standard is larger than the scope of the ISO 9001 standard since the management of an educational institution, and a university in particular, is more complex than the management of most other organisations. The author also indicates the special educational needs emphasised in this standard, the fulfilment of which by the educational entity is an expression of understanding social needs. In summary, he puts forward the thesis that using ISO 21001 in universities may constitute an interesting topic of empirical research related to the issue of quality in higher education (Wibisono, 2018).

**TABLE x.5.** Elements of the ISO 21001 standard constituting requirements for EOMS.

| **Chapter of the**  **ISO 21001**  **standard** | **Chapter title** | **Requirements** |
| --- | --- | --- |
| **Chapter 4** | **Context of the**  **organisation** | * Understanding the organisation and its context * Understanding the needs and expectations of stakeholders * EOMS Scope |
| **Chapter 5** | **Leadership** | * Leadership and commitment, including additional requirements for special needs * Focus on students and other beneficiaries * Developing and communicating the quality policy of the university * Assign organisational roles, responsibilities, and permissions |
| **Chapter 6** | **Planning** | * Planning activities to address risks and opportunities * Setting the university's goals and planning to achieve them * Planning and managing change |
| **Chapter 7** | **Support** | * Identify and provide the necessary resources for the operation of the EOMS (human resources, facilities, organisational knowledge) * Competences and training (including competencies needed by learners with special needs) * Awareness and communication * Creating, updating, and curating documented information |
| **Chapter 8** | **Operation** | * Planning stages of education, including supervision over the education cycle * Identifying and communicating requirements for educational products and services and any changes made to them * Establishment of oversight (including design and development controls) and procedures * Supervision of processes, products and services delivered from external sources * Providing educational products and services |
| **Chapter 9** | **Performance evaluation** | * Monitoring and measuring the satisfaction of learners, other beneficiaries and staff * Analysis and evaluation of the information obtained * Conducting internal audits and management reviews |
| **Chapter 10** | **Improvement** | * Responding to non-conformities and taking corrective action * Continuous improvement of EOMS * Identify opportunities for improvement |

Source: Own elaboration based on (ISO 21001, 2018).

**FIGURE X.4.** EOMS structure as an open management system

Source: Own elaboration based on (ISO 21001:2018).

In addition to the above, other standards of management systems also correspond to selected processes and needs of universities. For example:

* The ISO 30401 standard presents the model of a knowledge management system (ISO 30401, 2018).
* The model presented in the ISO 45001 standard can be used to manage occupational safety (ISO 45001, 2018).
* One can refer to the guidelines in the ISO 26000 standard to implement the principles of social responsibility at a university (ISO 26000, 2010).
* Reliability of testing and analysis of results conducted in university laboratories can be supported by a management system described in the ISO/IEC 17025 standard (ISO/IEC 17025, 2017) can be implemented.

Universities, using the universal structure (HLS – high-level structure) of ISO standards presenting models of management systems, can naturally, as needs arise, expand their scope to include other areas important from the point of view expectations of its stakeholders. In this way, an integrated university management system can be created.

**X.3 Conclusion**

The considerations presented in this chapter only exhaust some issues related to this area that are the subject of the global debate. However, they indicate the essential elements of this important trend in the research and practice of institutions constituting a vital element of the sustainable development of individual countries and globally. To sum up:

1) The definitions of quality in higher education used by various experts need a solid theoretical basis. Therefore, an original definition of quality for higher education institutions was proposed based on an extensive literature review and normative solutions.

2) The excellence category concerning HEIs is intended to serve a motivating function and should not be associated solely with accreditation and certificates obtained. A good approach is to replace the term "excellence" with the form "improvement", emphasising both the essence of pro-quality activities and their purpose at universities. Criteria for organisational excellence should be incorporated and referenced as part of quality assurance activities.

3) It is challenging to identify convincing arguments that would justify the benefits resulting from the operation of QA systems in higher education. One of the goals of quality-promoting activities concerning HEIs should be the thorough improvement of these systems. Therefore, attention should be paid to the shortcomings of many standards and guidelines developed within various education systems, including:

a. marginalisation and often omission of processes other than education that characterise university activities,

b. vague references to university stakeholders other than students,

c. invoking the concept of quality culture without providing its features and ways of diagnosis.

4) Quality culture primarily concerns the behaviour and interactions of various university stakeholder groups and requires strong, visionary, strategic leadership at the university and complementary bottom-up initiatives. Thanks to the diagnostic methods developed by experts, it is possible to determine the state of the quality culture at a university or its organisational unit and, on this basis, plan the necessary actions to properly shape this culture's development.

5) Introducing concepts such as TQM, Lean Management, Six Sigma, or Lean Six Sigma in universities should be considered an essential element of modernising these organisations. They naturally support the development of a quality culture by promoting a combination of top-down and bottom-up improvement initiatives. Thanks to proven measurement methods, analysis and reorganisation focused on process variability and the resulting risks, they can be used to provide a structured approach to quality improvement.

6) Various areas of university management that are presented in normative management systems, mainly those published by ISO, could be easily supervised effectively. In addition to quality systems, it is worth considering good management practices in areas such as information security, knowledge management and university social responsibility. Because the systems are based on identical principles such as TQM, LM or Six Sigma, they can be a valuable addition to the quality infrastructure of these organisations. Certification of these systems, well recognised in the business environment, could, in most cases, replace accreditation of questionable value.

# Applying Quality Management to Enhance Stakeholder Satisfaction [30-40]

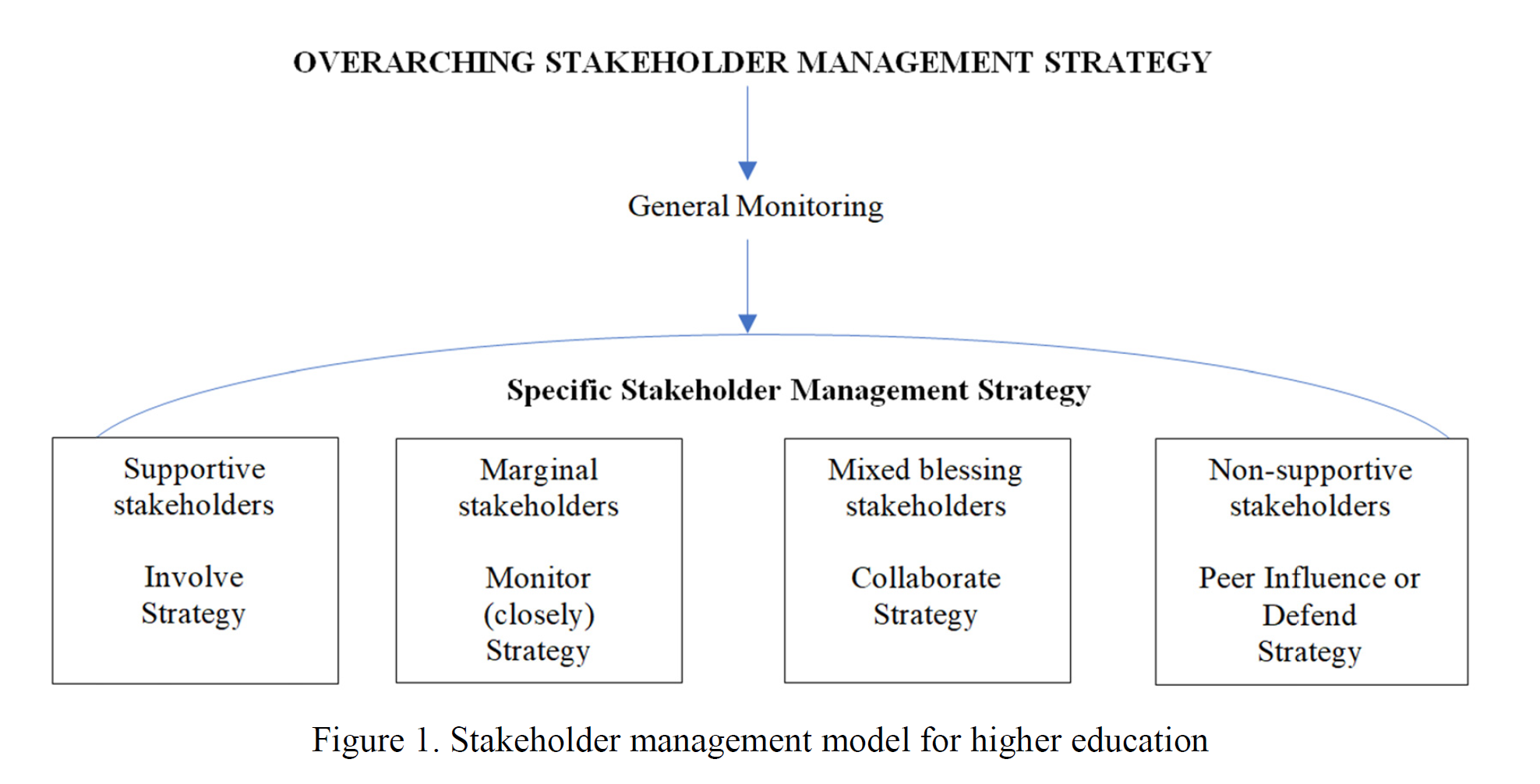
After theoretical discussion of the foundations of Quality Management and higher education specific context of most renown methodologies in the following chapter the focus will be shifted to enhancement of stakeholder satisfaction. For universities and other higher education institutions application of basic quality management principles reflects in stakeholder-centricity which has a lot of analogies to customer-centric approach proposed by the most of manufacturing-industry-originated quality management systems. For proper application of the stakeholder-centric approach it is necessary to determine what is valuable for different stakeholders. Ambiguity of definition of value may lead to inconsistencies within understanding what the quality for stakeholders really is. For HEIs, as stakeholder’s may have very different claims and expressed requirements, this is really important to identify what each stakeholder group may consider as valuable. Then identification of value for each of interested group is an important part of stakeholder analysis for quality management.

As the quality management is based on the mindset of continuous improvement if finds practical tensions within HEIs typical organisational culture. For researchers the continuous scientifical development and fact-based approach may be perceived as natural. Nevertheless universities relate very strongly to academic traditions then when implementing continuous improvement, which in practice, result in ongoing change process it generates tension between stabilisation of traditions and opportunities for improvement coming with changes. Another area of tensions relate to typical in many industries dilemma of choice between standardisation and flexibility. Especially for public universities standardisation resulting from government regulations may be perceived as a strong constraint for the traditional academic freedom. Then additional standards aim to stabilise improved processes may face even stronger tensions then in other industries. Analogical background may contribute to tensions between strive for compliance and very appreciated innovations. Another are for tension which is typical for many organisations is the tension between short-term results (financial, research, satisfaction) and long-term value creation. This is very relevant for HEI as impact of their delivery may have visible results after many years since the core educational process ends.

Implementation of the stakeholder-centric quality management for HEIs will be further elaborated within this chapter. It will relate to the alignment of quality management approaches with stakeholders needs. Additionally it will be discussed how quality management can be integrated in HEIs. Then authors’ proposition of the practical tool for implementing the stakeholder-centric change process will be presented and discussed which will be followed by the discussion on challenges and best practices for the efficient implementation of quality management in context of universites.

## Aligning Quality Management Approaches with Stakeholder Needs (JPSZ) [7-9]

Communication with stakeholders strategies based on measurements (chapter 2)



(Chan, 2021, p. 21)

Stakeholder management and TQM – analogies for client-centric approach – relevance for HEIs – e.g. EFQM/CAF

Stakeholder management and LeanSixSigma

Model 3I (Inform, Involve, Influence) for stakeholder management within LeanSixSigma project management

Stakeholder management and Normative Management Systems (ISO 9001:2015)

Stakeholder management and EOMS (as an Education specific Normative Management System)

Map key quality management approaches (TQM, Lean, Six Sigma, ISO 21001) to specific stakeholder expectations.

**Examples:**

* + **TQM:** Long-term stakeholder trust, student voice in curriculum design.
  + **Lean:** Removing inefficiencies in student service delivery (e.g. admin processes).
  + **Six Sigma:** Improving accuracy and timeliness in credentialing or feedback.
  + **ISO 21001:** Clause 4.2 – identifying and responding to needs of “interested parties.”

Recap the necessity and strategic benefit of aligning QM with stakeholder needs.

Set the stage for following subchapters on implementation and institutional case studies.  
***Focus:*** Summarize and reinforce the alignment as a defining requirement of modern HEI quality.

## Integration of Quality Management Systems in Higher Education Institutions (JPSZ) [7-9]

The effects of improving a particular QMS should be assessed, just like the outcomes of applying such a QMS, through the organizational performance it generates. However, this is not a straightforward matter, as evaluating the results of QMS improvement must take into account the possibility of irregularities in applying the established rules of operation. Furthermore, when assessing the improvement process by means of organizational performance, the influence of the university’s external environment should be considered, as it may determine the level of outcomes achieved by the institution.

Inspired by a literature review, stakeholder satisfaction surveys, and the analysis of various performance indicators related to university operations, an original model was developed to describe practical steps for improving a university’s quality management system. The term "model" is used here as a kind of representation of reality. Specifically, it refers—by analogy to the definition of a business model—to a defined “logic of actions (…) for creating value” (Shafer et al., 2005, p. 202).

The developed model takes into account the specific context and conditions of Polish public technical universities. A distinguishing feature of the model is its use of stakeholder feedback measurement. As such, the model enables the practical implementation of the concept of stakeholder-centrism in managing an organization like a university.

## Stakeholder Satisfaction Driven Quality Management (JPSZ) [12-16]

Based on the previously discussed understanding of the concept of a university quality management system, as well as conclusions drawn from the literature review, qualitative interviews, and quantitative research, an original model has been developed: the *Stakeholders Satisfaction Driven Quality Management Model* (SSDQM). The objective of this model is to present a comprehensive improvement process that implements the concept of stakeholder-centrism. Through the inclusion of an extended stakeholder analysis and mechanisms for obtaining feedback, the model is particularly well-suited to the complex environment of universities, especially public institutions.

At the same time, the model encompasses essential process stages, selected with the intention of developing a tool that does not overwhelm users with implementation complexity, while still remaining appropriate for both small institutions and large universities. The proposed steps and tools for improvement analysis and implementation do not constitute a closed catalogue; rather, they represent a proposal of a specific logic of action in which the role of stakeholder satisfaction measurement and feedback acquisition is emphasised. The model also acknowledges the necessity of analysing other sources of information to verify the scope of needs and areas for improvement.

The primary goal of applying this model is to implement enhancements to the university's quality management system, understood in accordance with the philosophy of Total Quality Management (TQM) as a "continuously evolving management system" (Andersson et al., 2006, p. 283). Accordingly, any activities aimed at introducing improvements to the functioning of the organisation are, in this interpretation, enhancements of the organisation's quality management system.

The English name of the model forms the basis for the acronym SSDQM, which will be widely used in the following sections. The phrase *stakeholders satisfaction driven* succinctly captures the essence of this approach more effectively than any directly translatable Polish equivalent. The Polish term *inspirowany satysfakcją interesariuszy* (inspired by stakeholder satisfaction) was chosen by the author as a more accurate expression of the model’s essence compared to commonly used terms in the Polish literature such as "driven by", "powered by", or "oriented towards". Nevertheless, it is acknowledged that even this term does not fully convey the model’s intent, which is to inspire the practical application of stakeholder-centric thinking. Therefore, drawing inspiration for improvement from stakeholder focus and satisfaction, measuring university performance with a particular emphasis on stakeholder-related indicators, and treating increased stakeholder satisfaction as a key goal of improvement initiatives constitute the foundation of the SSDQM model.

The model itself will be presented in several stages, across two levels of granularity. Before the detailed procedural steps and their interdependencies are outlined, the structure of the model’s main stages will be discussed (Figure 48). Analogous to recognised and widely applied quality improvement models, the SSDQM model is structurally aligned with the classical PDCA cycle. However, it does not constitute a direct adaptation of this cycle; instead, it has been developed as a process cycle that integrates stakeholder analysis and the preparation and implementation of improvements in a manner optimally suited to the specific characteristics and resources of a given university.

Nevertheless, the stages related to stakeholder analysis and the identification of issues requiring improvement resemble the *Plan* phase of the PDCA cycle. The subsequent stages, which involve implementing proposed changes, establishing systematic feedback acquisition, and embedding a continuous improvement practice, correspond to the *Do*, *Check*, and *Act* phases, respectively. Similarly constructed are widely recognised normative quality management systems based on ISO 9001, including ISO 21001:2018, which is dedicated to educational organisations.

It is also worth noting that—as in normative systems—the planning phase includes the most main stages (see Table 29). This results from the premise that effective planning helps avoid waste and inefficiencies in subsequent stages of action. Therefore, the proposed stages related to stakeholder satisfaction analysis and identification of areas for improvement have been supplemented with a stage dedicated to selecting specific areas for the implementation of improvements. This is of particular importance, as such an approach enables focused efforts toward a clearly defined goal, consciously selected from among others as the one most likely to deliver results in the most effective manner.

**Figure 48. Structure of the Main Elements of the Stakeholders Satisfaction Driven Quality Management Model (SSDQM)**  
*Source: Author’s own elaboration*

The SSDQM model is cyclical in its core structure. However, iteration is embedded not only at the macro level but also at lower, more detailed levels. The complete diagram of the model, encompassing all detailed stages along with their full descriptions, is presented in *Appendix 7*. The discussion of the model’s detailed structure will follow in subsequent sections, accompanied by visual representations of the individual procedural stages and comprehensive descriptions of those stages. The section of the diagram corresponding to the first part of the model—comprising main stages 1 through 4—is shown in *Figure 49*.

**Figure 49. Detailed Structure of Elements Covering Stages 1 to 4 of the SSDQM Model**  
*Source: Author’s own elaboration*

The following presents the full description of the detailed elements corresponding to stages 1 through 4 of the SSDQM model:

**1. Identification of the university’s mission, vision, and objectives, with particular emphasis on the role of stakeholders in the quality management system.**

**2. Identification of key stakeholders** (application of stakeholder identification and analysis methods as outlined in subsection 1.5):  
 2.1. Analysis of a broad spectrum of potential university stakeholders (e.g., utilizing the list from Annex C of ISO 21001:2018 or findings from subsection 1.5)  
 2.2. Description of the characteristics of each stakeholder group to allow for appropriate classification  
 2.3. Selection of the most relevant stakeholder groups in alignment with the institution's mission and objectives

**3. Identification of key areas for improvement from the stakeholders' perspective – qualitative study:**  
 3.1. Purposeful selection of interview respondents (including university management and representatives of all major stakeholder groups)  
 3.2. Development of an interview plan designed to achieve the research objective (identification of areas for improvement from the stakeholders' point of view)  
 3.3. Execution of qualitative interviews  
 3.4. Analysis of interview findings, including identification of the most critical areas for improvement from the stakeholders' perspective

**4. Analysis of external sources of information potentially correlated with the university’s stakeholder-related performance (rankings, ELA, other available external study results)**

The above detailed descriptions have been provided due to the visual limitations of the diagram format. In several instances, the labels within the diagram are abbreviated versions of the full description. To ensure clarity, any components not explicitly visible in the diagram have been added in parentheses, thereby distinguishing between elements found directly in the diagram and those that serve as clarifications or essential complements to each stage. A more detailed discussion of each of the steps will be presented below each section of the SSDQM detailed diagram.

Stages 1 through 4 constitute the first part of the **planning phase (Plan)** in the quality management improvement cycle. The key purpose of these activities is to lay the foundation for hypothesis testing regarding the most critical improvement areas through statistical research in subsequent stages. To this end, interviews should be conducted with selected representatives of various stakeholder groups in order to identify the spectrum of potentially significant problems from their perspective, and to gain a deeper understanding of their needs and expectations regarding their relationship with the university.

However, such analyses must not occur in isolation from the university’s mission, vision, and both long- and short-term strategic objectives. Hence, the initial step is to establish the broader context for the entire improvement process by identifying the reference framework for all subsequent actions—namely, the university’s strategy. It is easy to imagine that the objectives of improvement efforts will differ significantly between a small, locally focused private institution offering specialized education and a large research university with international aspirations, encompassing multiple scientific disciplines.

**Stage 2**, the analysis of key stakeholders, begins with a preliminary review of a wide spectrum of potential stakeholders (Step 2.1). The goal is to identify all groups potentially significant for the specific university in order to ensure that no critical groups are omitted from more detailed subsequent analyses. To support this, various stakeholder lists available in the academic literature (see subsection 1.5.1 and Table 50) or in Annex C of ISO 21001:2018 may be employed. The next step (2.2) involves describing the characteristics of each stakeholder group to enable appropriate classification according to stakeholder typologies. When constructing these descriptions, it is valuable to consider distinguishing characteristics across several classification models drawn from stakeholder theory (see subsections 1.5.1 and 1.5.2).

The next step (2.3) concerns the selection of the most relevant stakeholder groups from the university’s perspective. This selection should be preceded by an appropriate analysis. Table 53 provides examples of methods derived from the literature that may be applied in the context of higher education institutions. The final selection should be supported by a formal decision that helps define the scope of subsequent research and analyses.

**Stage 3** concerns gathering stakeholder feedback through qualitative research. The aim here is to identify potential areas for improvement that are simultaneously important to stakeholders. Given the nature of such feedback—gathered through interviews with representatives of all major groups—this method is relatively straightforward and enables enriching the university’s internal analyses with the voices of its stakeholders. Consequently, it is essential to gather input from representatives of all stakeholder groups identified in the earlier stages. Preparatory work begins with the selection of respondents (3.1), ensuring the inclusion of university leadership. For the purposes of this stage, purposive sampling is sufficient, as the qualitative findings are intended to inform the formulation of hypotheses regarding the most important areas for improvement. These hypotheses will later be tested through quantitative research.

After selecting the interview participants, a research plan or interview script should be developed (3.2) to guide data collection on stakeholders’ perceptions of areas requiring improvement. This script can take the form of a simple list of questions or a more elaborate plan detailing the interviewer's intended actions. The interviews should then be conducted (3.3) in accordance with the developed protocol. Once completed, the gathered information must be processed and analyzed (3.4) in order to identify improvement areas as indicated by respondents.

Following the qualitative study and identification of improvement areas from the stakeholder perspective, it is advisable to supplement the analysis with available external sources. Thus, in **Stage 4**, depending on the type of institution, various types of data collected by external organizations may be available for examination. For Polish universities, rankings such as the *Perspektywy* magazine ranking—which allows for tracing performance across several criteria over time—or the Webometrics ranking may serve as valuable sources. Besides rankings, there may also be other relevant sources of information providing insight into possible areas for development. Analyses from this stage should culminate in a summary report that complements the hypotheses drawn from the previous stage. These two sets of findings together define the objectives for statistical validation, ultimately allowing for the determination of which identified areas are genuinely important to stakeholders.

The diagram representing the second part of the model, covering main stages 5 and 6, is presented in **Figure 50**, with full labels for each detailed stage provided below the diagram.

Figure 50. Detailed structure of the elements covering points 5 and 6 of the SSDQM model

Source: own elaboration

Below is the complete description of the detailed elements for points 5 and 6 of the SSDQM model:

5. Statistical Verification of Stakeholder Satisfaction Levels and Significance of Other Findings from the Qualitative Study

5.1 Development of the Research Instrument

5.1.1 Selecting specific questions to measure SSI (Stakeholder Satisfaction Index)—e.g., clarifying time ranges by measuring graduate satisfaction immediately upon graduation and again at least three years later.

5.1.2 Designing additional questions to obtain responses addressing key issues emerging from the qualitative study.

5.2 Selecting a sampling method that allows obtaining reliable and statistically significant responses.

5.3 Pilot-testing the measurement instrument.

5.4 Implementing any necessary corrections to the instrument.

5.5 Conducting the main survey.

5.6 Analyzing survey results:

5.6.1 Verifying representativeness of the sample group.

5.6.2 Verifying statistical significance of the results.

5.6.3 Calculating key metrics, including SSI (in its various versions) and other relevant indicators tailored to the study’s purpose (e.g., IWRA).

5.6.4 Analyzing relationships between the metrics derived from the survey and external performance measures (e.g. ranking-based indicators, prestige scores).

5.7 Preparing a comprehensive report of the study.

6. Selection of Areas for Improvement

6.1 Analyzing root causes of challenges identified as significant for improvement, using analytic techniques such as the 5 Whys method and Ishikawa (cause‑and‑effect) diagrams.

6.2 Analyzing improvement potential by evaluating each root cause in terms of difficulty, costs, institutional goals, and values.

6.3 Selecting specific improvement areas using analytic methods like Pareto‑Lorenz diagrams.

**Points 5 and 6** constitute the **second part of the planning phase (Plan)** in the quality management system improvement cycle. They are a crucial part of planning because they include **verification (confirmation) of the scope of significant areas for improvement using statistical methods**, as well as the **identification of root causes** of the identified issues and the **selection of those improvement areas** that will yield the most **efficient results** (in terms of time, resources, and impact scale).

In **Main Point 5**, the process should begin with the **development of a research instrument (5.1)**. It is recommended to first select questions focused on **measuring stakeholder satisfaction (5.1.1)**. These questions should define the relevant **time frames**, specify **respondent eligibility criteria**, and determine the appropriate **answer scales**.

Based on the analyses presented in subsections 2.3.1 and 2.3.2, it can be stated that, for the alumni group, **feedback collected three years after graduation** is **better correlated** with other institutional performance metrics. Similarly, for other stakeholder groups, one can define specific qualification criteria or respondent distinctions, allowing for the creation of **different versions of the Stakeholder Satisfaction Index (SSI)**.

Regarding measurement scales, one can use **5-point or 7-point Likert scales** when **non-forced responses** (i.e., including a neutral option) are preferred. Alternatively, a **10-point scale** can be used if a **forced-choice methodology** is desired—similar to how the **Net Promoter Score (NPS)** is calculated (see subsection 1.3.2).

The next step (**5.1.2**) is the **design of the remaining survey questions**, which should help ensure reliable responses related to the hypotheses developed during previous analyses and studies. Dividing the instrument design process into two detailed steps is meant to emphasize the **importance of stakeholder satisfaction measurement** as a core element of the entire model. It promotes a **stakeholder-centered focus** through the use of appropriate metrics that assess both organizational outcomes and the effectiveness of the existing quality management system.

When developing additional questions, it is also worth considering allowing respondents to **freely express their views** through open-ended questions. Although this may complicate the analysis, it can provide **valuable insights** that would not be possible to obtain through closed-ended formats.

After designing the research tool, the next step is to **select a sampling method (5.2)**. The goal should be to use a **random sampling approach** to ensure **statistical credibility** of the results. At this stage, it is also important to assess whether the necessary resources are available for such a study. Universities are complex institutions, and it may be justified to conduct separate surveys for stakeholders of specific faculties or academic programs. While such targeted research could be expensive, a decision must be made on the **sampling strategy** that will provide the **best possible statistical representativeness** for each selected stakeholder group.

This step should also define the **time frame** of the study, as it directly impacts the **reliability of the results**. A **too short period** may limit the ability to collect valid data, while a **too long period** increases the risk of response variability due to **external random events** affecting the respondent group, which might otherwise be homogeneous.

The next step (**5.3**) is to **pilot test the research instrument**. This pilot should evaluate the questionnaire’s functionality and identify any aspects that could jeopardize the study’s success. If the pilot reveals any significant areas for improvement, **necessary adjustments should be made (5.4)**. In case of major changes, another pilot may be required to confirm that the tool is ready for final use.

Once the tool is validated, the next step is to **carry out the actual study (5.5)**. During implementation, it is crucial to **keep the instrument unchanged** and to **minimize researcher-induced bias** as much as possible.

After the study concludes, responses should be **analyzed (5.6)** to extract information useful for the next stages of the improvement process. The analysis should begin by **verifying the representativeness of the study group (5.6.1)** by comparing the respondent group’s structure to the entire population. To do this, demographic or classification questions must include items that identify respondents’ group memberships within the previously defined population structure (stakeholder groups).

In the next step (**5.6.2**), it is necessary to verify whether responses to each question are **statistically consistent with a normal distribution**. If any group’s responses to a specific question significantly deviate from normal distribution, the conclusion must acknowledge that, **for that question**, one **cannot generalize** findings to the population based on typical normal distribution parameters (e.g., mean, standard deviation).

For variables expected to be independent, **statistical tests for independence** can be conducted to verify data reliability. Additionally, if questions were based on hypotheses regarding areas needing improvement, statistical analysis should determine whether the results **support or reject those hypotheses**.

Once the data’s statistical reliability is confirmed, the next step (**5.6.3**) is to **calculate key metrics**, including the **Stakeholder Satisfaction Index (SSI)**—refer to subsection 1.3.2—or any other indicators that the survey was designed to measure.

The following step (**5.6.4**) involves **analyzing correlations between the calculated metrics** and **external performance indicators**, such as rankings or other independent evaluations. This comparison can deepen insights into which internal measures are **more effective for assessing organizational performance** and **enhance understanding of root causes** of the identified issues.

The final step is to **prepare a comprehensive report (5.7)**. This report should summarize conclusions drawn from the previous analysis steps as well as insights from **open-ended responses or other items requiring special consideration**.

After gathering the knowledge obtained thus far regarding the state of the university's quality management system and the outcomes of its activities, one may proceed to **Stage 6**, the outcome of which will be the **selection of specific areas for improvement**. This stage is crucial for conducting further analyses aimed at **identifying the likely causes of existing problems**, followed by determining and selecting those causes with **the greatest potential to generate effective change outcomes**.

Since, at this stage of the improvement process, information regarding the critical areas for enhancement has already been collected, the next step is to proceed with an **analysis of the root causes** of the problems (or challenges) in each identified area (**6.1**). A wide range of analytical techniques can be employed for this purpose. However, even the application of basic and widely known root cause analysis methods—such as the **5 Whys analysis** combined with the **Ishikawa (cause-and-effect) diagram**—can swiftly yield a broad overview of the underlying causes of existing challenges.

When dealing with more **complex and intricate problems**, the analysis can be extended using additional techniques designed to support **problem-solving ideation**, such as the **Future State Tree** (Sarkar et al., 2021, p. 203) or a set of tools from the **TRIZ methodology** (Chai et al., 2005).

In the next step (**6.2**), it is necessary to assess, for each identified root cause, its **potential impact on the improvement process**. This assessment should estimate not only the **potential results** achievable through feasible corrective actions, but also the **required resources** and **implementation time**. Taking these factors into account enables the organization to **prioritize and determine the order** in which improvement actions should be undertaken (**6.3**).

In this regard, it is beneficial to consider the **Pareto Principle (the 80–20 rule)**, which suggests that improvement efforts should be focused on the relatively few areas that generate the greatest potential benefits. Several analytical tools can be used for this purpose. One of the most popular and simultaneously straightforward is the **Pareto-Lorenz diagram**, which displays on a bar chart the action areas with the highest impact, ordered from most to least significant, and includes a cumulative value curve. This facilitates the identification of a group of elements responsible for a substantial portion of the expected outcome—typically assumed to be **around 80%**, in reference to the Pareto rule.

However, for more **complex improvement challenges**, this kind of analysis may not be sufficient to yield satisfactory results. In such cases, **other prioritization techniques** may be used to help determine which issues should be addressed first. One example is the **WSJF method (Weighted Shortest Job First)**, which prioritizes the **shortest weighted tasks** (see Webber, 2022). This approach takes into account the **practical implications of delay cost theories** (Reinertsen & Smith, 1991), which emphasize the **time factor in improvement processes** and promote the **acceleration of improvement cycles**.

Regardless of whether this particular method is applied at this point in the process, it is important to recognize that **delays or failure to implement changes** incur **potential costs**. Therefore, when **determining the order of improvement actions**, it is essential to consider the **perspective of minimizing these costs**.

Figure 51. Detailed Structure of the Elements Corresponding to Points 7 to 9 of the SSDQM Model

Source: Author's own work

After selecting specific, detailed areas for improvement along with their established priorities and implementation order, one can proceed to the **next, 7th stage** (see Figure 51). Below is a full description of the detailed elements for **points 7 and 8 of the SSDQM model**:

**7. Implementation of Changes to Achieve Improvement in Selected Areas**

**7.1** Ensuring the commitment and support of top management regarding decision-making and the resources necessary for implementing changes.

**7.2** Assigning the method of change implementation depending on the nature of the problem:  
– **Agile methods** (e.g., Kaizen, Scrum, Kanban → implementation of a *Minimum Viable Product* – MVP)  
– or **Waterfall/project-based methods** (development of plans and implementation schedules).

**7.3 [Agile]** Defining an initial vision of the improvement goal.

**7.4 [Agile]** Defining expected implementation stages and interim goals (including training and support needs for those affected by the changes).

**7.5 [Agile]** Defining the details of the improvement team’s work (team composition and roles, length of iterations/sprints, degree of alignment with specific working methods – e.g., Scrum, SAFe, Kanban, FDD – Feature Driven Development, DSDM – Dynamic Systems Development Method, Scrumban, LeanStartup, others).

**7.6 [Agile]** Defining the minimal scope of the first verifiable version of implemented changes (type of MVP).

**7.7 [Agile]** Establishing a preliminary action plan with projected costs and interdependencies.

**7.8 [Agile]** Iterative implementation of changes and their ongoing verification (plan, execute, verify).

**7.9 [Agile]** Iterative reviews and improvement of team working and collaboration methods.

**7.10 [Agile]** Verification of the MVP and determining subsequent stages for the most valuable improvements of the first minimally implemented version (aiming to **maximize the amount of work not done** while achieving the goal).

**7.11 [Agile]** Iterative implementation of further improvements to the MVP until the improvement goal is achieved or new improvement goals are defined.

**7.12 [Waterfall]** Detailed definition of the improvement goal.

**7.13 [Waterfall]** Execution of the implementation plan using available resources (including training and support for those impacted by changes).

**7.14 [Waterfall]** Plan verification and development of a schedule, including a resource usage timeline.

**7.15 [Waterfall]** Identification of the project's critical path and the most important risks to be monitored.

**7.16 [Waterfall]** Introduction of necessary corrections to the plan.

**7.17 [Waterfall]** Execution of the plan and monitoring the situation to identify the need for plan modifications.

**7.18 [Waterfall]** Verification of the degree to which the improvement goal has been achieved.

**8. Planning for Continuous Feedback Collection**

**8.1** Determining the details of methods for continuous feedback collection.

**8.2** Planning regular feedback collection cycles.

**8.3** Automating the feedback collection process wherever possible (to support the achievement of feedback-related goals).

**8.4** Engaging stakeholders in the feedback process (e.g., by communicating how their feedback contributed to the implementation of specific changes).

**Points 7 and 8 correspond to the “Do” and “Check” phases in the improvement cycle of the university quality management system. They form the core and central part of the improvement process.**

**Stage 7** outlines the logic of action depending on the type of problem being addressed. Regardless of which problem is chosen, the first step is to secure appropriate support or engagement from leadership in the improvement process (7.1). This might take the form of direct and active participation of university or faculty authorities in the improvement team or broad authorization for team representatives to implement changes in designated areas of the university’s quality management system. The scale of leadership support needed may vary depending on the complexity and nature of identified root causes. Nevertheless, the improvement team must be provided with adequate resources and authority to quickly implement changes and verify their effects.

**Step 7.2** is about choosing the methodology for implementing improvements. This is a decision point between using traditional (“waterfall”) project-based methods or agile methodologies. These two fundamentally different approaches each excel in different contexts, so neither is universally superior (cf. Balaji & Murugaiyan, 2012; Mishra & Alzoubi, 2023). Several decision models exist in the literature, such as Thesing et al. (2021). The key criterion tends to be the stability of requirements: projects with high uncertainty or dynamic environments benefit more from agile methodologies, whereas projects with stable, well-defined requirements (e.g. regulatory compliance) or strict timelines are often more effectively delivered via waterfall methods.

If an agile approach is selected, the first step is to define (or refine) a preliminary vision of the improvement goal (7.3). Agile demands a provisional vision because changing or uncertain environments often mean the goal may evolve during implementation. Still, a defined vision provides essential clarity and guidance for subsequent improvement actions. In step 7.4, it becomes important to outline expected phases and sub‑goals—even in a changing environment, focusing planning on the immediate short-term actions that deliver verifiable results is most effective. Also, since changes are likely to affect multiple stakeholder groups, potential adverse impacts must be identified from the outset and support mechanisms planned accordingly.

Next, in **step 7.5**, team collaboration rules must be established. Teams may adopt recognized frameworks like Scrum, Kanban, FDD, DSDM, ScrumBan, Lean Startup, SAFe, etc., chosen based on suitability and familiarity with the team. Once team collaboration norms are set, **step 7.6** involves defining the scope of the first verifiable implementation—akin to a Minimum Viable Product (MVP). Because of variability and uncertainty, it is crucial to test whether the proposed improvement delivers results promptly. If changes involve beneficial features for stakeholders, they should begin enjoying benefits as soon as possible. It may not require delivering full functionality—just core elements sufficient to validate the concept and deliver early value.

Given potential confusion around “product,” the model instead proposes the concept of a **Minimal Checkable Version (MCV)**—a broader, more general term better suited to changes in institutional processes. Once the MCV is defined, **step 7.7** is to plan its implementation—including expected costs and dependencies. Then the team should implement changes iteratively and verify them continuously (7.8). Each iteration should be of equal length, begin with brief planning and task allocation, and end with a review of results—with stakeholders or their representatives involved to provide feedback. Iterations must be short enough to yield verifiable results quickly, yet long enough to complete meaningful work. The team should be as small as possible while covering necessary competencies—Scrum teams, for example, typically consist of around seven people, and iterations tend to last between 1–4 weeks (Anand et al., 2021; Sutherland & Schwaber, 2011).

**Step 7.9** calls for iterative retrospectives on team methods and collaboration. This systematic reflection builds team capability and improves predictability. After achieving the MCV over one or more iterations, the team should verify that phase (7.10) and determine the next improvements to implement—continuing until the improvement goal is met or new improvement objectives are defined. Even if the next stage largely continues planned ideas, it remains important to consciously set priorities to maximize impact quickly. Finally, **step 7.11** continues iterative implementation of enhancements until the improvement goal is reached or new goals emerge.

When selecting the implementation pathway based on the waterfall (project-based) methodology, the first step is to define the objective to be achieved in detail (**7.12**). The more precisely the objective is articulated, the easier it will be to later assess the extent to which it has been accomplished. Therefore, the objective description should not only specify the desired outcome but also the constraints associated with achieving it. These constraints may include time and cost limitations, as well as other conditions such as methodological boundaries or acceptable side effects of the actions undertaken. Such constraints can be particularly important in some situations, often arising from awareness of risks associated with change implementation and from the organizational culture of a given higher education institution.

Once the objective has been adequately defined, a detailed implementation plan must be developed (**7.13**), accounting for the use of available resources. At this stage, it is also necessary to identify limitations resulting from potential adverse reactions from stakeholders to the implementation of changes, and to plan appropriate support measures for those affected. In the subsequent step, the developed plan should be verified (**7.14**) and both an action schedule and a resource utilization timetable should be created. Depending on the plan’s complexity, verification may benefit from the knowledge and experience of individuals capable of providing valuable insights to ensure the best possible implementation roadmap.

Once the plan is verified, the project’s critical path should be identified (**7.15**), as it essentially represents the bottleneck in the plan’s execution and thus becomes one of the primary areas for the project team’s focused attention—any delays along this path will directly translate into delays of the entire project. Just as the critical path is related to the project's risks, other significant risks that may require monitoring and preventive actions should also be identified at this stage to safeguard the successful realization of the implementation goal. If necessary, the plan should be revised accordingly (**7.16**) before execution begins.

During the implementation phase (**7.17**), project progress must be continuously monitored to identify potential needs for modifying the original plan and to enable swift corrective actions to secure the intended outcomes. Upon completion of the planned activities, the final step is to assess the degree to which the set objectives have been achieved (**7.18**).

Regardless of the chosen implementation methodology, once the implementation goal is reached or the planned changes have been completed, activities within **Stage 8** of the model proceed according to a uniform logic. The aim of this stage is to design and establish a **system (or methods) for continuous feedback acquisition**. The term “continuous” rather than “cyclical” is used deliberately. In stakeholder feedback processes, cyclical activities may risk encouraging periods of inactivity. Nevertheless, continuous processes may also involve regular sequences of actions. The emphasis on continuity is also intended to guide efforts toward embedding feedback acquisition mechanisms within permanent communication channels with different stakeholder groups.

The first step (**8.1**) involves determining and planning the specific methods for continuous stakeholder feedback collection. It is essential to consider methods appropriate to the characteristics of each stakeholder group to maximize the likelihood of obtaining valuable insights from all previously identified key groups. To this end, it is also useful to analyze the patterns of interaction each group has with the university and to embed feedback mechanisms into existing communication channels.

It can be reasonably assumed that feedback acquired continuously may be subject to motivational biases—stakeholders are often prompted to provide feedback by emotionally charged events, which may lead to receiving primarily extreme opinions. Therefore, methods should also be incorporated that enable the gathering of insights from more representative stakeholder samples. Often, these will be feedback inquiries initiated by the institution, requiring a degree of regularity. Thus, the next step (**8.2**) is to **plan and establish regular feedback collection cycles** from stakeholders.

Following that, **automation** of the feedback acquisition process should be considered wherever feasible (**8.3**). This aims not only to streamline the effort involved in stakeholder opinion surveys but—critically—to **standardize and institutionalize** these actions by increasing the barriers to discontinuation or neglect of the feedback process.

Regardless of the planned feedback collection methods, the usefulness of the information obtained largely depends on the **engagement of stakeholders** in the process. For this reason, specific actions should be taken to enhance stakeholder participation in communication with the university (**8.4**). Numerous strategies can be employed here, but one of the simplest is to openly communicate which improvements were implemented as a result of feedback received from particular stakeholder groups. Additional valuable recommendations in this regard can be found in **Annex D** of the **ISO 21001:2018** standard, as well as in **Clause 7.4** of the standard (Communication), and other sources in the relevant literature.

Upon completion of the planning for continuous stakeholder feedback acquisition, the model advances to its **final core stage**, concerning the **institutionalization of continuous improvement practices**. This stage is presented in **Figure 52**, along with full names of each sub-stage, and constitutes the **fourth and final part** of the SSDQM model overview.

**Figure 52. Detailed Structure of the Elements Corresponding to Point 9 of the SSDQM Model**  
*Source: Author’s own work*

Below is a comprehensive description of the detailed components for **Point 9** of the SSDQM model:

**9. Continuous Improvement**

**9.1** Identification and establishment of reliable indicators of university operations (enabling accurate and credible data collection for the purpose of measuring and verifying the effects of the university’s activities, including the changes implemented)

**9.1.1** Development of a set of indicators based on the available literature and internal research that takes into account the specific characteristics of the organization

**9.1.2** Commitment by top management to maintain the long-term measurement of selected fixed indicators (in addition to a set of indicators that may be subject to change depending on evolving needs)

**9.2** Establishment of measurement cycles and verification of the effects of university activities (including improvement initiatives, e.g., methods for continuous and periodic analysis of stakeholder feedback)

**9.2.1** Determination of the appropriate length of measurement cycles (and verification of the effects of university activities based on the specific conditions of the institution, ensuring that measurements serve the intended goals)

**9.2.2** Establishment of a set of methods for measuring and verifying the outcomes of activities (including change/improvement processes)

**9.3** Establishment of review cycles for the conclusions derived from measurements (regarding the outcomes of university activities, including improvement initiatives) and for stakeholder feedback collection

**9.4** Establishment of regular cycles for the analysis of (subsequent) areas for improvement and the implementation of changes

**9.5** Planning of methods to celebrate successes within the organization (regarding selected key performance indicators, e.g., an increase in stakeholder satisfaction levels, in order to strengthen the engagement of the university community in providing feedback and participating in improvement efforts)

**9.6** Establishment of transparent methods for knowledge accumulation (related to improvement activities)

**9.7** Establishment of regular reviews (e.g., retrospectives) of the continuous improvement process

**9.8** Regular implementation of enhancements (necessary modifications) to the continuous improvement process

**Point 9 constitutes the "Act" phase of the quality management system improvement cycle.**  
In order for the continuous improvement process to be conducted effectively, it must rely on reliable information about the actual state of affairs, as well as on the outcomes of implemented improvements. After planning the methods for obtaining stakeholder feedback, other methods of measuring the effects of university activities should also be established to ensure data comparability over time.

Establishing a set of indicators (9.1), validated as useful in previous research—e.g., during main stages 4 and 5—appears to be a highly effective support for drawing conclusions about the university’s performance over time. It is, of course, also advisable to use knowledge from the literature to theoretically verify the completeness and appropriateness of the developed set of indicators (9.1.1). It is essential that at least some of these indicators allow for long-term verification of the effects of university activities. For this reason, it may be necessary to obtain a formal commitment from top management to maintain selected long-term indicators (9.1.2). In addition to such long-term indicators, it is also worth testing the usefulness of other indicators that may allow for more accurate conclusions in the university’s evolving environment.

Once an appropriate set of indicators for measuring the effects of a specific university’s activities has been established, regular cycles for measuring and verifying outcomes must be introduced (9.2). To this end, it is necessary to determine the appropriate length of measurement cycles so that, on one hand, the process of measuring and analysis does not become overly burdensome or costly, and on the other, it fulfills its intended purpose (9.2.1). Next, a set of measurement and verification methods should be implemented for application in various selected areas (9.2.2).

The following step involves establishing review cycles for the conclusions drawn from the conducted measurements and analyses (9.3). This is particularly important because the team conducting the measurements in such a complex organization as a university may not be the same as the one empowered to initiate improvement efforts. Therefore, such reviews should be carried out by individuals or teams with real influence over decisions related to the implementation of improvements—potentially involving university or faculty leadership, or their duly authorized representatives. Naturally, the cycles for reviewing conclusions from measurements should be synchronized with the measurement and analysis cycles established in the previous step.

After determining the frequency of reviews of measurement conclusions, cycles for analyzing (new) potential areas for improvement must also be established (9.4). These, too, should be derived from and synchronized with the earlier-established cycles for measurement and conclusion review. The analysis of improvement areas should include methods used during main stage 6, incorporating any reflections on the effectiveness of those methods. Additionally, opportunities should be considered for enriching the existing toolkit with new methods that show potential to bring added value.

One potential outcome of measurements, analyses, and conclusion reviews regarding the university's operations and the improvements implemented in its quality management system may be the confirmation of successful achievement of objectives. To foster motivation among all individuals involved in implementing improvements, it is important to plan ways to celebrate successes (9.5). It is essential that the methods of celebration align with the university’s organizational culture, specifically the type of culture that the leadership intends to promote within the institution. Celebrations may also serve as opportunities to communicate successes to various stakeholders, which can not only enhance the university’s prestige but—perhaps more importantly—boost the academic community’s engagement in improvement processes, as well as encourage stakeholders to provide valuable feedback.

The entire improvement process outlined in the SSDQM model presents an opportunity to acquire and verify a wealth of information about the specific organization and the nature of improvement processes. This constitutes valuable organizational knowledge that should be leveraged in the future. Therefore, it is necessary to plan and implement transparent methods for collecting this knowledge (9.6), especially concerning broadly defined improvement activities.

After completing the actions in all previous steps, the team involved in the process should possess sufficient experience to reflect on the continuous improvement process itself and the methods used. As a result, the process should include regular reviews—such as retrospectives—of the continuous improvement process and how it is applied in practice (9.7). This, in turn, will enable regular implementation of enhancements (necessary adjustments) to the continuous improvement process (9.8). Ultimately, this will lead to increasingly effective and better-adapted application of continuous improvement practices tailored to the specific needs of the university.

**Upon completing the activities outlined in Stage 9, the need to initiate a new improvement cycle should be considered.**

At this point, it is important to note that the continuous improvement practices implemented in accordance with the SSDQM model across successive stages will ensure ongoing enhancement of processes within the context of the university’s defined mission, vision, and objectives. Therefore, it can be assumed that, when continuous improvement methods are properly implemented as outlined in this model, the trigger for launching a new improvement cycle aligned with the full procedural structure will be significant environmental changes impacting the university's mission, vision, or goals—or a shift in the university's strategy itself.

Given its alignment with the ISO 21001:2018 standard—particularly the emphasis on stakeholder satisfaction at the core of improvement activities—the SSDQM model appears to be a valuable tool for implementing a mature management system in educational organizations that complies with this standard. A discussion of the relationships between the SSDQM model and the requirements of ISO 21001:2018 will be presented in the following subsection.

## Challenges and Best Practices (JPSZ) [5-7]

# Conclusion [10-15]

## Summary of Key Points (JPSZ) [4-6]

## Implications for Higher Education Management (JPSZ) [3-5]

## Recommendations for Future Research (JPSZ) [3-4]

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# Annexes

1. C – claimant, R – recipient, I – influencer, Co - collaborator [↑](#footnote-ref-1)
2. Based on (Brusoni et al., 2014). [↑](#footnote-ref-2)
3. According to the ISO 9000:20015 standard, quality assurance **is a part of quality management** to ensure confidence that quality requirements will be met. [↑](#footnote-ref-3)
4. Council for Higher Education Accreditation International Quality Group - a forum for universities, accreditation and quality assurance organisations, higher education associations, governments, businesses, foundations, and individuals worldwide to address quality assurance issues and challenges in higher education. The Council for Higher Education Accreditation (CHEA) brings together academic institutions interested in accreditation, mainly from the United States and individual institutions from other countries in North America, South America, and Asia. [↑](#footnote-ref-4)