Human Capital without Borders:
Knowledge and Learning for Quality of Life
25–27 June 2014 · Portorož, Slovenia

make
learn

Management,
Knowledge and Learning
International Conference 2014

MEASURING SERVICE QUALITY IN HIGHER EDUCATION: THE CASE OF SERBIA

Ljiljana Kontic
Faculty of Legal and Business Studies, Serbia
ljiljana.kontic@yahoo.com

Abstract:
The main aim of this study is to investigate the potential to apply the SERVPERF scale for assessing service quality during the Bologna Process and Higher Education reform in Serbia. The research sample consisted of 109 students of a Faculty of Management at one Serbian University. The questionnaire was designed based upon the SERVPERF survey. Terminology modifications for higher education context were made. The research findings revealed a change of proposed scale, especially in dimension Responsiveness. The management students perceived that the most important dimensions were Assurance and Reliability, followed by Responsiveness and Empathy. The students' perceptions of dimension Responsiveness was the different across gender. The perceptions of service quality elements change over a period of study, with Reliability elements having increasing importance. The factor analysis showed that the modified questionnaire is adequate for assessing the service performance in higher education in Serbia. The main areas for quality improvement for course management teams are suggested.

Keywords: Service performance, Higher education, Management, Serbia

Human Capital without Borders:
Knowledge and Learning for Quality of Life
25–27 June 2014 · Portorož, Slovenia

make learn

Management,
Knowledge and Learning
International Conference 2014

1. INTRODUCTION

The subject of measuring service quality in higher education has received increasing attention. The students' perceived service quality in higher education is one of the most important issues for universities. The universities have to constantly monitor the higher education services in order to continuous improvements.

The origin of the higher education in Serbia can be tracked down to the begging of the 19th century. The first College was founded in Belgrade in 1808. The first private-owned university was established in the early 1990s. Today, eight state-owned universities and ten private-owned universities operate in Serbia. Since 2006/2007, the annual number of students has fall from 238,710 to 235,940 (Statistical Yearbook, 2010), which make competition of universities more intensive. Therefore, competitiveness in attracting students and the importance of measuring the service quality will be advantage of the university.

The object of this paper is to present the results of measuring service quality by SERVPERF at one Serbian university. This paper is organised as follows. Initially a state in higher education reform in Serbia will be presented. The review of relevant studies in measuring service quality in higher education is then outlined, which is followed by an overview of the research methodology. The research findings and management implications are then presented and finally, conclusions with research limitations are drawn.

2. HIGHER EDUCATION REFORM IN SERBIA

In the past five years, the higher education in Serbia has faced major changes: implementing Bologna process, increasing number of institutions and decreased number of students.

Until 2005 officially expected duration of undergraduate studies at universities in Serbia had been four to six years. The quantitative analysis of efficiency of higher education based on data collected with forms SV20 and SV50 confirming the fact that the study in the period before 2005 has been inefficient.

The Bologna reform tried to overcome aforementioned problems by entering a number of changes related primarily to study regimes, the education process and obligations of different social partners involved in it.

In order to become a part of European educational and scientific space, it was necessary to reform higher education sector in Serbia. The first step was adoption the Law on higher education in September 2005. Then the members of the National council for higher education and the Commission for accreditation and quality insurance have been elected. Therefore, the implementation of Bologna process in Serbia started from the academic year 2006/2007.

The major changes were: the principle of gradation of studies of undergraduate, graduate and doctoral studies, accurate quantification of study the contents of the point system (ECTS); distribution of educational content in thematic blocks - modules, accreditation programs and their comparability; establish different levels of competence as the outcome of each of the three levels of academic studies.

The main aim of Bologna process is to establish a general mobility during and after the study and realization of the strong relationship of universities to the labor market. In addition to mobility and comparability studies, the focus of reform is their effectiveness.

Human Capital without Borders:
Knowledge and Learning for Quality of Life
25–27 June 2014 · Portorož, Slovenia

Management,
Knowledge and Learning
International Conference 2014

The implementation of Bologna reform in Serbia is overseen by the Committee for the monitoring of implementation of the Law on Higher Education. The Committee consists of representatives from the state-owned and private-owned universities, students' representatives as well as representatives of the Ministry of Education and Sport.

'A large number of the higher education institutions organise their undergraduate studies over three years. In all Serbian higher education institutions the ECTS system is implemented. Every study program covers precise description of the courses and the number of ECTS. ECTS credits are based on the workload students need in order to achieve expected learning outcomes. 60 ECTS credits are attached to the workload of a full-time year of formal learning (academic year) and the associated learning outcomes. In most cases, student workload ranges from 1,500 to 1,800 hours for an academic year, whereby one credit corresponds to 25 to 30 hours of work. A proper implementation of ECTS based on student workload and learning outcomes still remains a priority' (National report on implementation of Bologna process 2009, pp 29-30).

The opportunities for students and staff mobility provided through participation in Erasmus Mundus External Cooperation Window, Erasmus Mundus and Tempus programmes. Financial support to mobility is provided by these programmes. There are also some bilateral agreements on student and staff mobility.

The quality insurance system had been introduced at the national level. This system includes internal, external quality insurance and accreditation. The subjects of national accreditation process were all higher education institutions and their study programmes. The quality assessment was carried out by the Commission for accreditation and quality insurance according the following standards: standards for accreditation of higher education institutions and study programmes, standards for self-certification and assessment of quality of higher education institutions, and the standards and procedures for external quality assurance of higher education Institutions. The Serbian quality insurance system has not been externally reviewed.

At least once in three years, any higher education institution in Serbia shall be carried the self-assessment. The report should be concise and contain all the details of vital interest for the operation of the higher education institution relevant to the quality of the education process. Regardless the fact that the self-assessment reports contain same standards there is no standard questionnaire for collecting data. Therefore, the results are not comparable.

3. MEASURING SERVICE QUALITY IN HIGHER EDUCATION

Measuring quality in higher education is a complex issue. In order to measure students' perception of service quality, universities face a lot of measurement techniques. The major challenge is to identify and implement the most appropriate method for measuring service quality since regarding the implementation costs and procedures.

During the accreditation process in Serbia one of the mandatory standards has been Standard for Self-certification and Assessment of Quality of Higher Education Institutions. The standard gives main guidelines for conducting the internal assessment of quality. A questionnaire is not standardised. It is necessary to avoid the comparison of data coming from different sources (from different universities and/or faculties), because to them usually comes in different ways which are not comparable among themselves in the form in which they are most frequently presented.

The search process yield two groups of studies: 1) studies that used original measurement instruments and 2) studies that used standardised scale.

Human Capital without Borders:
Knowledge and Learning for Quality of Life
25–27 June 2014 · Portorož, Slovenia

make learn

Management,
Knowledge and Learning
International Conference 2014

In order to investigate specific environments as well as specific requirement of universities authors were created unique questionnaires (Holdford and Reinders, 2001; Lagrosen et al, 2004; Tsinidou et al, 2010; Sultan and Wong, 2010; Munteanu et al, 2010). These questionnaires need to validate at various universities as well as different environments.

An analysis of relevant studies revealed that the most frequent used scale to measure service quality in higher education are SERVQUAL, SERVPERF and HedPERF. Based on proposition that service quality is gap between customer expectations and performance perceptions, Parasuraman et al (1988) introduced SERVQUAL scale. SERVQUAL has two parts with 22 items divided into five dimensions namely tangibles, reliability, responsiveness, assurance and empathy. SERVQUAL defines five dimensions for service quality as follows:
(1) Tangibles embodied the appearance of buildings, equipment, and staff.
(2) Reliability embodied the degree to which the knowledge, skills learned and services are offered accurately and on timely manner.
(3) Responsiveness refers to the willingness to help customers and provide prompt service. In difficult situations, it is also the ability to respond effectively.
(4) Assurance embodied the knowledge and courtesy of employees and their ability to convey trust and confidence.
(5) Empathy refers to the attention and care that the institution may offer to customers as well as convenient operating hours.

This scale has been extensively used in measuring service quality in higher education (Kwan and Ng, 1999; O'Neil and Wright, 2002; Sohail and Shaikh, 2004; Sahney et al, 2004; Snipes et al, 2006; Smith et al, 2007; Yeo, 2008).

SERVQUAL instrument had been criticised by various authors especially in domain of stability of expectations and better wording of some scale items (Andresson, 1992; Bolton and Drew, 1991). One of the practical problems concerning administering the instrument is that students may became tired and distressed when completing questionnaire with 44 items.

SERVPERF scale has only performance part of SERVQUAL instrument and therefore represents direct measurement technique (Cronin and Taylor, 1992). 'Methodologically, the SERVPERF scale is more efficient in reducing the number of items to be measured by 50 per cent, and it being able to explain greater variance in the overall service quality measured through the use of single-item scale' (Jain and Gupta, 2004, p 28).

In the context of higher education, SERVPERF scale has been used in research of Oldfield and Baron (2000) as well as Faganel (2010).

As a result of attempt to capture authentic factors in the higher education, Firdaus (2005) constructed HedPERF scale. HedPERF scale consists of 41 items - 13 adopted from SERVPERF scale and 28 items derivate by literature research and pilot studies conducted by Firdaus (2005).

Four factors explain service quality in higher education (Firdaus, 2006, p 38):
(1) 'Non-academic aspects. This factor contains variables that are essential to enable students fulfill their study obligations, and it relates to duties and responsibilities carried out by non-academic staff.
(2) Academic aspects. This factor represents the responsibilities of academics, and it highlights key attributes such as having positive attitude, good communication skill, allowing sufficient consultation, and being able to provide regular feedback to students.
(3) Reliability. This factor consists of items that put emphasis on the ability to provide the pledged service on time, accurately and dependably.

Human Capital without Borders:
Knowledge and Learning for Quality of Life
25–27 June 2014 · Portorož, Slovenia

Management,
Knowledge and Learning
International Conference 2014

(4) Empathy. This factor relates to the provision of individualized and personalized attention to students with clear understanding of their specific and growing needs while keeping their best interest at heart.'

In order to choose measurement instrument, the analysis of studies compared different scale have been conducted. The results of one study revealed that SERVPERF and HedPERF had the best measurement capacity (Brochado, 2009).

The studies examined various factors influence the evaluation of service quality in higher education such as seniority, gender, cultural, and course factor (Oldfield and Baron, 2000; Snipes et al, 2006; Sultan and Wong, 2010). In this study, we investigated the influence of seniority and gender on students' perceived service quality.

4. METHODOLOGY

The study has been conducted at one private owned institution of higher education in the Republic of Serbia. The University constists of five faculties educated 2,300 students. The Faculty of Management educates 450 students on first and second level of academic studies. This faculty is the first private owned institution of higher education in the Republic of Serbia to receive the accreditation of the institution and its six programs.

Over one- week period in October 2010, a total of 120 questionnaires were distributed to management students at aforementioned University. The response rate was outstanding - 90.83%. The sample was distinguished by gender and year of study (see Table 1).

The questionnaire was designed based upon the SERVPERF survey. Terminology modifications for higher education context were made in following manner: instead word employees we introduced words academic staff and administrative staff. This recommendation was used in other study in the same field (Oldfield and Baron, 2000).

Table 1: Student respondent profile

Description	Number of respondents	Percentage of total sample
Year of study		
First year	68	62.39%
Third year	24	22.02%
Fifth year	17	15.59%
Gender		
Female	59	54.13%
Male	50	45.87%
Total	**109**	**100.00%**

Source: Author's calculation.

The questionnaire was consisted of 23 items in five dimensions:
1) Tangibility (4 items - faculty building, attractiveness of course materials, faculty's equipment, appearance of administrative staff)
2) Reliability (6 items - timely delivery of service, sincerely interest of both academic and administrative staff, accurate record)
3) Responsiveness (5 items - service performance, response from both academic and administrative staff, prompt response)
4) Assurance (5 items - employment policy, secure, courteous, knowledge of academic staff) and
5) Empathy (3 items - individual attention, needs understanding, opening hours).

Human Capital without Borders:
Knowledge and Learning for Quality of Life
25–27 June 2014 · Portorož, Slovenia

make
learn

Management,
Knowledge and Learning
International Conference 2014

The validity and reliability of the questionnaire was tested. The validity of questionnaire was confirmed by factor analysis. Internal consistency was examined by Cronbach's alpha. Cronbach's alpha of service dimension was in range from 0.72 to 0.90.

Students were asked to rate their perceptions of the items listed on a seven-point Likert scale from disagree strongly (1) to agree strongly (7).

Considering the general lack of survey participants, the classroom - administrative survey has been choosing. In the classrooms with the presents of a researcher, students were asked to complete the questionnaire during 20 minutes period and to hand they back.

Data analysis was conducting using SPSS Statistics 19. Descriptive statistics, a principal factor analysis and relevant tests (Mann-Whitney U test, Kolmogorov-Smirnov test) were computed.

The data will either confirm or reject the following hypotheses:
H1: The first year students and the fifth year students will differ in their service perception.
H2: Female and male students will differ in their service perception.

5. RESEARCH FINDINGS

Descriptive statistics showed that the mean, median and mode for all the dimensions of service quality are not the same. This means that the data all these dimensions are not normally distributed, which confirmed by Kolmogorov-Smirnov test.

Analysis of frequency tables showed high levels of perceived quality in four of five dimensions. The Tangibles have been not important dimension of service performance by opinion of management students. All students stress that the appearance of faculty building and surroundings was the least important quality dimension. Items with negation such as 'Administrative staffs do not always show willingness to help students' and 'Academic staff is often too busy to respond to a request for assistance' were also eliminated from further analysis.

The mean scores of four service dimensions namely assurance, reliability, responsiveness and empathy are between 5.2 and 5.7. The overall score of the four dimensions was 5.42. It can be concluded that students' perceived moderate level of service quality at the Faculty. The Cronbach's alpha of each scale was higher than 0.7 which confirms scales reliability.

A principal components factor analysis, using varimax rotation, was carried out on the total sample. The results of factor analysis revealed that modified questionnaire with 17 variables from four dimension can be used in assessing higher education service performance in a Serbian faculty (Cronbach's alpha is 0.901; Cronbach's alpha Based on Standardized Items is 0.909).

The results showed that academic staff is treating students in a satisfactory way (see Table 2). The most important quality item for first year students is to deal with them in a caring fashion. The most important item for fifth year students is the knowledge of academic staff to answer their questions. Their third most important quality dimension is willingness of academic staff to help students.

According to students' perception, items related to administrative staff is low ranking. One reason may be that students' contacts with administrative staff are intensive at the period of exams when they stressed. All students gave the lowest rank to the following statement 'The opening hours are convenient for me'. This problem is in domain of office organisation.

Human Capital without Borders: make Management,
Knowledge and Learning for Quality of Life learn Knowledge and Learning
25–27 June 2014 · Portorož, Slovenia International Conference 2014

The students' perceptions of service quality elements change over a period of study. This goes in line with results of Oldfield and Baron (2000) study. The fifth year students ranked service dimension in following manner:

1. Reliability,
2. Assurance,
3. Responsiveness, and
4. Empathy.

On the contrary, for the first year students the most important dimension was Assurance, then Reliability followed by Responsiveness and Empathy.

The largest difference between the first and the fifth year students relates to the statement 'this faculty provides its services within the time one might reasonably expect', where the fifth year students are more in agreement with the statement than the first year students (see Table 2). The fifth year students are more likely to agree that academic staff understand their needs.

It is noticeable that the fifth year students ranked the statements 'I feel secure in my transactions with this faculty' as well as 'Academics are willing to give students individual attention' relatively low in comprising with other dimensions. This may be cause for concern and analysis by course management team.

The hypothesis that female and male students will differ in their service performance was tested by Mann- Whithey U test. The results revealed that a gender-based difference was found in student ratings of Responsiveness. The male students gave higher ratings on Responsiveness statements than their female counterparts. This goes in line with the study of Snipes et al (2006).

Human Capital without Borders:
Knowledge and Learning for Quality of Life
25–27 June 2014 · Portorož, Slovenia

make
learn

Management,
Knowledge and Learning
International Conference 2014

Table 2. Means and ranks of service performance

Item	Dimension	First year		Fifth year	
		Mean	Rank	Mean	Rank
Academic staff deal with me in a caring fashion	Assurance	6.02	1	6.59	2
Academic staff have the knowledge to answer my questions relating to course provision	Assurance	5.80	2	6.65	1
When I have a problem, academic staff show a sincere interest in solving it	Reliability	5.67	3	6.12	3
This faculty provides its services at the time it promises to do so	Reliability	5.66	4	5.53	10
All staff are consistently courteous to me	Assurance	5.65	5	5.71	6
I feel secure in my transactions with this faculty	Assurance	5.55	6	5.35	13
Services are performed right the first time	Responsiveness	5.52	7	5.65	9
Academic staff understand the needs of their students	Empathy	5.51	8	5.88	4
Academics are willing to give students individual attention	Empathy	5.50	9	5.12	15
Administration keeps accurate records	Reliability	5.47	10	5.70	7
When the support services promise to do something by a certain time they do so	Reliability	5.42	11	5.47	11
I am dealt with promptly when requesting assistance	Responsiveness	5.41	12	5.66	8
This faculty provides its services within the time one might reasonably expect	Reliability	5.39	13	5.71	5
When I have a problem administrative staff show a sincere interest in solving it	Reliability	5.36	14	5.29	14
This faculty employ staff in whom I have confidence	Assurance	5.32	15	5.41	12
Administrative staff are never too busy to respond to a request for assistance	Responsiveness	4.99	16	4.88	16
The opening hours are convenient for me	Empathy	4.64	17	4.47	17

Source: Author's calculation.

6. MANAGEMENT IMPLICATIONS

The results showed that the service quality at Faculty of Management was moderate from the students' perspective. This means there is a space for improvements.

Tangibles have been not important dimension of service performance in an observed faculty. The dimension Tangibles was examined by following statements: Appearance of faculty building and surroundings is nice, Support staffs are neat appearing, Materials associated with course delivery are attractive, and this faculty has up-to-date equipment. In the next period, there is no need to invest in promotion activities. In perception higher education quality appearing of support staff as well as visual look of course material was not important.

Major students' remarks were regarding opening hours of administrative office. This can be solved by better organisation of administrative office.

The most important factors are expectations from academic staff, relate to deal with them in a caring fashion, have knowledge of course, and understanding their needs. It is concerning that fifth year

Human Capital without Borders:
Knowledge and Learning for Quality of Life
25–27 June 2014 · Portorož, Slovenia

make learn

Management,
Knowledge and Learning
International Conference 2014

students perceived willingness of academic staff to give individual attention significantly lower than first year student. One reason may be greater expectations of the fifth year students. The course management team have to determinate reasons of low students' perception of aforementioned statement. Other statements showed that academic staffs are treating students in a satisfactory way.

Items related to administrative staff showed that students were not satisfied with their treatment. The course management team have to identify reasons of dissatisfaction. One reason may be that students' contacts with administrative staff are intensive at the period of exams when they stressed. The better organisation of office and employment of additional staff can be part of problem solution.

In the terms of service quality perceptions, it appears (with one exception) that there was no gender bias. The male students gave higher ratings on Responsiveness statements than their female counterparts. This results needs to be confirm in the larger sample.

7. CONCLUDING REMARKS

The students perceived service quality in higher education is one of the most important issues for universities. Measuring higher education service quality is complex issue along with attracting students especially in one transition economy.

This case study provides insights into the students' perception of service quality factors based upon an empirical analysis of a sample of Serbian students. The results have shown that SERVPERF can be used by educational institutions in the transition period. This instrument can be used by other Serbian universities or make adaption to their own needs when measuring service quality. Modified questionnaire with seventeen statements were identified as important tool in the evaluation of service performance in higher education.

The factors that have a significant influence on the students' perception of service quality were seniority and gender. In relation to this, the course management teams should be able to identify and understand various levels of student's expectations across years of study and gender.

This study has several limitations and only represents a first step in measuring service performance at Serbian universities. The research sample is relative small. Furthermore, respondents came from one national environment as well as same study group.

REFERENCE LIST

1. Anderson, J.C. and Gerbing, D.W.(1991). Predicting the performance of measures in a confirmatory factor analysis with a pre-test assessment of their substantive validities. *Journal of Applied Psychology*, 76 (5), 732-40.
2. Bolton, R.N. and Drew, J.H. (1991). A multi stage model of customer's assessments of service quality and value. *Journal of Consumer Research*, 17, 375-84.
3. Brochado, A. (2009). Comparing alternative instruments to measure service quality in higher education. *Quality Assurance in Education*, 17 (2), 174-190.
4. Cronin, J. J. and Taylor, S.A. (1992). Measuring service quality: re-examination and extension. *Journal of Marketing*, 56(3), 56-68.
5. Faganel, A. (2010). Quality perception gap inside the higher education institution. *International Journal of Academic Research*, 2(1), 213-215.
6. Firdaus, A. (2005). HEdPERF versus SERVPERF The quest for ideal measuring instrument of service quality in higher education sector. *Quality Assurance in Education*, 13 (4), 305-28.
7. Firdaus, A. (2006). Measuring service quality in higher education: HEdPERF versus SERVPERF. *Marketing Intelligence & Planning*, 24 (1), 31-47.

Human Capital without Borders:
Knowledge and Learning for Quality of Life
25–27 June 2014 · Portorož, Slovenia

make learn

Management,
Knowledge and Learning
International Conference 2014

8. Holdford, D. and Reinders, T. P. (2001). Development of an instrument to assess student perceptions of the quality of pharmaceutical education. *American Journal of Pharmaceutical Education*, 65, 125-131.

9. Jain, S. K. and Gupta, G. (2004). Measuring service quality: SERVQUAL vs. SERVPERF scales. *VIKALPA*, 29 (2), 25-37.

10. Kwan, P. and Ng, P. (1999). Quality indicators in higher education - comparing Hong Kong and China's students. *Managerial Auditing Journal*, 14 (1/2), 20-27.

11. Lagrosen, S. Seyyed-Hashemi, R. and Leitner, M. (2004). Examination of the dimensions of quality in higher education. *Quality Assurance in Education*, 12(2), 61-69.

12. Ministry of Education of the Republic of Serbia (2010, December 1). National report on implementation of Bologna process 2009. Retrieved from <http://tempus.ac.yu/file_download/68>

13. Munteanu, C. Ceobanu, C. Bobalca, C. and Anton, O. (2010). An analysis of customer satisfaction in a higher education context. *International Journal of Public Sector Management*, 23 (2), 124-40.

14. Oldfield, M. S. and Baron, S. (2000). Student perceptions of service quality in a UK university business and management faculty. *Quality Assurance in education*, 8(2), 85-95.

15. O'Neill, M. and Wright, C. (2002). Service quality evaluation in the higher education sector: an empirical investigation of student perceptions. *Higher Education Research and Development*, 21(1), 23-40.

16. Parasuraman, A. Zeithaml, V. A. and Berry, L. L. (1988). SERVQUAL: a multiple-item scale for measuring consumer perceptions of services quality. *Journal of Retailing*, 64(1), 12-40.

17. Sahney, S. Banwet, D. K. and Karunes, S. (2004). A SERVQUAL and QFD approach to total quality education: A student perspective. *International Journal of Productivity and Performance Measurement*, 53(2), 143-66.

18. Smith, G. Smith, A. and Clarke, A. (2007). Evaluating service quality in universities: a service department perspective. *Quality Assurance in Education*, 15(3), 334-51.

19. Snipes, R. L. Thomson, N. F. and Oswald, S. L. (2006). Gender bias in customer evaluations of service quality: an empirical investigation. *Journal of Services Marketing*, 20(4), 274-84.

20. Sohail, M. S. and Shaikh, N.M. (2004). Quest for excellence in business education: a study of service quality. *The International Journal of Educational Management*, 18(1), 58-65.

21. Statistical Office of the Republic of Serbia (2010). *Statistical Yearbook of Serbia 2010*, Belgrade: Statistical Office of the Republic of Serbia.

22. Sultan, P. and Wong, H. (2010). Performance-based service quality model: an empirical study on Japanese universities. *Quality Assurance in Education*, 18(2), 126-43.

23. Tsinidou, M. Gerogiannis, V. and Fitsilis, P. (2010). Evaluation of the factors that determine quality in higher education: an empirical study. *Quality Assurance in Education*, 18 (3), 227-44.

24. Yeo, R. K. (2008). Brewing service quality in higher education - Characteristics of ingredients that make up the recipe, *Quality Assurance in Education*, 16(3), 266-86.