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Students' Perception of the Higher Education Service Quality

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Abstract

Changes in the higher education system resulted in higher education institutions having to pay more attention to their students. Keeping students and ensuring their satisfaction is the basis for sustainable success of higher education institutions. The aforementioned is the reason why this paper is focused on analyzing students' perception of the quality of service in higher education. The main purpose of this paper is to analyze how students in the Croatian system of higher education perceive the quality of service and if there are differences with regard to individual characteristics of students. On the basis of HEdPERF instrument, data was collected for 1454 students from 93 higher education institutions in the Republic of Croatia. Principle component analysis was conducted to define key dimensions of quality. Based on the results of the analysis, five dimensions were extracted: access, non-academic dimension, academic dimension, space and study programs, and reputation of a higher education institution. The second part of the research was based on exploring the impacts of the control variables on the perception of quality. The results have indicated the existence of a statistically significant difference between students' perceptions for the majority of the observed control variables.

Key words: *customers' satisfaction; HEdPERF; principle component analysis; quality dimensions.*

Introduction

Higher education is becoming increasingly competitive and more focused on customers. In the last decade, higher education has undergone numerous reforms in the Republic of Croatia as in many European countries. Increase in the number of students and in higher education institutions has led to increased competition and higher demands by customers in the higher education system. The issue of insufficient financing emerged at the same time, making institutions focus

on accomplishing cost efficiency and on monitoring performance indicators. Furthermore, the evaluation criteria imposed by the competent institutions are becoming more demanding. Under such circumstances, the emphasis is put on monitoring quantitative indicators, whilst neglecting the voice of the system's primary customer, i.e. the student.

Customers have a significant role in the service industry. We can differentiate between key quality elements which are linked to the quality of the final products or service results, and those which pertain to internal processes within an organization. The significance of process dimensions from the customer's perspective depends on the level at which they participate in the process. In the production sector, customers usually do not come into contact with the production processes; while in the service sector, customers often participate in the process of service delivery. Participation may vary depending on the type of service. In higher education, students significantly participate in the processes, while groups of other customers in the labor market such as employers, usually come into contact with the systems' final product i.e. graduate students (Owlia & Aspinwall, 1996). Therefore, it is very important to monitor satisfaction of students, as active participants in the process of providing higher education service.

Perceptions of students and their satisfaction with the service received can significantly impact the achievements of higher education institutions. According to Alves and Rasposo (2007), long-term partnership with students can yield numerous benefits to the higher education institutions, such as: positive promotion, keeping current and attracting new students, potential cooperation with the institution after hiring students, which can also influence easier employment of graduate students in the future. Contrary to this, students' dissatisfaction can result in poorer academic achievement, higher drop-out rates, and negative promotion. In regard to potential benefits, it is necessary to monitor students' perceptions and satisfaction and adjust the quality of service to their specific needs and expectations.

This paper aims to identify key aspects of the service quality in higher education that has the potential to increase students' satisfaction and to stimulate improvements. Furthermore, the study examines how various student groups assess service quality in order to identify significant differences in their perceptions. The results of this analysis may help managers in higher education to focus on specific groups of students who reported lower levels of satisfaction with specific service quality aspects.

Literature Overview

Focus on Customers in Higher Education

Understanding the needs and expectations of customers is the first step towards building an efficient quality system. The quality system at the higher education institution has to include measures for identifying students' needs and expectations

(Sallis, 1994; Bayraktar et al., 2008). This can be achieved by applying market research methods and building good communication with the customers. Bayraktar et al. (2008) claim that a close relationship with the students as part of academic ethics is crucial for recognizing their needs. Therefore, one of the basic tasks of higher education is to develop methods and tools for recognizing students' needs and analysis for fulfilling their expectations. Svensson and Wood (2007) claim that the marketing approach is inappropriate for describing the relationship between the students and the university. The relationship between the students and university is not similar to traditional marketing relations such as customer-supplier or buyer-seller. In this context, Eagle and Brennan (2007) also claim that the concept student-as-customer is worthless in higher education if considering the simplification of the customer and simple purchase of goods for consummation. Understanding all of the stakeholders in the system is crucial for understanding the concept of customer's perception within the higher education context. Furthermore, Eagle and Brennan (2007) claim that there is incompatibility between treating students as customers in a classic marketing sense and attributing students with the responsibility for learning. In addition, they argue that focusing solely on customer satisfaction in higher education is improbable since students are usually not focused on short-term effects and do not prefer education based on easy acquisition of qualifications. Douque and Weeks (2010) believe that students have an active role based on their efficient participation and inclusion into the process of service provision. This approach is based on the premise that the customer is an active participant who participates in the creation of the service, by interacting with other active participants.

In this paper, the students' role is viewed from the perspective of a new marketing approach where students have two roles: they are the recipients of the service and the higher education system has to monitor their needs and expectations; and at the same time, students are active participants in the education process and their academic achievement and learning outcomes depend on their inclusion in the process.

Perceived Quality of Higher Education Service and Students' Satisfaction

Quality analysis in higher education derives from the service quality sector which is based on perceived quality. Accordingly, Hayes (1998, p. 5) states that "*measurement of quality in a non-industrial environment is probably best demonstrated with the customer's perception of the received service*". According to Aldridge and Rowley (1998, p. 200) perceived quality derives from the customer's evaluation of the entire experience related to service.

Satisfaction with a certain transaction is a customer's evaluation of the acquired experience and reaction to a certain service by the provider, while the cumulative satisfaction pertains to the customer's entire evaluation of the experience.

Accordingly, expectations do not have a role in global satisfaction or in satisfaction with a certain transaction. However, customer's expectations are related to the perceived quality of service. Service quality, from the customer's perspective, includes comparison between what they think the service should be (expectation) and their judgments of the service they have received (perception) (Sahney et al., 2004).

For some researchers, students have weak expectations given that it has little influence on satisfaction, which is why the performance variable is the most influential factor of satisfaction. Contrary to this, others emphasize that the harder it is to evaluate the received quality, which is the case with education, the higher the influence of expectation in forming satisfaction (Alves & Raposo, 2007). Evaluation of quality and evaluation of satisfaction can derive from the comparison of various expectations from the same attribute (Oliver, 2010, p. 179). For example, a student can be satisfied with a certain teacher and/or course, since he/she has achieved good results from the course taught by that particular teacher, but can at the same time give low rating to the quality of the course and/or teacher.

The majority of quality definitions in the service sector are related to customer satisfaction, which is observed as a function of the perceived quality, or the perceived quality is considered a function of satisfaction. Therefore, although conceptual and operational differences between quality and satisfaction are clear, the existing literature creates confusion by applying opposite approaches (Sultan & Wong, 2010). There are conceptual questions in literature on services pertaining to the order of these two constructs. One group of authors claim that the customer satisfaction influences the perception of quality (Bitner, 1990; Bolton and Drew, 1991; Hill, 1995), while recent researchers share the opinion that the perceived quality of service influences customer satisfaction (Cronin & Taylor, 1992; Athiyaman, 1997; Brady et al., 2002; Alves & Raposo, 2007; Gruber et al., 2010; Li et al., 2011). Despite the confusion between the conceptual limits of quality and satisfaction, these concepts differ. Satisfaction is a momentary response to consumption, while the quality exists before and after the consumption as a sign of excellence of product or service (Oliver, 2010, p. 183).

Qureshi et al. (2010) emphasize that the perceived quality and satisfaction of students are directly linked through students' intentions following the lecture. Academic staff, enrollments, and class organization influence students' satisfaction, and satisfaction leads to the intention to return to the university, help its promotion, maintain reputation and number of students. The relationship between quality and satisfaction is complex due to a complicated relationship between the performance dimensions used to evaluate quality and those used to evaluate satisfaction, and due to difference between the service providers and global evaluations (Oliver, 2010, p. 183). The aforementioned is the reason why there are cases where students can be satisfied with poor quality or unsatisfied despite a high quality of the received service.

Measuring the Quality of Higher Education Service

SERVQUAL is one of the most widely used and most applied scales for measuring expected and perceived quality. Numerous authors have used the instrument for evaluating quality service in higher education (Snipes & Thompson, 1999; Marković, 2006; Sahney et al., 2008, 2010; Barone & Franco, 2009; Chatterjee et al., 2009; Nadiri et al., 2009; Qureshi et al., 2010). Nadiri et al. (2009) have analyzed student perception, and have proven the relevance of the instrument for conducting research related to service quality in higher education. Qureshi et al. (2010) have analyzed two dimensions of the SERVQUAL instrument (empathy and reliability) and have established a significant connection between these dimensions, student satisfaction and motivation. In the Croatian higher education sector, Marković (2006) has used a modified SERVQUAL scale (called UNIQUAL) and established a structure of seven factors for expectations and eight factors for quality service perception in the Croatian higher education sector.

The unsolved issue of expectation as a determinant of perceived quality service resulted in two different paradigms of quality: disconfirmation paradigm (SERVQUAL) and perception paradigm (SERVPERF). Both instruments share the same concept of perceived quality (Firdaus, 2006a). SERVPERF is a modified SEFVQUAL instrument that only measures customer perceptions, according to the same items included in the SERVQUAL instrument. Cronin and Taylor (1992) and Brady et al. (2002) concluded that service quality measurement based on performance is a better approach. They claim that there is little evidence, either theoretical or empirical, to support the notion of the "*expectations minus performance*" gap as a basis for measuring service quality. Similar to the business sector, the research has shown that the SERVPERF instrument is a better indicator than SERVQUAL in higher education (Firdaus, 2006b; Sultan & Wong, 2010).

One of the attempts of research and development of a new instrument is Firdaus' HEdPERF instrument. Firdaus (2006b) compared three measuring instruments for measuring quality service: HEdPERF (*higher education performance*), SERVPERF and HEdPERF-SERVPERF in higher education. He was surveying students in Malaysia and had applied regression analysis. The research results showed that the modified HEdPERF scale is the most suitable for higher education sector. All 50 items (22 from SERVPERF and 28 from HEdPERF) were included in the factor analysis. Finally, HEdPERF consists of 41 items, of which 13 items were taken from SERVPERF, and the remaining 28 were developed from literature overview. HEdPERF was proven to be the best indicator, explains higher variances, is a more reliable predictor and shows better criteria of construct's validity (Firdaus, 2006b).

Firdaus' HEdPERF instrument is based on six dimensions or quality factors. These six dimensions are considered constructs of service quality in higher education. The six dimensions are (Firdaus, 2006a):

1) *Non-academic aspects.* This factor consists of items which are crucial for ensuring that students fulfill their obligations and is linked to obligations of non-academic staff.
2) *Academic aspects.* Items describing this factor are solely the responsibility of the academics.
3) *Reputation.* This factor includes items which suggest the importance of the higher education institution in projecting a professional image.
4) *Access.* This factor consists of items which relate to such issues as approachability, ease of contact, availability and convenience.
5) *Program issues.* This factor emphasizes the importance of offering wide ranging and reputable academic programs/specializations with flexible structure and syllabus.
6) *Understanding.* It includes items related to understanding students' specific needs in terms of counseling and health services.

In later work (Firdaus, 2006b) dimension understanding was excluded, and dimension access proved to be the most relevant dimension of quality service in higher education.

Brocado (2009) compared SERVQUAL, SERVPERF, SERVQUAL categorized according to importance; SERVPERF categorized according to importance and HEdPERF in higher education context and concluded that SERVPERF and HEdPERF are the best instruments for measuring service quality.

Research Methods and Research Results

The HEdPERF instrument previously tested in literature was used in this research. The pilot research was implemented at a department of the University in Zagreb with the aim of testing the understanding of all items within the survey. Afterwards, the surveys were sent to official email addresses of all higher education institutions in the Republic of Croatia. The data was collected from May to July 2012 and again from September to November 2012, due to an insufficient response in the first round. A total of 1454 students' replies were collected, from 93 higher education institutions in the Republic of Croatia.

The statistical software *PASW Statistics 18,* was used to conduct the *Principal Components Analysis (PCA)* of the items from the HEdPERF instrument, which was implemented to define key factors of higher education quality service from the students' perspective. Prior to implementing PCA, suitability of the collected data for factor analysis was assessed. Inspection of the correlation matrix revealed a larger number of correlation coefficients with the value of 0.3 or above. Additionally, the Kaiser-Meyer-Oklin criteria, with the value of 0.969 (Keiser 1970, 1974) and Bartlett's test of Sphericity (Bartlett, 1954) which was shown to be statistically significant at a 1% significance level, supported the factorability of the correlation matrix.

The principal component analysis revealed the presence of seven components with eigen values above 1, which explain 42.71%, 7.55%, 4.97%, 3.37%, 2.79%, 2.57% and 2.48% of total variance, respectively. Given that the previous research from this area suggest a solution with five factors (Firdaus, 2006a), *Scree* diagram was also checked and confirmed using just five components. Additionally, that finding was confirmed by implementing a *Parallel Analysis,* which showed that specific values of five components are higher than corresponding values from a randomly generated data matrix of the same size (41 variables × 1454 surveyees).

The solution with five factors explained 61.38% of the total variance, whereas the first component explained 42.71%, the second 7.55%, the third 4.97%, the fourth 3.37%, and the fifth component 2.79% of the total variance, respectively. In order to interpret the solution with five factors, an oblique rotation of factors was implemented, given that the correlation matrix of the components showed a correlation with individual absolute values of 0.3 or above. Factors which were selected for the analysis are: (1) *access,* which includes counseling services and service approachability and reliability, (2) *non-academic,* which includes items related to accountability of non-academic staff at higher education institution, (3) *academic*, which includes the accountability of the academic staff, (4) *space and study programs*, and (5) *reputation of a higher education institution* (for more detail, see Appendix 1).

In order to analyze the impact of control variables (gender, age, student status, type of course, memberships and parents' education level) on students' perception of the higher education service quality, independent samples t-tests of mean difference of two populations and *one-way ANOVA* were implemented. The results of the aforementioned analysis are provided in Tables 1-6.

Table 1

Quality factors of higher education service from students' perspectives (total and per gender)

Higher education service quality factor	Total	Female students	Male students	t- test statistics
	N=1454	N=932	N=522	
Access	4.87 (1.16)	4.83 [0.04]	4.98 [0.05]	-2.41**
Non-academic aspect	4.68 (1.54)	4.51 [0.05]	4.97 [0.06]	-5.57***
Academic aspect	5.26 (1.11)	5.27 [0.03]	5.25 [0.05]	0.381
Space and programs	4.44 (1.27)	4.39 [0.04]	4.52 [0.06]	-1.738
Reputation	4.83 (1.25)	4.72 [0.04]	5.02 [0.06]	-4.352***

Note: ( ) denotes standard deviation; [ ] denotes standard error of estimate; asterisks ***.** denote significance level of 1% and 5%, respectively

In order to compare the perceptions of female and male students on the five aspects of higher education service quality, independent samples t-tests (two-tailed) were implemented on the mean difference of two populations. The results of the conducted tests are provided in Table 1, suggesting that there is a statistically significant difference in perceptions of male and female students for the *access* dimension (male students: M=4.98, SD=1.19; female students: M=4.83, SD=1.13; $t_{(1452)}$=-2.41, p=0.016[1]), *non-academic aspect* (male students: M=4.97. SD=1.48; female students: M=4.51, SD=1.55; $t_{(1452)}$=-5.57, p=0.000[2]), and *reputation of a higher education institution* (male students: M=4.72; SD=1.23; female students: M=5.02, SD=1.26; $t_{(1452)}$=- 4.352, p=0.000)[3].

Table 2

Quality factors of higher education service from students' perspectives according to age groups

Higher education service quality factor	Under 25 years of age N=1104	Over 25 years of age N=350	t-test statistics
Access	4.93 [0.03]	4.76 [0.07]	-2.2**
Non-academic aspect	4.65 [0.05]	4.76 [0.09]	1.09
Academic aspect	5.30 [0.03]	5.13 [0.07]	-2.293**
Space and programs	4.48 [0.04]	4.32 [0.07]	-1.922*
Reputation	4.84 [0.04]	4.78 [0.07]	-0.790

Note: ( ) denotes standard deviation; [ ] denotes standard error of estimate; asterisks ***.** denote significance level of 1% and 5%, respectively

The results provided in Table 2 suggest that for two age groups of students (under and over 25 years of age) there is statistically significant difference in the perceptions of the quality of higher education service for the following dimensions: *access, academic aspect* and *space and programs*. According to the procedure suggested by Cohen (1988), magnitude of the differences in the means in observed age groups for the dimensions *access, academic aspect* and *space and programs* were also calculated, whereby effect size statistics eta squared had very small values (0.0025-0.0036).

[1] The magnitude of the differences in the means for male and female students for dimension Access MD=-0.153, 95%, CL:-0.277 to -0.029 was very small, eta squared=0.039 (according to Cohen 1988, pp. 284-287).

[2] The magnitude of the differences in the means for male and female students for Non-academic dimension MD=-0.464, 95%, CL:-0.628 to -0.301 was very small, eta squared=0.021 (according to Cohen 1988, pp. 284-287)

[3] The magnitude of the differences in the means for male and female students for dimension Reputation MD=-0.295, 95%, CL:-0.42 to -0.162 was very small, eta squared=0.013 (according to Cohen 1988, pp. 284-287).

Table 3
Quality factors of higher education service from students' perspectives according to student status

Higher education service quality factor	Part-time students N=214	Full-time students N=1240	t-test statistics
Access	4.87 [0.08]	4.89 [0.03]	0.191
Non-academic aspect	4.87 [0.11]	4.64 [0.04]	1.948*
Academic aspect	5.18 [0.08]	5.28 [0.03]	-1.135
Space and programs	4.58 [0.09]	4.42 [0.04]	1.669*
Reputation	4..96 [0.08]	4.81 [0.04]	1.691*

Note: ( ) denotes standard deviation; [ ] denotes standard error of estimate; asterisk* denotes significance level of 10%

Analysis of students' perceptions of the higher education service quality according to status: full-time or part-time students, revealed statistically significant differences in the analyzed groups for *non-academic aspect, space and programs and reputation*[4].

Table 4
Quality factors of higher education service from students' perspectives according to type of study

Higher education service quality factor	University study N=961	Vocational study N=493	t-test statistics
Access	4.84 [0.04]	4.98 [0.06]	-2.252**
Non-academic aspect	4.57 [0.05]	4.89 [0.07]	-3.827***
Academic aspect	5.24 [0.03]	5.30 [0.05]	-0.954
Space and programs	4.32 [0.04]	4.69 [0.06]	-5.249***
Reputation	4.84 [0.04]	4.81 [0.06]	0.505

Note: ( ) denotes standard deviation; [ ] denotes standard error of estimate; asterisks ***.** denote significance level of 1% and 5%, respectively

According to type of study: university or vocational, there is a statistically significant difference in the perceptions of the students surveyed for the following dimensions of higher education service quality: *access, non-academic aspect* and *space and programs.* The results of the implemented tests are statistically significant at the level of significance of 1% and 5%.The effect size statistics of differences in the means for the observed groups, eta squared, had values between 0.00017 and 0.018, which indicates that between 0.017% and 1.8% of variance in analyzed quality dimensions is explained by the control variable: type of study.

[4] Results of the implemented tests are significant only at the 10% level of significance. According to indicator ε^2 the magnitude of the differences in the means for the observed groups is very small (0.000025- 0.0026).

Table 5

Quality factors of higher education service from students' perspectives according to memberships

Higher education service quality factor	Surveyee is not a member of students' associations N=1066	Surveyee is a member of students' associations N=388	t-test statistics
Access	4.89 [0.03]	4.89 [0.06]	-0.018
Non-academic aspect	4.62 [0.05]	4.83 [0.08]	-2.231**
Academic aspect	5.31 [0.03]	5.13 [0.06]	2.765***
Space and programs	4.47 [0.04]	4.35 [0.07]	1.570
Reputation	4.78 [0.04]	4.98 [0.06]	-2.739***

Note: ( ) denotes standard deviation; [ ] denotes standard error of estimate; asterisks ***.** denote significance level of 1% and 5%, respectively

Taking into consideration the control variable: association membership, there is a statistically significant difference in perceptions of the students surveyed for the following higher education service quality: *non-academic aspect, academic aspect* and *reputation of higher education institution.* The results of the applied two-tailed independent samples t-tests of the mean difference of two populations are statistically significant at the 1% and 5% significance level. The effect size statistics eta squared takes on the values from 0.00017 to 0.0052, indicating that between 0.17% and 0.52% of the variance in the analyzed quality dimensions is explained by the control variable: membership in associations.

Table 6

Quality factors of higher education service from students' perspectives according to parents' level of education

Higher education service quality factor	Neither parent graduated from a higher education institution N=868 ND	One parent graduated from a higher education institution N=364 J	Both parents graduated from a higher education institution N=222 O	ANOVA F-test statistics	Differences
Access	4.94^{2} [0.04]	4.89^{2} [0.06]	4.67^{1} [0.09]	4.805***	ND, J < O
Non-academic aspect	4.71^{1} [0.05]	4.65^{1} [0.08]	4.58^{1} [0.10]	0.682	ND, J, O
Academic aspect	5.29^{1} [0.04]	5.27^{1} [0.06]	5.12^{1} [0.08]	2.229	ND, J, O
Space and programs	4.48^{1} [0.04]	4.42^{1} [0.07]	4.33^{1} [0.09]	1.284	ND, J, O
Reputation	4.85^{1} [0.04]	4.84^{1} [0.06]	4.74^{1} [0.10]	0.702	ND, J, O

Note: the mean values are accompanied by superscripts 1 and 2. They signify that value 2 is statistically higher compared to value 1 at the 5% level of significance. *Post-hoc* comparisons were implemented using the Tukey HSD test. [ ] denotes standard error of estimate; asterisks *** denote significance level of 1%.

In order to explore the impact of the parents' level of education on the students' perception of higher education service quality, *one-way between groups analysis of variance with post-hoc tests* was conducted. The students surveyed were divided into three groups according to their parents' level of education (ND= neither parent graduated from a higher education institution, J= one parent graduated from a higher education institution, O= both parents graduated from a higher education institution). Statistically significant difference between the observed groups was found for dimension: *access* at the level of significance of 1%: F(2.1451)= 4.805, p=0.008. Despite the fact that a statistically significant difference was found for the dimension *access* in the analyzed groups, the actual mean difference between groups is relatively small. Apparently, the calculated effect size of the mean difference for the observed groups, eta squared was 0.0065, suggesting that only 0.65% of the variance in the dimension *access* is explained by the control variable: parents' level of education. *Post-hoc* comparisons using the Tukey HSD test indicated that the mean score for group ND (M=4.94. SD=1.09) is significantly different from group O (M=4.67. SD=1.33). Group J (M=4.89. SD=1.19) did not differ significantly from either ND or O group.

Discussion

The results of the main component analysis have shown that students in Croatian institutions of higher education perceive dimensions of higher education service quality equally as their colleagues in other countries (Firdaus, 2006b; Brocado, 2009; Bayraktaroglu & Atrek, 2010; Brandon-Jones & Silvestro, 2010). Similar results were obtained from research studies on student perception at other higher education institutions in Croatia. Marković (2006) conducted a study at the Faculty for Tourism and Hospitality Management in Opatija and established a structure of eight factors for the perception of higher education service quality. Her research identified the following factors: reliability, insurance, students' scientific work, empathy, e-learning, tangibles, price of service and access. Legčević et al. (2012) applied factor analysis on a sample of students from the University of Osijek and isolated the following factors: academic staff, administrative staff, and university resources. The research results in this paper are most similar to the original research conducted by Firdaus (2006b) with a five factor structure. However, certain items related to study programs were included under the dimension *access*, while items related to quality of infrastructure at a higher education institution were linked to the dimension *study programs*. Nevertheless, the majority of the items were distributed as in the original research. The reason why there were differences in the order of certain items within dimensions can be attributed to insufficient infrastructure at some higher education institutions in the Republic of Croatia, and to linking the quality of the study programs with the key problem of higher education in Croatia, which is employability of graduates. The most significant

quality dimension in this paper is *access*, which is in accordance with the results of the previous research (Firdaus, 2006b; Brocado, 2009).

The second part of the research examined differences in perceptions in regard to certain characteristics of students. In regard to student's gender, a statistically significant difference was established for the quality dimensions: access, non-academic dimension and reputation. Female students gave lower ratings to these three dimensions than male students. Some of the previous research studies have also indicated differences in perceptions between male and female students. Using Poland as an example, Sojkin et al. (2012) have established an existence of significant differences between male and female students in regard to social conditions (access), programs, and academic staff, while there have been no differences in perceptions in regard to tangibles i.e. infrastructure. In their research, female students gave lower ratings to social conditions than male students, while they provided higher ratings for programs and academic staff. The results of research by Umbach and Porter (2002) showed that the female students were less satisfied with all of the educational aspects. With regard to students' age, statistically significant differences were established for the following dimensions: access, academic dimension and space and programs. Students over 25 years of age gave lower ratings to all three higher education service qualities. However, these are relatively small differences in students' ratings. Previous research (Sojkin et al., 2012) demonstrated statistically significant differences in students' ratings in regard to social conditions (access) and material conditions (space) in higher education institutions. Their research did not reveal statistically significant differences for the academic dimension and programs of higher education institutions. Students' perceptions of the non-academic dimension, space and programs, and reputation of higher education institution were significantly different considering students' status and membership in students' associations. Full-time students gave lower ratings to all these quality dimensions than part-time students, while members of students' associations only gave lower ratings to the academic dimension of quality. Positive influence of studying communities on students' results and perceptions was seen in some of the previous research (Zhao & Kuh, 2004). In regard to the type of study, perceptions differ between university students and vocational studies' students for the following dimensions: access, non-academic dimension, and space and programs. Vocational study students gave higher ratings to this quality dimension. The fact is that a large number of vocational students study at private higher education institutions which have better infrastructure and administrative support for students. The analysis of students' perception in regard to parents' level of education indicated a statistically significant difference only in the *access* dimension. There is a significant difference between the first generation students i.e. those with neither parent having graduated from a higher education institution and students with both parents having graduated from a higher education institution. In the above-mentioned,

the first generation students gave higher ratings to the quality of higher education. Previous research (Pascarella et al., 2004; Pike & Kuh, 2005) also established an existence of differences in students' perceptions and results concerning the level of education of their parents. Their research showed that the first generation students were less included in all activities at higher education institutions, and that they had poorer results. Therefore, it is assumed that their perceptions of higher education service quality will be different compared to other groups of students.

The results of the research conducted should be viewed from the aspect of several limitations. Students' subjective ratings were used for determining quality dimensions. Certain information which was required for the analysis could not have been collected on the basis of objective quantitative indicators, which is why students' perceptions were used. The research results represent service quality from a perspective of only one group of participants in the higher education system. For a better overview of the quality of higher education institutions, perceptions of other participant groups should be included, such as graduate students and academic staff.

Research of students' perceptions of the higher education service quality is the first research based on using the HEdPERF instrument which included all higher education institutions in the Republic of Croatia. The majority of previous research studies covered a limited number of higher education institutions (Legčević et al., 2012; Marković, 2006). The application of the previously tested instrument enabled a comparison of the obtained results with similar research. On the basis of the data obtained, policy makers in Croatian higher education can plan quality improvement activities and benchmark with competition. Furthermore, the research included differences in perceptions in regard to numerous control variables on the basis of which additional improvements and marketing activities, directed at those groups of students who gave lower ratings to their experiences, can be determined. In addition, the obtained results can help with considering the drop-out issue, as they enable identification of those elements of quality service which students perceive as the worst.

Conclusion

This paper examined students' perceptions of the higher education service quality in the Republic of Croatia in order to define dimensions of quality which are most significant for that particular group of higher education participants. The paper aimed to report the importance of external customer perceptions for stimulating improvements of the higher education service quality. In higher education, improvements are often based on various indicators and rankings, neglecting customer satisfaction. However, reported levels of satisfaction by customers could provide valuable input for stimulating quality improvements.

The results of this study revealed that the *access* dimension is the most important aspect of service quality from the students' perspective. Therefore, management can

use this result for marketing purposes to retain existing and attract new students. *Infrastructure* and *study programs* are dimensions with the lowest ratings in this study. Based on this finding management should reconsider the adequacy of the infrastructure and institutional resources, and determine the level of investments that are required to achieve improvement. *Study programs* is a dimension that can be improved easier as it does not require significant financial resources. The needs of the labor market should be analyzed in order to adjust study programs and enable easier employability of graduates. Quality improvement programs should also include specific issues related to students' groups that are less satisfied with their study experiences, such as senior students and first generation students.

This study gave valuable insights into the possibilities for quality improvements of the higher education system. However, it is limited to only one group of stakeholders and inclusion of other stakeholders could improve understanding of the issues of higher education service quality.

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Appendix 1. *Matrix of samples and structure for PCA with oblique rotation: solution with five factors*

Variable	Coefficient of sample matrix					Coefficient of sample matrix					Communa lities
	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	
Higher education institution supports students' associations.	.626					.698	-.432	-.390			.525
Higher education institution values and recognizes students' feedback for improvement.	.622					.784	-.571	-.470	.396		.666
Higher education institution has standardized and simple service delivery procedures (e.g. informing students, including students in the work of higher education institution, counseling etc.).	.605					.780	-.565	-.443	.461	-.301	.680
Higher education institution ensures excellent counseling services.	.577					.776	-.591	-.541	.404		.685
Adequate health services (regular medical check-ups, list of doctors available to students etc.).	.568					.579	-.305		.315		.359
Students are given fair amount of freedom.	.560					.680	-.419	-.513	.317		.541
Upon request, higher education institution staff guarantees confidentially of information.	.557					.700	-.483	-.529			.561
Higher education institution provides services within reasonable time frame.	.473					.700	-.558	-.521	.375	-.426	.637
Higher education institution provides flexible syllabus and structure.	.447			.433		.632	-.415	-.421	.599		.609
Higher education institution provides safe and reliable services.	.425				-.359	.686	-.562	-.540	.411	-.529	.699
Higher education institution staff provides equal treatment and respect.	.418		-.303			.689	-.607	-.614	.376		.636
Higher education institution staff is easily contacted (e-mail, telephone).	.417					.615	-.526	-.523			.493
Higher education institution provides reputable academic programs.	.395				-.395	.623	-.419	-.442	.542	-.553	.658
Administrative staff has good communication with students.		-.938				.427	-.901	-.380			.816

Variable	Coefficient of sample matrix					Coefficient of sample matrix					Communa lities
	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	
Administrative staff has positive attitude towards the students.		-.938				.421	-.899	-.391			.817
Administrative staff provides caring and individualized attention.		-.893				.459	-.895	-.414	.316		.803
Efficient/prompt in dealing with students' complaints.		-.838				.449	-.854	-.400	.307		.731
Administrative staff shows sincere interest in solving students' problems.		-.832				.435	-.866	-.478			.764
Administrative staff is knowledgeable of systems/ procedures at higher education institution.		-.809				.421	-.818	-.371			.676
Administrative staff provides caring and individualized attention to students.		-.786				.342	-.776	-.360	.355		.620
Administrative staff provides service within reasonable time frame.		-.774				.427	-.798	-.375		-.312	.663
Administrative office maintains accurate and retrievable records of their students.		-.743				.433	-.779	-.391			.625
Administrative office has convenient opening hours.		-.699				.436	-.736	-.303	.399		.588
Academic staff is knowledgeable in course content.			-.772			.315	-.354	-.776		-.408	.679
Academic staff has positive attitude towards students.			-.743			.544	-.493	-.847	.308		.757
Academic staff is caring and courteous towards students.			-.742			.480	-.465	-.817			.696
Academic staff has good communication skills.			-.734			.440	-.393	-.786	.328		.635
Academic staff shows sincere interest in solving students' problems.			-.730			.515	-.498	-.834	.318		.726
Academic staff is highly educated and experienced, and possess knowledge and experience related to their courses.			-.679		-.323	.387	-.352	-.737		-.453	.645

Variable	Coefficient of sample matrix					Coefficient of sample matrix					Communa lities
	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	
Academic staff provides efficient and courteous consultations.			-.669			.465	-.466	-.764			.611
Academic staff shows sincere interest in students' requests for assistance.			-.627					-.559			.346
Academic staff provides students with feedback on their progress options.			-.538			.558	-.421	-.692	.391		.574
Satisfactory campus facilities and equipment.				.687			-.373	-.319	.725		.586
Academic facilities have adequate equipment for classes, exercises and seminars.				.684		.301	-.389	-.380	.763	-.372	.653
Academic facilities include satisfactory recreational facilities (sports halls, gyms etc.).				.577					.577		.343
Minimal class sizes in order to increase the class quality.				.510		.448	-.388	-.412	.611		.516
Higher education institution has satisfactory syllabus.				.437		.567	-.439	-.527	.647	-.353	.615
Higher education institution provides various types of courses with clear objectives for students' progress.	.399			.415		.623	-.421	-.421	.621	-.312	.584
Higher education institution displays professional image.					-.523	.473	-.391	-.452	.397	-.640	.590
Higher education institution has ideal campus location/layout.					-.483				.389	-.554	.390
Easily employable graduates.					-.343	.445	-.387		.346	-.452	.368
Percentage of variance	42.71	7.55	4.97	3.37	2.79						
Number of items in factor	13	10	9	6	3						

Note: coefficients of sample matrix: Factor 1 – access, Factor 2 – non-academic dimension, Factor 3 – academic dimension, Factor 4 – space and program of higher education institution, Factor 5 – reputation of higher education institution
** KMO = .969; Bartlett's test of sphericity: χ^2= 42387.508; df= 820; p≤0.001
Source: author's calculation

Istraživanje percepcija studenata o kvaliteti usluge visokog obrazovanja

Sažetak

Promjene u visokoobrazovnom sustavu dovele su do situacije da visoka učilišta moraju sve više pažnje posvetiti svojim studentima. Zadržavanje studenata i osiguranje njihova zadovoljstva osnova su održivog uspjeha visokih učilišta. Stoga se u ovom radu analiziraju percepcije studenata o kvaliteti visokoobrazovne usluge. Osnovni je cilj rada istražiti kako studenti u hrvatskom sustavu visokog obrazovanja percipiraju kvalitetu usluge, te postoje li razlike s obzirom na pojedine osobine studenata. Na temelju HEdPERF instrumenta prikupljeni su podaci od 1454 studenta s 93 visoka učilišta u Republici Hrvatskoj. Provedena je analiza glavnih komponenti kako bi se definirale ključne dimenzije kvalitete. Na temelju rezultata analize izdvojeno je pet dimenzija: dostupnost, neakademska dimenzija, akademska dimenzija, prostor i studijski programi, ugled visokog učilišta. Drugi dio istraživanja temeljio se na ispitivanju utjecaja kontrolnih varijabli na percepcije kvalitete. Rezultati su pokazali postojanje statistički signifikantne razlike između percepcija studenata za većinu promatranih kontrolnih varijabli.

Ključne riječi: *analiza glavnih komponenata; dimenzije kvalitete; HEdPERF; zadovoljstvo korisnika*

Uvod

Visoko obrazovanje postaje sve konkurentnije i snažnije usmjereno na korisnike. U posljednjem desetljeću visoko obrazovanje u Republici Hrvatskoj, kao i u mnogim europskim zemljama, prolazi kroz brojne reforme. Porast broja studenata i visokih učilišta doveo je do veće konkurencije i većih zahtjeva dionika u visokom obrazovnom sustavu. Istodobno se javlja problem nedovoljnog financiranja zbog čega se institucije usmjeravaju na postizanje troškovne efikasnosti i praćenje pokazatelja uspješnosti. Nadalje, kriteriji vrednovanja koje nameću nadležne institucije sve su zahtjevniji. U takvim se okolnostima naglasak stavlja na praćenje kvantitativnih pokazatelja, a zanemaruje se glas primarnih dionika sustava, tj. studenata.

Korisnici ili dionici imaju značajnu ulogu u uslužnim djelatnostima. Razlikujemo ključne elemente kvalitete koji su povezani s kvalitetom finalnih proizvoda ili

rezultata usluga i onih koje se odnose na unutarnje procese unutar organizacije. Važnost procesnih dimenzija iz perspektive korisnika ovisi o stupnju do kojeg oni sudjeluju u procesu. U proizvodnom sektoru korisnici se obično ne susreću s proizvodnim procesima, a u uslugama korisnici često sudjeluju u procesu isporuke usluge. Sudjelovanje može varirati u ovisnosti o vrsti usluge. U slučaju visokog obrazovanja studenti značajno sudjeluju u procesima, a ostale grupe dionika kao što su poslodavci na tržištu rada susreću se uglavnom s finalnim proizvodom sustava, tj. diplomiranim studentima (Owlia i Aspinwall, 1996). Prema tome, izuzetno je važno pratiti zadovoljstvo studenata kao aktivnih sudionika procesa pružanja usluge visokog obrazovanja.

Percepcije studenata i njihovo zadovoljstvo primljenom uslugom mogu značajno utjecati na ostvarene rezultate visokih učilišta. Prema Alves i Rasposo (2007) dugoročno partnerstvo sa studentima može donijeti brojne koristi visokim učilištima, kao što su: pozitivna promidžba, zadržavanje postojećih i privlačenje novih studenata, moguća suradnja s institucijom nakon zapošljavanja studenata, što također može utjecati na lakše zapošljavanje završenih studenata u budućnosti. Suprotno tome, nezadovoljstvo studenata može rezultirati lošijim ishodima učenja i ostvarenim rezultatima, većim stopama odustajanja od studija, negativnom promidžbom. S obzirom na potencijalne koristi nužno je pratiti percepcije i zadovoljstvo studenata i prilagođavati kvalitetu usluge njihovim specifičnim potrebama i očekivanjima.

Cilj ovog rada jest definirati ključne aspekte kvalitete visokoobrazovne usluge koji vode većem zadovoljstvu studenata i mogu potaknuti poboljšanja usluge. Nadalje, u radu se ispituje kako različite grupe studenata ocjenjuju kvalitetu radi definiranja značajnih razlike u njihovim percepcijama između pojedinih grupa. Rezultati ovog istraživanja mogu pomoći vodstvu visokoobrazovnih institucija da se usmjeri na specifične grupe studenata koji su iskazali manje zadovoljstvo pojedinim aspektima kvalitete usluge.

Pregled literature

Fokus na korisnike u visokom obrazovanju

Razumijevanje potreba i očekivanja korisnika predstavlja prvi korak u izgradnji učinkovitog sustava kvalitete. Unutar sustava kvalitete na visokom učilištu moraju postojati mjere za utvrđivanje studentskih potreba i očekivanja (Sallis, 1994; Bayraktar i sur., 2008). To se može ostvariti primjenom metoda za istraživanje tržišta i izgradnjom dobre komunikacije s korisnicima. Bayraktar i sur. (2008) tvrde da je blizak odnos sa studentima kao dio akademske etike ključan radi prepoznavanja njihovih potreba. Dakle, jedan od temeljnih zadataka visokog obrazovanja jest razviti metode i alate za prepoznavanje potreba studenata i analizu ispunjenja njihovih očekivanja. Svensson i Wood (2007) tvrde da je marketinški pristup neprimjeren za opisivanje odnosa studenata i sveučilišta. Odnos studenata i sveučilišta nema

analogiju s tradicionalnim marketinškim odnosima kao što su korisnik – dobavljač ili kupac – prodavatelj. U tom kontekstu Eagle i Brennan (2007) također tvrde da je koncept student-kao-korisnik bezvrijedan u visokom obrazovanju ako se ima na umu simplifikacija korisnika i jednostavna kupnja dobra radi konzumacije. Kako bismo razumjeli koncept percepcije korisnika u kontekstu visokog obrazovanja, ključno je razumijevanje svih dionika sustava. Nadalje, Eagle i Brennan (2007) ističu kako postoji nekompatibilnost između tretiranja studenata kao korisnika u klasičnom marketinškom smislu i pripisivanja studentima odgovornosti za učenje. Također, navode da je usmjerenost samo na zadovoljstvo korisnika u visokom obrazovanju nevjerojatna jer studenti obično nisu usredotočeni na kratkoročne efekte i ne preferiraju obrazovanje utemeljeno na lakom stjecanju kvalifikacija. Douque i Weeks (2010) navode da studenti imaju aktivnu ulogu koja je utemeljena na njihovu učinkovitom sudjelovanju i uključenosti u proces pružanja usluge. Taj pristup kreće od premise da je korisnik (ili klijent) akter koji sudjeluje u kreiranju usluge tako da uzajamno djeluje s ostalim akterima.

U ovom se radu uloga studenata promatra iz perspektive novog marketinškog pristupa u kojem studenti imaju dvije uloge: oni su primatelji usluge i sustav visokog obrazovanja mora pratiti njihove potrebe i očekivanja; istodobno su studenti aktivni sudionici procesa obrazovanja i o njihovoj uključenosti u proces ovise njihovi ostvareni rezultati i ishodi učenja.

Percipirana kvaliteta visokoobrazovne usluge i zadovoljstvo studenata

Analiza kvalitete u visokom obrazovanju potječe iz područja kvalitete usluga koja se temelji na percipiranoj kvaliteti. U skladu s time Hayes (1998, str. 5) navodi kako je „*mjerenje kvalitete u neindustrijskom okruženju vjerojatno najbolje prikazano percepcijom korisnika o primljenoj usluzi*". Prema Aldridge i Rowley (1998, str. 200) percipirana kvaliteta proizlazi iz korisnikova vrednovanja cjelokupnog iskustva vezanog uz uslugu.

Zadovoljstvo određenom transakcijom je korisnikovo vrednovanje stečenog iskustva i reakcije na određenu uslugu pružatelja, a kumulativno zadovoljstvo odnosi se na korisnikovo ukupno vrednovanje iskustva. Prema tome, očekivanja nemaju ulogu u ukupnom zadovoljstvu ili zadovoljstvu određenom transakcijom. Međutim, očekivanja korisnika povezana su s percipiranom kvalitetom usluge. Kvaliteta usluge iz perspektive korisnika uključuje usporedbu onog što oni smatraju da bi usluga trebala biti (očekivanja) s njihovim sudovima o usluzi koju su primili (percepcije) (Sahney i sur., 2004).

Za neke istraživače studenti imaju slaba očekivanja, stoga je varijabla performanse najutjecajniji čimbenik zadovoljstva. Za ostale vrijedi potpuno drugačije. Oni ističu da je što je teže vrednovati primljenu kvalitetu, a to se događa u obrazovanju, viši utjecaj očekivanja u oblikovanju zadovoljstva (Alves i Raposo, 2007). Ocjena

kvalitete i ocjena zadovoljstva mogu nastati iz usporedbe različitih očekivanja od istog atributa (Oliver, 2010, str. 179). Na primjer, student može biti zadovoljan određenim nastavnikom i/ili kolegijem jer je ostvario dobre rezultate iz kolegija na kojem je taj nastavnik nositelj, ali istodobno može loše ocijeniti kvalitetu nastavnika i/ili kolegija.

Većina definicija kvalitete u uslužnom sektoru vezana je uz zadovoljstvo korisnika, što se promatra kao funkcija percipirane kvalitete, ili se percipirana kvaliteta smatra funkcijom zadovoljstva. Dakle, iako su konceptualne i operativne razlike između kvalitete i zadovoljstva jasne, postojeća literatura stvara konfuziju primjenom oprečnih pristupa (Sultan i Wong, 2010). Postoje konceptualna pitanja u literaturi o uslugama koja se tiču redoslijeda ta dva konstrukta. Jedan dio autora tvrdi da zadovoljstvo korisnika utječe na percepciju kvalitete (Bitner, 1990; Bolton i Drew, 1991; Hill, 1995), a novija istraživanja zastupaju stav da percipirana kvaliteta usluge utječe na zadovoljstvo korisnika (Cronin i Taylor, 1992; Athiyaman, 1997; Brady i sur. 2002; Alves i Raposo, 2007; Gruber i sur., 2010; Li i sur., 2011). Unatoč konfuziji koja postoji između konceptualnih granica kvalitete i zadovoljstva ti se koncepti razlikuju. Zadovoljstvo je trenutni odgovor na konzumaciju, a kvaliteta postoji prije i nakon konzumacije kao znak izvrsnosti proizvoda ili usluge (Oliver, 2010 str. 183).

Qureshi i sur. (2010) ističu da su percipirana kvaliteta i zadovoljstvo studenata izravno povezani putem namjera studenata nakon predavanja. Nastavno osoblje, upisi i organizacija nastave imaju utjecaj na zadovoljstvo studenta, a zadovoljstvo vodi do namjere da se vrate na sveučilište, pomognu sveučilištu u unapređenju i održavanju reputacije i broja studenata. Odnos između kvalitete i zadovoljstva kompleksan je zbog zapetljanog odnosa između dimenzija performansi koje se koriste prilikom ocjenjivanja kvalitete i onih koje se koriste pri ocjeni zadovoljstva, te zbog razlike između ocjena pružatelja usluge i globalnih ocjena (Oliver, 2010 str. 183). Zbog toga se može dogoditi da su studenti zadovoljni lošom kvalitetom ili da su nezadovoljni unatoč visokoj kvaliteti primljene usluge.

Mjerenje kvalitete usluge visokog obrazovanja

SERVQUAL je jedan od najraširenijih i najprimjenjivanijih skala za mjerenje očekivane i percipirane kvalitete. Brojni autori koristili su se instrumentima za ocjenjivanje kvalitete usluge u visokom obrazovanju (Snipes i Thompson, 1999; Marković, 2006; Sahney i sur., 2008, 2010; Barone i Franco, 2009; Chatterjee i sur., 2009; Nadiri i sur., 2009; Qureshi i sur., 2010). Nadiri i sur. (2009) analizirali su percepciju studenata i dokazali relevantnost instrumenta za provođenje istraživanja vezanih uz kvalitetu usluge u visokom obrazovanju. Qureshi i sur. (2010) analizirali su dvije dimenzije SERVQUAL instrumenta (empatiju i pouzdanost) pa su dokazali značajnu povezanost između tih dimenzija, zadovoljstva studenata i njihove motivacije. U hrvatskom prostoru visokog obrazovanja Marković (2006) se koristila modificiranom SERVQUAL skalom (nazvanom UNIQUAL) te utvrdila strukturu

od sedam faktora očekivanja i osam faktora percepcije kvalitete usluge u hrvatskom visokom obrazovanju.

Neriješeno pitanje očekivanja kao determinante percipirane kvalitete usluge rezultiralo je dvjema različitim paradigmama mjerenja kvalitete: diskonfirmacijska paradigma (SERVQUAL) i percepcijska paradigma (SERVPERF). Oba instrumenta dijele isti koncept percipirane kvalitete (Firdaus, 2006a). SERVPERF je modificirani SEFVQUAL instrument koji mjeri samo percepcije korisnika, po istim stavkama koje su uključene u SERVQUAL instrumentu. Cronin i Taylor (1992) i Brady i sur. (2002) zaključili su da je mjerenje kvalitete usluge na temelju performansi bolji način mjerenja konstrukta kvalitete usluge. Oni tvrde da je malo dokaza, bilo teorijskih bilo empirijskih za podržavanje tvrdnje da je jaz „*očekivanja minus performanse*" temelj za mjerenje kvalitete usluge. Slično kao kod poslovnog sektora, istraživanja su pokazala da je SERVPERF instrument bolji pokazatelj od SERVQUAL-a u visokom obrazovanju (Firdaus, 2006b; Sultan i Wong, 2010).

Jedan od pokušaja ispitivanja i kreiranja novog instrumenta je Firdausov HEdPERF instrument. Firdaus (2006b) je usporedio tri mjerna instrumenta za mjerenje kvalitete usluge: HEdPERF (eng. *higher education performance*), SERVPERF i HEdPERF-SERVPERF u visokom obrazovanju. Ispitivao je studente u Maleziji i primijenio regresijsku analizu. Rezultati istraživanja pokazali su da je modificirana HEdPERF skala najprikladnija za sektor visokog obrazovanja. Svih 50 stavki (22 iz SERVPERF-a i 28 iz HEdPERF-a) uključeno je u faktorsku analizu. HEdPERF se u konačnici sastoji od 41 stavke, od kojih je 13 stavki preuzeto iz SERVPERF-a, a ostalih 28 razvijeno pregledom literature. HEdPERF se pokazao kao bolji pokazatelj, koji objašnjava više varijance, pouzdaniji je prediktor te pokazuje bolje kriterije validnosti konstrukta (Firdaus, 2006b).

Firdausov HEdPERF instrument temelji se na šest dimenzija ili čimbenika kvalitete. Tih šest dimenzija smatra se konstruktima kvalitete usluge u visokom obrazovanju. Šest dimenzija identificiranih u radu je (Firdaus, 2006a):

1) *Neakademski aspekti.* Ovaj faktor sastoji se od stavki koje su ključne kako bi se osiguralo da studenti ispunjavaju svoje obaveze i povezuje se s obavezama neakademskog dijela osoblja.
2) *Akademski aspekti.* Stavke koje opisuju ovaj faktor su samo odgovornosti nastavnika.
3) *Reputacija.* Ovaj faktor uključuje stavke koje sugeriraju važnost visokog učilišta u projektiranju profesionalnog imidža.
4) *Dostupnost.* Ovaj faktor sastoji se od stavki koje se odnose na pitanje pristupačnosti, lakoće kontakta, dostupnosti i prikladnosti.
5) *Studijski programi visokog učilišta.* Ovaj faktor naglašava važnost ponude široko obuhvatnih i uglednih akademskih programa/specijalizacija uz fleksibilnu strukturu silaba.
6) *Razumijevanje.* Uključuje stavke povezane s razumijevanjem specifičnih potreba studenata u pogledu savjetovanja i zdravstvenih usluga.

U kasnijem radu (Firdaus, 2006b) dimenzija razumijevanje je isključena, a dimenzija dostupnost pokazala se najvažnijom dimenzijom kvalitete usluge u visokom obrazovanju.

Brocado (2009) je usporedila SERVQUAL, SERVPERF, SERVQUAL ponderiran prema važnosti, SERVPERF ponderiran prema važnosti i HEdPERF u kontekstu visokog obrazovanja i zaključila da su SERVPERF i HEdPERF najbolji instrumenti za mjerenje kvalitete usluge.

Istraživačke metode i rezultati istraživanja

U istraživanju je korišten HEdPERF instrument koji je prethodno testiran u literaturi. Pilot istraživanje je provedeno na jednoj sastavnici Sveučilišta u Zagrebu kako bi se testiralo razumijevanje svih stavki unutar upitnika. Nakon toga su anketni upitnici poslani na službene adrese elektroničke pošte svih visokih učilišta u Republici Hrvatskoj. Podatci su prikupljani u razdoblju od svibnja do srpnja 2012. godine i ponovno od rujna do studenog 2012. godine zbog nedovoljnog odaziva u prvom pokušaju. Ukupno je prikupljeno 1454 odgovora studenata. Odgovori su prikupljeni s 93 visoka učilišta u Republici Hrvatskoj.

Korištenjem programske potpore *PASW Statistics 18* provedena je analiza glavnih komponenti (engl. *Principal Components Analysis, PCA*) stavki iz HEdPERF instrumenta kako bi se definirali ključni faktori kvalitete usluge visokog obrazovanja iz perspektive studenata. Prije provođenja PCA provjerena je prikladnost prikupljenih podataka za faktorsku analizu. Provjerom korelacijske matrice utvrđeno je postojanje većeg broja koeficijenata s koeficijentom korelacije 0,3 i većim. Provjera Kaiser-Meyer-Oklin kriterija, s vrijednosti od 0,969 (Keiser 1970, 1974) i Bartlettova testa (Bartlett 1954) koji se pokazao statistički signifikantnim na razini signifikantnosti 1%, govori u prilog podobnosti faktorske analize anketom prikupljenih podataka.

Analizom glavnih komponenti utvrđeno je postojanje 7 komponenti sa svojstvenim vrijednostima iznad 1, koji redom objašnjavaju 42,71%, 7,55%, 4,97%, 3,37%, 2,79%, 2,57%, odnosno 2,48% varijance. Budući da prethodna istraživanja iz tog područja sugeriraju rješenje s pet faktora (Firdaus, 2006), dodatno je provjeren i *Scree* dijagram, koji sugerira zadržavanje samo pet komponenti, što je dodatno potvrđeno i provođenjem paralelne analize (engl. *Parallel Analysis*) koja je pokazala da pet komponenti ima svojstvene vrijednosti veće od odgovarajućih vrijednosti na slučajan način generirane matrice podataka iste veličine (41 varijabla × 1454 ispitanika).

Rješenje s pet faktora objasnilo je 61,38% ukupne varijance, pri čemu je prva komponenta objasnila 42,71%, druga 7,55%, treća 4,97%, četvrta 3,37%, a peta komponenta 2,79% ukupne varijance. Kako bi se interpretiralo dobiveno rješenje s pet faktora, provedeno je kosokutno (engl. *oblique*) rotiranje faktora, budući da je korelacijska matrica komponenti pokazala korelaciju s pojedinim apsolutnim vrijednostima iznad 0,3. Faktori koji su se izdvojili u analizi su: (1) *dostupnost* unutar koje su uključene savjetodavne usluge, pristupačnost i pouzdanost usluge, (2)

neakademska dimenzija kvalitete u koju su uključene stavke vezane uz odgovornosti nenastavnog osoblja na visokom učilištu, (3) *akademska dimenzija* koja uključuje odgovornosti nastavnog osoblja, (4) *prostor i studijski programi*, kao i (5) *ugled visokog učilišta* (detaljno vidjeti u Prilogu 1).

Kako bi se analizirao utjecaj kontrolnih varijabli (spol, dob, status studenta, tip studija, članstvo u udruženjima, stupanj obrazovanja roditelja) na percepcije studenata o kvaliteti visokoobrazovne usluge provedeni su t-testovi o razlici sredina dviju populacija na temelju nezavisnih uzoraka (engl. *independent samples t-test*) i jednosmjerna analiza varijance (engl. *one-way ANOVA*). Rezultati analize dani su u tablicama 1 – 6.

Tablica 1

Kako bi se usporedile percepcije studenata i studentica o pet dimenzija kvalitete visokoobrazovne usluge, provedeni su dvosmjerni testovi o razlici aritmetičkih sredina dviju populacija na temelju nezavisnih uzoraka. Rezultati provedenih testova dani u tablici 1 sugeriraju da postoji statistički signifikantna razlika u percepcijama studenata i studentica za dimenziju *dostupnost* (studenti: M=4,98, SD=1,19; studentice: M=4,83, SD=1,13; $t_{(1452)}$=-2,41, p=0,016[1]), *neakademsku dimenziju* (studenti: M=4,97, SD=1,48, studentice: M=4.51, SD=1,55, $t_{(1452)}$=-5,57, p=0,000[2]) i *ugled visokog učilišta* (studenti: M=4,72; SD=1,23; studentice: M=5,02, SD=1,26; $t_{(1452)}$=- 4,352, p=0,000)[3].

Tablica 2

Rezultati u tablici 2 sugeriraju statistički značajnu razliku u percepcijama dvije dobne skupine studenata (mlađih i starijih od 25 godina) o kvaliteti visokoobrazovne usluge i to za dimenzije: *dostupnost, akademska dimenzija*i*prostor i programi*. Prema proceduri koju je predložio Cohen (1988) izračunate su i značajnosti razlika aritmetičkih sredina u promatranim dobnim skupinama za dimenzije *dostupnost, akademsku dimenziju* i *prostor i programe*, pri čemu je pokazatelj ε^2 poprimao vrlo male vrijednosti (0,0025-0,0036).

Tablica 3

Analizom percepcija studenata o kvaliteti visokoobrazovne usluge prema statusu: izvanredni ili redovni student, otkrivene su statistički signifikantne razlike u analiziranim skupinama za *neakademsku dimenziju, prostor, programe* i *ugled.*[4]

[1] Značajnost razlike aritmetičkih sredina studenata i studentica za dimenziju dostupnost MD=-0,153, 95%, CL:-0,277 do -0,029 je vrlo mala ε^2=0,039 (prema Cohen 1988, str. 284-287).

[2] Značajnost razlike aritmetičkih sredina studenata i studentica za neakademsku dimenziju MD=-0,464, 95%, CL:-0,628 do -0,301 je vrlo mala ε^2=0,021 (prema Cohen 1988, str. 284-287).

[3] Značajnost razlikea ritmetičkih sredina studenata i studentica za dimenziju ugled MD=-0,295, 95%, CL:-0,42 do -0,162 je vrlo mala ε^2=0,013 (prema Cohen 1988, str. 284-287).

[4] Rezultati provedenih testova su signifikantni na razini signifikantnosti od 10%. Prema pokazatelju ε2 značajnost razlike aritmetičkih sredina za promatrane skupine vrlo je mala (0,000025- 0,0026).

Tablica 4

Prema tipu studija: sveučilišni ili stručni, postoji statistički signifikantna razlika u percepcijama anketiranih studenata za ove dimenzije kvalitete visokoobrazovne usluge: *dostupnost, neakademska dimenzija,* te*prostor* i *programi*. Rezultati provedenih testova statistički su signifikantni na razini 1%, odnosno 5% signifikantnosti. Pokazatelj značajnosti razlika aritmetičkih sredina promatranih grupa ε^2 poprima vrijednosti od 0,00017 do 0,018, što ukazuje na to da je između 0,017% i 1,8% varijance u analiziranim dimenzijama kvalitete objašnjeno kontrolnom varijablom tip studija.

Tablica 5

Uzevši u obzir kontrolnu varijablu: članstvo u udruženjima, postoji statistički signifikantna razlika u percepcijama anketiranih studenata za ove dimenzije kvalitete visokoobrazovne usluge: *neakademska dimenzija, akademska dimenzija* i *ugled visokog učilišta*. Rezultati provedenih dvosmjernih testova o razlici aritmetičkih sredina dvaju populacija na temelju nezavisnih uzoraka statistički su signifikantni na razini 1%, odnosno 5% signifikantnosti. Izračunati pokazatelj značajnosti razlika aritmetičkih sredina promatranih grupa ε^2 poprima vrijednosti od 0,0017 do 0,0052, što ukazuje na to da je između 0,17% i 0,52% varijance u analiziranim dimenzijama kvalitete objašnjeno kontrolnom varijablom: članstvo u udruženjima.

Tablica 6

Kako bi se istražio utjecaj stupnja obrazovanja roditelja na percepciju studenata o kvaliteti visokoobrazovne usluge, provedena je jednosmjerna analiza varijance s *post-hoc* testovima (engl. *one-way ANOVA with post-hoc tests*). Anketirani studenti podijeljeni su u tri skupine s obzirom na stupanj obrazovanja roditelja (ND = ni jedan roditelj nije diplomirao na visokom učilištu, J = jedan roditelj je diplomirao na visokom učilištu, O = oba roditelja su diplomirala na visokom učilištu). Utvrđena je statistički signifikantna razlika između promatranih grupa za dimenziju: *dostupnost* na razini signifikantnosti od 1%: $F(2,1451)= 4,805$, $p=0,008$. Unatoč tome što je utvrđena statistički signifikantna razlika za dimenziju *dostupnost* u analiziranim skupinama, stvarna razlika u aritmetičkim sredinama između grupa je relativno mala. Naime, izračunati pokazatelj značajnosti razlika aritmetičkih sredina promatranih grupa ε^2 iznosio je 0,0065, sugerirajući da je samo 0,65% varijance u dimenziji *dostupnost* objašnjeno kontrolnom varijablom: stupanj obrazovanja roditelja. *Post-hoc* usporedbe s pomoću Tukeyeva HSD testa sugeriraju da postoji signifikantna razlika u aritmetičkim sredinama (bodovima) za grupu ND (M=4,94, SD=1,09) i O (M=4,67, SD=1,33). Grupa J (M=4,89, SD=1,19) nije se statistički signifikantno razlikovala od grupa ND i O.

Rasprava

Rezultati analize glavnih komponenti pokazali su da studenti na hrvatskim visokim učilištima percipiraju dimenzije kvalitete visokoobrazovne usluge

jednako kao njihovi kolege u drugim državama (Firdaus, 2006b; Brocado, 2009; Bayraktaroglu i Atrek, 2010; Brandon-Jones i Silvestro, 2010). Slični rezultati dobiveni su u istraživanjima percepcija studenata na ostalim hrvatskim visokim učilištima. Marković (2006) je provela istraživanje na Fakultetu za menadžment u turizmu i ugostiteljstvu u Opatiji te je utvrdila strukturu od osam faktora za percepcije kvalitete visokoobrazovne usluge. Faktori koji su se izdvojili u njezinu istraživanju su: pouzdanost, osiguranje, znanstveni rad studenata, empatija, e-učenje, opipljivi elementi, cijena usluge i dostupnost. Legčević i sur. (2012) primijenili su faktorsku analizu na uzorku studenata sa Sveučilišta u Osijeku te su izdvojili sljedeće faktore: nastavno osoblje, administrativno osoblje, resursi fakulteta. Rezultati istraživanja u ovom radu najsličniji su izvornom istraživanju Firdausa (2006b) sa strukturom od pet faktora. Međutim, pojedine stavke vezane uz studijske programe smjestile su se u faktor dostupnost, a stavke vezane uz kvalitetu infrastrukture na visokom učilištu povezale su se s dimenzijom studijskih programa. Ipak, većina je stavki raspodijeljena kao u izvornom istraživanju. Razlog zbog kojeg je došlo do razlika u rasporedu pojedinih stavki unutar faktora može biti nedostatna infrastruktura na nekim visokim učilištima u Republici Hrvatskoj, pa povezivanje kvalitete studijskih programa s ključnim problemom visokog obrazovanja u Republici Hrvatskoj: zapošljivošću diplomiranih studenata. Najznačajnija dimenzija kvalitete u ovom radu je dostupnost, što je u skladu s rezultatima prethodnih istraživanja (Brocado, 2009; Firdaus, 2006b).

U drugom dijelu istraživanja ispitivane su razlike u percepcijama s obzirom na određene osobine studenata. S obzirom na spol studenata utvrđena je statistički signifikantna razlika za tri dimenzije kvalitete: dostupnost, neakademsku dimenziju i ugled. Studentice lošije ocjenjuju te tri dimenzije kvalitete od studenatta. Neka od prethodnih istraživanja također su ukazala na razlike u percepcijama između studenata i studentica. Sojkin i sur. (2012) su, na primjeru Poljske, utvrdili postojanje značajnih razlika između studenata i studentica s obzirom na društvene uvjete (dostupnost), programe i nastavno osoblje, a da nije bilo razlika u percepcijama s obzirom na opipljive elemente, tj. infrastrukturu. U njihovu istraživanju studentice su lošije ocijenile društvene uvjete u odnosu na studente, a bolje ocjene su dale za programe i nastavne osoblje. Rezultati istraživanja Umbacha i Portera (2002) pokazali su da su studentice manje zadovoljne svim aspektima obrazovanja. S obzirom na dobnu skupinu studenata utvrđene su statistički signifikantne razlike za dimenzije: dostupnost, akademska dimenzija i prostor i programi. Studenti stariji od 25 godina lošije su ocijenili sve tri dimenzije kvalitete visokoobrazovne usluge. Ipak, radi se o relativno malim razlikama u ocjenama studenata. Prethodna istraživanja (Sojkin i sur., 2012) su dokazala statistički značajne razlike u ocjenama studenata s obzirom na dob za društvene uvjete (dostupnost) i materijalne uvjete (prostor) na visokim učilištima. U njihovu istraživanju nije bilo statistički signifikantne razlike za akademsku dimenziju i programe visokog učilišta. Percepcije studenata za

neakademsku dimenziju, prostor i programe, kao i ugled visokog učilišta značajno su se razlikovale s obzirom na status studenata i članstvo u studentskim udruženjima. Redovni studenti lošije ocjenjuju sve tri dimenzije kvalitete od izvanrednih, a članovi studentskih udruga lošije su ocijenili samo akademsku dimenziju kvalitete. Pozitivan utjecaj učećih zajednica na rezultate i percepcije studenata je dokazan i u nekim od prethodnih istraživanja kvalitete (Zhao i Kuh, 2004). S obzirom na tip studija razlikuju se percepcije studenata stručnog i sveučilišnog studija za dimenzije: dostupnost, neakademska dimenzija, prostor i programi. Studenti stručnog studija bolje ocjenjuju te dimenzije kvalitete. Činjenica je da velik dio studenata stručnih studija studira na privatnim visokim učilištima koja imaju bolju infrastrukturu i administrativnu podršku za studente. Analiza percepcija studenata s obzirom na razinu obrazovanja roditelja ukazala je na statistički signifikantnu razliku samo u dimenziji dostupnost. Značajna razlika postoji između studenata prve generacije, tj. onih čiji nijedan roditelj nema visoko obrazovanje i studenata čija su oba roditelja visoko obrazovana. Pri tome su studenti prve generacije bolje ocijenili kvalitetu visokog obrazovanja. Prethodna istraživanja (Pascarella i sur., 2004; Pike i Kuh, 2005) su također dokazala postojanje razlika u percepcijama i rezultatima studenata s obzirom na razinu obrazovanja njihovih roditelja. Njihova istraživanja su pokazala da su studenti prve generacije manje uključeni u sve aktivnosti na visokim učilištima i da ostvaruju lošije rezultate. Stoga se pretpostavlja da će njihove percepcije kvalitete visokoobrazovne usluge biti drugačije u odnosu na ostale grupe studenata.

Rezultate provedenog istraživanja moramo promatrati s obzirom na nekoliko ograničenja. Za određivanje dimenzija kvalitete su korištene subjektivne ocjene studenata. Određene informacije koje su potrebne za analizu nisu mogle biti prikupljene na temelju objektivnih kvantitativnih indikatora, stoga su korištene percepcije studenata. Rezultati istraživanja prikazuju rezultate kvalitete usluge iz perspektive samo jedne grupe dionika sustava visokog obrazovanja. Za bolji prikaz kvalitete visokih učilišta trebalo bi uključiti percepcije i drugih skupina dionika, kao što su diplomirani studenti i nastavnici.

Istraživanje percepcija studenata o kvaliteti visokoobrazovne usluge predstavlja prvo istraživanje utemeljeno na HEdPERF instrumentu koje je obuhvatilo sva visoka učilišta u Republici Hrvatskoj. Većina prethodnih istraživanja obuhvaćala je ograničen broj visokih učilišta (Legčević i sur., 2012; Marković, 2006). Primjena prethodno testiranog i prihvaćenog instrumenta omogućila je usporedbu dobivenih rezultata sa sličnim istraživanjima. Na temelju dobivenih podataka kreatori politika u hrvatskom visokom obrazovanju mogu planirati aktivnosti poboljšanja kvalitete i usporediti svoje rezultate s konkurencijom. Nadalje, u istraživanju su uključene razlike u percepcijama s obzirom na brojne kontrolne varijable na temelju čega se mogu odrediti dodatna poboljšanja i marketinške aktivnosti usmjerene na one grupe studenata koje su svoja iskustva lošije ocijenili. Uz navedeno dobiveni rezultati mogu pomoći u sagledavanju problema odustajanja od studija jer omogućuju

prepoznavanje onih elemenata kvalitete usluge koje studenti percipiraju kao najlošije.

Zaključak

U ovom su radu ispitivane percepcije studenata o kvaliteti usluge visokog obrazovanja u Republici Hrvatskoj kako bi se definirale dimenzije kvalitete najznačajnije za tu skupinu dionika sustava visokog obrazovanja. Cilj rada bop je istaknuti važnost percepcija vanjskih korisnika pri provođenju aktivnosti poboljšanja kvalitete usluge u visokom obrazovanju. U visokom obrazovanju se unapređenja često temelje na različitim indikatorima i rangiranjima, a zadovoljstvo se korisnika zanemaruje. Ipak, informacije o zadovoljstvu korisnika korisne su prilikom definiranja aktivnosti unapređenja kvalitete.

Rezultati ovog rada pokazali su da je dimenzija dostupnost najznačajniji aspekt kvalitete visokoobrazovne usluge iz perspektive studenata. Prema tome, menadžment se može koristiti tim podatkom u marketinške svrhe kako bi zadržao postojeće i privukao nove studente. Infrastruktura i studijski programi najlošije su ocijenjene dimenzije u ovom istraživanju. Na temelju navedenih rezultata vodstvo visokoobrazovnih institucija trebalo bi razmotriti prikladnost infrastrukture i institucionalnih resursa te definirati potrebna ulaganja za poboljšanje. Studijski programi su dimenzija koja se može lakše unaprijediti jer ne zahtijeva značajna financijska ulaganja. Potrebe tržišta rada trebale bi se analizirati kako bi se prilagodili studijski programi i omogućilo lakše zapošljavanje završenih studenata. Programi unapređenja kvalitete također bi trebali uključiti specifične probleme manje zadovoljnih studenata, kao što su stariji studenti i studenti prve generacije.

Ovaj rad pruža vrijedan prikaz mogućnosti poboljšanja kvalitete u hrvatskom sustavu visokog obrazovanja. Ipak, ograničen je na samo jednu skupinu dionika pa bi uključivanje ostalih dionika pomoglo boljem razumijevanju problema kvalitete visokoobrazovne usluge.