

METHOD OF QUALITY FUNCTION DEPLOYMENT APPLICATION IN AN ASSESSMENT OF PROVIDING EDUCATIONAL SERVICES

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Abstract

The whole society especially employers is interested in providing quality educational services. Unfortunately, today the goals of educational institutions and employers are disagree. The article is devoted to identifying the ways of meeting customer requirements in the provision of educational services of higher education by using the method of quality function. Delphi method is used to form the most complete list of customer requirements and the factors determining the obtained qualifications by students. The research is task to apply the method of structuring the function of quality education in the example of evaluating the most common customer requirements to the educational services provided by the university, student activities, performance of services, which should be controlled in order ensure the satisfaction of customer requirements. As a result, the activities of students, affecting the satisfaction of customer requirements, were identified. The article will be of interest to specialists in the field of education quality monitoring.

Introduction

Recently, quality has become an integral feature of all spheres of life, all products and services [1]. The concept of "quality" is individual as the same product or service can be characterized by the different of measures satisfying the requirements for each customer. Quality function deployments (QFD) is a methodology, that can improve the quality [2]. Today the QFD - methodology is used to improve the quality of products or services in many areas. However, sufficient application of this methodology in the field of education has not found yet [3]. Therefore, in the first place it is necessary to identify the employer's requirements to educational services and to find now one can meet these requirements within universities.

Application of QFD to education in university

Method of quality function deployment is broadly used in various spheres where there is a need for definition of actions for products and services quality improvement. Let's consider application of this method in relation to our problem of an assessment of providing educational services by a higher educational institution.

By means of discussion in students' groups, the list of requirements to graduates which society expects from university, and the list of the general

requirements of employers were made. In the QFD classical method they are called "the list of consumer requirements" and "the list of engineering requirements". In the house of quality they are shown as lines and columns correspondently (fig. 1).

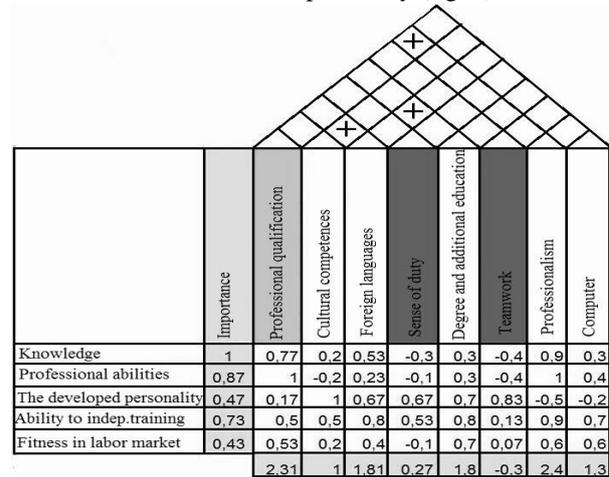


Fig. 1. The house of quality – the requirements of society and employers to university graduates

After full coordination and editing of requirements, students estimated the importance of each requirement which is written down in lines of the house of quality. They used a following scale: "0" for the least important requirement, "1" for the most important. Average values of importance of requirements are given in fig. 1. If strong correlation exists, we accept coefficient equal to 1, if correlation is not really great – 0.5, for weak correlation – 0. Negative coefficient means that degree of satisfaction of the requirement of the consumer increases, with reduction of size of the characteristic, and decreases, if coefficient is positive. For example, if the correlation coefficient is equal to -0.5, it means that correlation is small, and degree of satisfaction of the consumer grows with reduction of size of the characteristic.

On the basis of the obtained consumer and relevant engineering requirements matrixes of quality deployment, which show communication between these consumer and engineering requirements, are formed. After that each student places coefficients of importance of each criterion in a scale from 0 to 1. It make it possible to conclude which consumer requirements are important for improvement of quality of services and which are not. Zero is put in a case when the criterion is not important at all and does not play a role in quality level of educational services, and 1 is put when the criterion matters for the consumer.

Consumer and engineering requirements can be contradictory. In this case we put the sign "minus" before the coefficient of the importance. This dependence is needed to be considered during optimization of all system. These characteristics define the way, conditions and modes for production process, eventually, to receive production or service which meets the consumer requirements the most. Signs of coefficients are explained by it.

After the implemented experiment, the house of quality for the purpose of identification of the factors, affecting high professional qualification of students, was built.

The total result is the lower line of the house of quality. The total result is calculated as follows: the coefficient of an engineering requirement is multiplied by coefficient of importance of the relevant consumer requirement. The greatest total result reveals the criterion, which are most important for students, i.e. professional qualification.

The most insignificant requirements are appeared to be "Teamwork" and "Sense of duty". It is highly appreciated by employers, but higher education institutions do not pay it much attention.

In order to identify the mutual dependence, quality house contains a matrix-type "roof". The roof of quality house shows the correlation between technical requirements and their mutual influence on each other. According to this correlation, we can say that professional qualification depends on professional skills and foreign languages are an additional education, so they are also correlated. The following conclusion can be made from the obtained counting factors: professional qualifications' factor is 2.31, and the coefficient of professional qualities is 2.4. Values are close and it shows that they are directly connected to each other.

University forms the competence of graduates by means of certain kinds of activities. The next step of the experiment is to create a matrix demonstrating the dependence of the employer requirements on the activities of students. Another quality house is built on the base of these data (Figure 2).

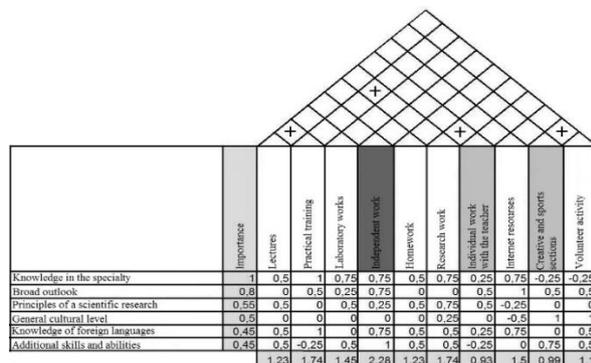


Figure 2 - House of quality - the dependence of the employer requirements on the activities of students

The relationship between the acquirement of specific knowledge for the profession and visiting

creative and sports clubs is inversely, because these clubs take much time that may negatively impact on the study. Or, for example, let's consider the Internet resources and the general cultural level. Internet, in particular, and all social networks are time-consuming and contain a large amount of negative information, and this, in its turn, affects the cultural level.

So, to count the final result: the ratio of activities is multiplied by the importance of the respective requirements of the employer. The greatest final result reveals the most important part of the students' independent work. Lectures and practical classes are linked, as the information given in the lectures is used in practical classes. Work with the teacher directly depends on scientific research because the teacher is not engaged in science, could lose his skills.

Discussion of the results

In this research, there were successively built two quality houses, where the requirements of consumers, depending on the requirements of employers, and the dependence of the employers' requirements on the activities of the students, were discussed. Based on the conducted experiments, the most important factors of educational services were identified for both undergraduate and graduate students. The most important criteria, according to the students, was "Professional qualifications and Independent work". It was noticed that the results obtained from different students, led to the same results as that shown in the General quality house.

Conclusion

The structuring function of quality helps to formalize the process of data collection and changes in the process of providing services. Method is quite effective, easy to use, and requires no material costs. But it was not used for the complete cycle of assessment of higher education institutions. Discussed method of SFC improvement is a universal way of determining the parameters by which one can evaluate the services provided by university. The method, using SFC in conjunction with the Delphi method, allowed to improve the building requirements of the universities, society and employers. The structuring function of quality helps to improve the quality of the service, if it is used regularly.

Bibliography

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