Stakeholders Satisfaction Index as an Important Factor of Improving Quality Management Systems of Universities in Poland

Introduction
The services of higher education institutions are a very specific type of a product. By being educational services their natural feature is intangibility. Furthermore, they are connected with the presence of a few various groups of entities that are dependent on the quality level of higher education services (stakeholders). Simultaneously, at least a few of those stakeholders groups, strongly influence the quality level of university education. For an efficient quality management there is a need to implement the methods of measuring the quality level that take into consideration the needs of the most important stakeholders. Such methods should lead to better assessment of quality-focused activities of an academic institution and to the attainment of knowledge that will be useful in the design of continuous improvement processes.

The aim of this article is to define the role of various groups of stakeholders in a quality management system of Polish universities and, consequently, propose an index allowing the measurement of the satisfaction level of higher education institutions stakeholders groups. Due to a specific legal context of quality focused reorientation within Polish higher education, besides presenting solutions and suggestions from foreign literature, researches and suggestions of Polish authors dealing with this subject matter closely related to the current legal status has been used.

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1. Main conditions of service quality measurement in Polish higher education institutions

Many features differ services from physical goods, the most significant of which is their intangibility. It has been expressed in subject literature both in definitions and analyses [see: Gilmore, 2006, p. 17; Kotler, 2002, p. 41; Payne, 1997, p. 20]. The intangibility of services is expressed in, e.g., the fact that “for a producer the service is a form of activity and for a customer it is a form of experience” [Mazur, 2001, p. 16]. In this context, educational services are a special type of services as they are always some kind of an experience for the recipient, but, as one can imagine, even if a producer’s activity is limited, the recipient still gains knowledge and experience. Services differ from goods also because of the methods of quality measurement. In case of goods, it is possible to define physical features and the degree of influencing the quality level, but for services it is not possible. The quality of services is frequently assessed from the customers’ point of view, who defines their level of satisfaction. Thus it can be said that clients assess the “perceived quality of service” [Gronroos, 1984, p. 37] by comparing their expectations with the subjective experience of service (perceived service). The perceived service quality is also connected with the level of client’s satisfaction, but it is not unambiguous. The relations between these two parameters are discussed by, e.g., Iacobucci et al. [1995, p. 277] and Spreng, MacKoy [1996, p. 202]. In general, service quality level influences customer’s satisfaction level. But these two parameters are influenced by the level of what is delivered to the customer, namely the outcome of the process of service providing. Other important factors are: for the satisfaction level – expectations, and for the perceived quality level – needs [Spreng, MacKoy, 1996, p. 209].

Education services are a specific group among services. Their distinguishing characteristic is that the aim of the service process is gaining new abilities and knowledge by the customer. It is also a very diverse group of services with various expectations regarding the effects of the service process which often depend on the different stages of human development. Moreover, among many kinds of educational services, there are differences connected with the level of integrity of customer and investor roles and entities interested in a high quality level of learning effects. An important challenge for quality assessment of service is that every interested party may have different expectations regarding both the methods and ways of providing the service, as well as its effects.
Among educational services these offered by higher education institutions deserve special attention. Their characteristic is that they usually constitute a stage before starting a professional career. The work of higher education institutions results in gaining knowledge and skills at the highest level [Czarnik, Turek, 2014, p. 31]. Therefore, it is possible to analyse the effects of these types of services through a graduates’ survey. The services of universities (especially public ones) are also characterized by the fact that the group of parties interested in their high quality is numerous. This group consists of not only recipients of services and their sponsors (the representatives of authorities) but also lecturers and other employees of the institution, who might benefit from the scientific development resulting from knowledge, skills and students’ work. Furthermore, despite studies being free of charge, students’ parents or guardians often participate in the costs of higher education. The role of employers and entrepreneurs, who will benefit in the future from knowledge and skills of present students, is also important.

With regard to quality of university services it can be said that in the case of higher education the “perceived quality is a consequence of satisfaction” [Athiyaman, 1997, p. 538]. The characteristic of higher education is, on the other hand, the presence of more than one receiver of effects of the service providing process. The receivers of this type of services are, directly or indirectly, all stakeholders.

2. Role of stakeholders in quality management systems of universities in Poland

A customer focus approach in running business activities has become popular in Poland after 1989. After some time this approach has also begun being adopted by public institutions. While a client identification for public administration institutions is not very difficult [Administracja sprawna i służebna, 2005, p. 25; Lisowska, Ziemiński, 2012, p. 303; Bobińska, 2012, p. 59], a popular equalization of a student and a client in the case of higher education institutions proved inadequate [Pawlikowski, 2008]. Therefore, for universities we distinguish defined groups of stakeholders entities that might influence and/or are under the influence of universities services [Zieliński, Lewandowski, 2012, p. 52]. The most commonly identified groups of stakeholders for companies are employees, owners, communities, suppliers and customers [Mitchell et al., 1997, p. 880] while among the stakeholders of higher education institutions there are
students, graduates, or their parents or guardians, and research staff, administrative staff, employers and representatives of local and central authorities [Zieliński, Lewandowski, 2012, p. 48; Mainardes et al., 2011, p. 85; Teay, 2013, p. 7].

The impact of each of the stakeholders’ groups on a university is different. However, it is common that the same person can simultaneously belong to different groups. This may also affect the perception of quality and satisfaction from the institution services.

Polish universities have a fairly wide discretion regarding the implementation of an internal quality assurance system. However, they must meet the basic requirements of such systems, as defined in the statute of Polish Accreditation Commission [Chmielecka, 2013, p. 20]. These requirements largely correspond to the demands presented in the document Standards and Guidelines for Quality Assurance in Higher Education (ESG) by European Association for Quality Assurance in Higher Education (ENQA) [Chmielecka, 2013, p. 18]. In these documents an important role of certain groups of stakeholders such as students, workers, and employers, has been shown. However, both of these standards lack an explicit reference to the quality management focused on continuous improvement. This approach has been shown in the guidelines of CAF for education (Common Assessment Framework for Education) [EIPA, 2013, p. 9]. There the role of stakeholders of an educational institution is also slightly more emphasized. Rules of the CAF system for education which include the stakeholders are shown in table 1.

Table 1. Eight rules of the CAF system for Education Principles and Stakeholders Groups

<table>
<thead>
<tr>
<th>CAF for education principles</th>
<th>The role of the university stakeholders</th>
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<tr>
<td>1. Results orientation</td>
<td>The goals should be formulated with regard to all stakeholders.</td>
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<td>The organization focuses on results. Results are achieved in a way which pleases all of the organization’s stakeholders (authorities, recipients, partners and people working in an organization) with respect to the targets that have been set.</td>
<td>Among listed are authorities, recipients (e.g. students, parents, graduates), partners (e.g. employers) and employees (people in an organization).</td>
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CAF for education principles | The role of the university stakeholders
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2. Focus on recipient | The role of anticipatory approach to the needs of the recipients (stakeholders) is emphasized in order to enable the meeting of future expectations of interested parties in the future, which does not belong to a university stakeholders at the moment.
The organization focuses on the needs of both, present as well as potential recipients. It involves them in the development of products and services and the improvement of its performance.

3. Leadership and constancy of purpose | This rule applies to the management of the institution, taking into account the leadership to achieve goals and create conditions for internal stakeholders to be fully engaged.
This principle couples visionary and inspirational leadership with constancy of purpose in changing environment.

4. Management through processes and facts | The role of the conscious management of an institution on the basis of reliable information in order to achieve results previously defined regarding the needs of all stakeholders is emphasized.
The organization is run from the perspective of a more efficient achievement of results, simultaneously resources and activities are managed as a process and effective decisions are based on the analysis of data and information.

5. People’s development and involvement | This principle emphasizes the role of internal stakeholders in achieving goals of an organization. For the maximization of the contribution of this stakeholders group, it is necessary to create a good work environment expressed in high standards of organizational culture.
At all levels people are the essence of an organization and their full involvement enables their abilities to be used for the organization’s benefit.

6. Continuous learning, innovation and improvement | As the needs of stakeholders might vary, a higher education institution should constantly improve itself, in order to be able to efficiently comply with current and future expectations of the stakeholders.
Excellence challenges the status quo and results in change through continuous learning to create innovation and improvement opportunities.
7. Partnership development

Public sector organizations need partners to achieve their targets thus they should develop and maintain value-adding partnerships. Representatives of various stakeholder groups might become partners. The importance of cooperation for the benefit of both sides is underlined.

8. Social responsibility

Public sector organizations have to take into consideration their social responsibility, respect ecological sustainability and try to meet major expectations and requirements of the local and global community. The implementation of social responsibility for all activities of an institution is emphasized. This approach requires inclusion of needs and interests of a very wide range of stakeholders.

Source: Own elaboration on the basis of [EIPA, 2013, p. 11; Wiśniewska, Grudowski, 2014, pp. 254–255].

The main point of reference are previously defined goals that include the needs of stakeholders [EIPA, 2013, p. 54]. With regard to the need of measuring the satisfaction of various stakeholder groups identified in criteria 6, 7 and 8. a group of measures of stakeholders satisfaction level from university services could be suggested. A method based on the study and determination of the aggregate index of satisfaction of stakeholders is described in the next section.

3. Application of Stakeholder Satisfaction Index within the improvement of the university QMS

The Stakeholder Satisfaction Index (SSI) is an aggregated form of presentation of research results regarding satisfaction of various stakeholder groups. Its structure is similar to the CSI index formula. For higher education institutions the satisfaction of 7 sample groups of stakeholders, such as students, alumni, parents, employers and entrepreneurs, representatives of authorities, teaching staff and administrative staff, can be measured.

The SSI index is calculated after the quantitative research and provides important information about the level of various groups of university services stakeholders satisfaction. Owing to these information it is possible to easily pre-define areas that require changes and improvements the most. Then, for better understanding of the nature of a problem and to precisely define it, there is a possibility to conduct a qualitative research.
The Stakeholder Satisfaction Index is a weighted average of the partial indexes calculated for each of the stakeholder groups. Partial SSI index value is calculated from the formula (1):

$$SSI_a = \frac{w_a \times r_{ij}}{j}$$  \hspace{1cm} (1)

where:
- $w$ – weight of measured stakeholder satisfaction criterion
- $r$ – value of assessment of stakeholder satisfaction criterion
- $a$ – ordinal number or name of stakeholders group
- $i$ – number of assessed criterions
- $j$ – number of respondents in stakeholder group.

Value of aggregated SSI index is calculated from the formula (2):

$$SSI = u_a \times SSI_a$$  \hspace{1cm} (2)

where:
- $u$ – weight of the partial SSI index
- $SSI_a$ – value of the partial SSI index
- $a$ – ordinal number or name of stakeholders group.

The purpose of stakeholder satisfaction from higher education institutions survey is to measure the perceived satisfaction level of the various stakeholders of higher education services. It is a kind of survey research, which aims to gather information about the population of stakeholder’s attitudes or opinions [Creswell, 2003, p. 174] on the perceived higher education quality.

In order to obtain reliable and useful information from stakeholder satisfaction surveys, such a research should be properly prepared. A very important part are survey questionnaires, which should include both to answer closed-end and open-end questions that give respondents the opportunity to express themselves freely. Closed-end questions allow an easier comparison of results and calculation of indicators. While open-end questions will be useful in the initial analysis of the causes of identified phenomena.

The values of weights of partial indexes are very important for the results of SSI index. To ensure that the results obtained in subsequent surveys or surveys for various universities could be compared there should
be a uniform method of weighing results within the aggregate indicator applied. To specify weights of partial indexes for instance the results of a survey on universities managers (rectors, deans), in which respondents are asked to rank the stakeholders from the most important to the least important in making decisions about the university development, can be used.

The aggregate SSI index and partial SSI indexes can be used as performance indicators of academic institutions in different areas of the CAF assessment for an education system. For example, in the area of criterion 6. Learner-oriented and other key stakeholder-oriented a partial index of student satisfaction, graduate satisfaction index and the index of satisfaction of authorities representatives can be used. In the area of criterion 7. People results the index of employee satisfaction and administrative staff employee satisfaction index can be used. In the area of criterion 8. Social responsibility results SSI index of satisfaction of parents and employers can be used. While in the area of criterion 9. The main results of operations the measured aggregate rate of the SSI indicator can be used. The choice of the method of assigning indicators for the corresponding elements of the quality management system shall be the responsibility of the organization leadership. It should reflect the practical possible uses of the information gathered using these indicators. Therefore, the proposal for the allocation of partial indicators of satisfaction of stakeholders can be modified depending on the needs of an organization.

The results of stakeholder satisfaction measurement can be used to improve the following elements of the quality management system of a university:

1. Verification of the mission of an institution.
2. Verification of the vision of an institution.
3. Verification of the quality policy of an academic institution.
4. Verification of the goals of the institution (including quality goals).
5. Verification of indicators and methods for measuring quality.

Verification of mission and vision of an institution can be supported by the results of stakeholder satisfaction surveys, by allowing acquisition of current information regarding the needs of stakeholders and their perception of a service provided by a university. This knowledge should not influence frequent changes in vision and mission, because these two elements should form the basis of activities of the institution. However, this knowledge can be valuable in improving the mission and vision with
the perception of stakeholders and better integration of their requirements. Similarly, the verification of the quality policy can become more efficient through better knowledge of stakeholder satisfaction.

Defining the goals of an academic institution should be the result of using reliable information about the needs and possibilities of improvement in different areas of the university. To do so, e.g. information gathered during stakeholder satisfaction surveys can prove very valuable. Some of the goals of institutions can also be expressed by specifying a target value changes or the SSI index.

Quality indicators and methods of measuring quality should take into account different ways of gathering information on the quality offered by academic institution services. Although the SSI index is an example of such a method it is worth to use some other. In addition to quantitative methods which include the SSI, in order to obtain useful input to improve processes, qualitative methods should be used. Initial identification of phenomena studied using the SSI can highly increase the effectiveness of methods selection for further analyses.

The improvement of the university quality management system can be conducted using various methods such as PDCA or Design Thinking. For example, in the method of PDCA (Plan-Do-Check-Act) information from stakeholder satisfaction surveys can assist in better planning improvements (Plan stage) and may be useful in checking the results of improvements (Check stage). Using Design Thinking method consisting of five steps: Empathize, Define, Ideate, Prototype, Test [Plattner, 2010] one may obtain information from stakeholder satisfaction surveys which can be useful for at least several stages of the improvement process. During the Empathize stage it is important to empathize with the recipient’s feelings, so cognizing the mind-set of stakeholders regarding the service can greatly assist in understanding their needs. In order to define the problem, a broad look at the needs of a recipient is needed, so this step can also be supported by information from stakeholder satisfaction surveys. The Ideate stage uses appropriate heuristic methods, and building prototypes, which will later be tested. In the case of a higher education institution, a stakeholder satisfaction survey can help in the assessment of test solutions.

There are many possibilities for the use of different methods to improve the quality management systems of universities. In many of them there is an information about the perceived stakeholders satisfaction from university services which is important for good planning and effective
verification of improvement activities. Although, the undoubted advantage of this method is the possibility of obtaining both aggregate evaluation index of satisfaction from university services of all stakeholders as well as the information about the satisfaction of particular groups of stakeholders.

**Conclusion**

Continuous improvement of higher education services is a very important need in relation to the rapidly changing environment of academic institutions. Universities have influence and are influenced by many groups of entities interested in a high level of quality of higher education – stakeholders. To be able to efficiently manage the quality it is necessary to know the level and determinants of it. Taking into account that for services, a very important factor is perceived by stakeholders level of quality and services satisfaction, offered by the university to measure the level of satisfaction from the point of view of various stakeholder groups. The measure of this level may be proposed by the authors stakeholder satisfaction index (SSI), which as an aggregate indicator of satisfaction measurement considers the most important stakeholder groups. Such an index and its components can be implemented in the process of improving the quality management systems of universities as a part of quality measures. But the biggest benefit of stakeholder satisfaction survey is to gain current knowledge about the needs of stakeholders and their perception of university services. Such knowledge can be used in many processes to improve quality management systems such as verification of vision, mission and quality policy, and also for the development of an organization appropriate goals.

**References**


**Stakeholders Satisfaction Index as an Important Factor of Improving Quality Management Systems of Universities in Poland (Summary)**

The following article analyses selected methods of assessing the quality of educational services of universities and discusses the role of stakeholders in, required by law, quality assurance and quality management systems according to Common Assessment Framework for education. Furthermore, it presents the Stakeholders Satisfaction Index (SSI) which is an original proposal of an aggregate measure of satisfaction perceived by stakeholders. The article also contains an analysis of the possibilities of implementing the SSI index in various activities improving quality management systems of higher education institutions.

**Keywords**  
stakeholders satisfaction, quality management, higher education