

## Article

# Marketing Mix Instruments as Factors of Improvement of Students' Satisfaction in Higher Education Institutions in Republic of Serbia and Spain

Sandra Brkanlić <sup>1,\*</sup>, Javier Sánchez-García <sup>2</sup> , Edgar Breso Esteve <sup>3</sup>, Ivana Brkić <sup>1</sup> , Maja Ćirić <sup>1</sup>, Jovana Tatarski <sup>4</sup>, Jovana Gardašević <sup>1</sup> and Marko Petrović <sup>2</sup>

<sup>1</sup> Faculty of Economics and Engineering Management in Novi Sad, University Business Academy in Novi Sad, 21000 Novi Sad, Serbia; ivana.j.milosevic@fimek.edu.rs (I.B.); majaciric79@yahoo.com (M.Ć.); gardasevic.jovana@gmail.com (J.G.)

<sup>2</sup> Faculty of Law and Economic Sciences, University Jaume I, 12071 Castellon de la Plana, Spain; jsanchez@uji.es (J.S.-G.); petrovic@uji.es (M.P.)

<sup>3</sup> Faculty of Health Sciences, University Jaume I, 12071 Castellon de la Plana, Spain; ebreso@gmail.com

<sup>4</sup> Department of Industrial Engineering and Management, Faculty of Technical Science, University of Novi Sad, 21000 Novi Sad, Serbia; j.tatarski@uns.ac.rs

\* Correspondence: sbrkanlic@gmail.com; Tel.: +381-648252145

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**Abstract:** This paper explores the impact of marketing mix instruments on the students' satisfaction in faculties in the Republic of Serbia and Spain, with the aim of determining how significant the effects of each marketing mix tool and their combinations are in relation to satisfaction of students in Higher Education Institutions (HEIs). The detailed literature review is provided in the theoretical part, which contributes to a better understanding of terms like marketing in higher education, marketing mix instruments in higher education and students' satisfaction. Data were collected from 896 respondents, who are all students at the faculties in Serbia and Spain, and were obtained using the questionnaire purposefully composed for this research. The methods used to highlight any gaps in this marketing mix practice and the relative customer–student satisfaction in HEIs are statistical analyses (descriptive analysis, correlation analysis, multiple regression analysis and *t*-independent samples tests), leading to the general conclusions regarding the following: by improving marketing mix instruments (service, distribution, human factor, physical evidence, service process) we can, and by improving (price, promotion) we cannot, improve students' satisfaction in higher education institutions. The general conclusions clearly highlight what needs to be improved in practice in higher education institutions to improve students' satisfaction, especially students' loyalty, students' choices, students' satisfaction with the quality of the marketing mix instruments at the faculty, students' satisfaction with expectation which they had upon enrolment and student satisfaction with the public image of the faculty, which is the main goal of these institutions.

**Keywords:** marketing in higher education; marketing mix instruments in higher education; higher education institutions; students' satisfaction; Republic of Serbia; Spain

## 1. Introduction

The higher education sector is predominantly facing modernization, pluralism, and market orientation in education. Regarding the higher education sector in the countries where the research was carried out (Serbia and Spain), according to the National Report Regarding the Bologna Process

implementation 2012–2015, there are 22 accredited universities in the Republic of Serbia (13 public and nine private), while the same report specifies that there are 82 registered and accredited universities in Spain (50 public and 32 private) [1]. Eleven private universities have been established in the Republic of Serbia in the last 20 years, five of which were accredited in 2011, and six more obtained accreditation by 2015. Nonetheless, in 2011, forty faculties and vocational colleges sought accreditation [2]. Additionally, the growing number of universities in Spain is the result of an increasing demand (from 170,000 students enrolling in 1960, and 700,000 in 1980, to more than double that figure in 2014), mirroring a high-paced modernization and democratization, simultaneously creating tensions which stem from a rise in inequalities generally, a decrease in autonomy and trends of instrumentalization [3].

The aforementioned current state of affairs in the education market in Serbia, Spain, and in the global market, which witnesses an increase in the number of faculties and universities, is sure to dictate the marketing orientation of the institutions. Education is defined as a transaction or a relationship according to the marketing orientation, and, therefore, engagement and marketing efficiency are emphasized as the most suitable criteria. Education turns into something of more than just human significance for marketing in the area when the two aforementioned criteria are met [4,5]. As well as playing a significant part in the process of achieving the goals of the higher education institutions and its students, the marketing approach in higher education is advantageous for higher, social goals. Being marketing-orientated suggests endeavoring for quality in every management segment of the faculty, because the education service market offers a wide selection of education institutions, forms and programs. In their abundance, prospective students opt for the education which offers features which agree best with them [5,6].

Further complications in the global trends in education are caused by the transition to the Bologna Process and pluralism in education, to which faculties adapt on the fly. It is significant to point out that higher education institutions are coming up against the requirement to magnify their business marketing orientation in view of a number of factors including the following: increasing the presence of international higher education institutions, the establishment of private universities, the introduction of the accreditation system, and control measures and quality guarantees of education. Marketing orientation includes endeavouring for quality in every management segment of the faculty because the educational service market offers a wide range of education institutions, forms and programmes. In their abundance, the prospective students opt for the education that offer features which agree with them best, and they are put into operation using the marketing mix instruments. Present-day marketing defines marketing mix as one of the most commonly used concepts, whose instruments are crucial for the satisfaction of consumers [7].

The marketing goal of each business organization, inclusive of higher education institutions, is to achieve satisfaction of service end-users—students. The attempt to improve the marketing mix instruments originates from the fact that all educational institutions in the contemporary market game strive to gain as high a level of student satisfaction as possible so as to obtain a competitive advantage in the education market. Accordingly, the research aspires to establish which marketing mix instruments are correlated with the student satisfaction the most, and which marketing mix instruments have the greatest effect on the student satisfaction. Therefore, the aim is to ascertain which marketing mix instruments need to be perfected so as to affect the enhancement of the student satisfaction, and hence, the enhancement of the business performance and positioning of the institutions in the market. Moreover, the research provides an outline of the arithmetic means for each marketing mix instrument and student satisfaction. These point to the current situation and the respondents' position with regard to marketing mix instruments and student satisfaction, and also the insight into which instruments/dimensions require improvement [7].

In this paper, the researchers applied descriptive analysis, correlation analysis, multiple regression analysis and *t*-independent samples tests to measure or quantify the results of marketing mix instruments and student satisfaction, in order to correlate marketing mix instruments with student satisfaction in higher education institutions, as well as the impact of marketing mix instruments

on student satisfaction in higher education institutions, at faculties in Serbia and Spain. A detailed literature review is rendered in the theoretical section, which leads to a better understanding of terms such as marketing, marketing in higher education institutions, marketing mix instruments in higher education institutions and student satisfaction. Data collected from 896 respondents, who are all students at the faculties in Serbia and Spain, were obtained using the questionnaire purposefully composed for this research, and statistical analyses (descriptive analysis, correlation analysis, multiple regression analysis and *t*-independent samples tests) were carried out and general conclusions were reached for the territories of the two countries, which have not been compared in any research to date, and which deal with the same or similar relationships in this field. The paper has the following structure:

- Literature review (Section 2);
- Method and data (Section 3);
- Research results and discussion (Section 4);
- Concluding remarks and suggestions for further research (Section 5).

The theoretical part of the paper is in Section 2 and it contributes to a better understanding of terms such as marketing, marketing in higher education institutions, marketing mix instruments in higher education institutions and students' satisfaction. Section 3 comprises the sample structure, data collection procedure and structure of the questionnaire, as well as preliminary results in the form of descriptive analysis, followed by the correlation analysis, multiple regression analysis and *t*-independent samples test, which were all used in the research. Having addressed the methods used in the research, research results and discussion are shown (Section 4). Finally, conclusions and future research directions are given in Section 5.

## 2. Literature Review

In 1985, American Marketing Association (AMA)—the most influential marketing organization in the world—defined marketing as the process of planning and implementing concepts, prices, promotion and distribution of ideas, goods and services, so as to create an exchange that satisfies the needs of individuals and organizations [5,8,9]. The newly formulated definition of marketing, which is also defined by AMA, makes a strategic shift in terms of understanding the concept of marketing. In other words, marketing is now viewed as an organizational function and a set of processes used to create, communicate and deliver value to consumers and manage the customer relationship in a way that is beneficial to the organization and its stakeholders [10]. The present-day perception of the marketing concept brings the customer and his/her satisfaction to the center of attention as the ultimate goal of all marketing activities. Converted to the sphere of higher education and higher education institutions, the ultimate goal of all higher education institutions is to satisfy students.

Across their entire evolution, higher education institutions were thought of as the generator of social progress and the power source of new social changes and ideas. Nevertheless, higher education has been in the state of crisis as a result of an uneven society development, disproportions of economic, political and military powers on the global scale, the explosion of knowledge, globalization, etc., which question the role and function of universities in modern education [11]. As well as playing a significant part in the process of achieving the goals of the higher education institutions and its students, a marketing approach in higher education is advantageous for the higher, social goals as well. Being marketing-orientated suggests endeavoring for quality in every management segment of the faculty, since the education service market offers a wide selection of education institutions, forms and programmes. In their abundance, prospective students opt for the education offer features which agree best with them [5,6].

Authors address the in-depth analysis of marketing and its application in institutions of higher education; the following theoretical discussion will point out the significance of marketing mix instruments and their specific aspects for higher education institutions. Different combinations of marketing mix instruments and their application can give rise to a competitive advantage on a higher

education market. Similarly, it creates greater student satisfaction within a higher education institution. Hence, this study underlines each particular instrument, which evidently indicates the following: in accordance with the most frequently cited definitions, the service represents any activity or benefit that one party offers to another, and which is, in essence, intangible and does not result in having ownership over anything. Its production can, yet need not, be connected with tangible goods [9,12] and it should be regarded in terms of its general characteristics and components, specifically related to the nature of its particular characteristics in the higher education institutions. With the view of one of the definitions, the price represents the amount at which goods and services are exchanged, therefore, the price, in any case, represents expense for the consumer [9,13], and in the study, the price is viewed through the uniqueness of its formation in the higher education institutions. Distribution represents the channels of distributing goods or services to the consumer. In view of the fact that in present-day business, most producers are not directly in contact with the end user, they use the services of an intermediary so as to achieve a better product or service placement. Thus, the marketing intermediary creates the marketing or distribution channels which direct all aspect of the flow of goods or services, from production to consumption, and this forms the base of distribution [9,14]. Authors presented distribution as the sum of all of its characteristics in the field of higher education. In line with one of the definitions, promotion is the process of communication between the service provider (higher education institutions) and a client (student) with the goal of establishing a positive attitude towards the services of the organization in the buying process [9,15,16]. Authors also deals with the nature of promotion features within higher education institutions. The human factor represents one of the service marketing mix instruments and the notion includes each person included in the service process. On the one hand, these are the employees who ought to be adequately recruited, trained, motivated, awarded, trained in teamwork, etc. On the other hand, the human factor implies that service users can influence the entire perception of the service, therefore, it is important to note their behavior, the degree of their engagement, the level of contact between them, education, training, etc. [9,13,16]. In this study, the specific nature of the human factor within the field of higher education is also emphasized. Physical evidence consists of the exterior and interior of the facility with the associated furniture, equipment, etc. As well as this, physical evidence includes the atmosphere inside the facility and a number of other factors [9,13,16], which are explained within this study through the significance of physical evidence for the higher education institutions. The service process includes procedures, mechanisms, and the flow of activities which create the service. For this reason, the delivery of service to the users is greatly affected by decisions which include the processes [9,17]. The importance of this instrument is presented within this study through the review of its complexity and specific nature, as well as the process design and its characteristics within higher education institutions. By analyzing and understanding each of the aforementioned marketing mix instruments and their characteristics and potential, marketers can benefit greatly in the process of creating a service offer in the higher education institutions in the global higher education market, including the Republic of Serbia and Spain. The benefits will enable them to get a head start in the higher education market, and thus higher student satisfaction.

It is required to take certain measurements and do research, and also to quantify the results. Satisfaction was measured with the aim of showing the level of consumer satisfaction and achieving objectification and quantification of consumers' subjective perceptions [18,19]. Consequently, measurement and research of consumer satisfaction was conducted in the higher education institutions.

Many education institutions have a tendency of ameliorating their offer so as to attract more users. Focusing on customer satisfaction is what every institution should start from. Creating happier, satisfied users—whether they are students, their parents, donors, professors, or employers—should be the prime aim that will contribute to quality in education institutions. What is essential for the work of each higher education institutions is user satisfaction. Level of satisfaction is determined by the difference between the service features, how they were perceived by users and user expectations. There are three levels of satisfaction. If the service is below expectations, the user's dissatisfaction

arises. In case a faculty does not provide what the students anticipate, they will change their view towards the faculty and may leave or switch to another department or spread negative information about the college. On the other hand, if the faculty responds to student's expectations, the student will be contented and will become the best promoter of the faculty. If the characteristics of the institution exceed student's expectations, the student will be very satisfied or delighted [20–22].

Due to these circumstances, it is essential for institutions to assess student satisfaction, because higher education institutions have to view students as users and key actors. Hill asserts that students are principal university users, and higher education implies a certain economic and social service. Researchers highlight the importance of these relationships and suggest that the overall orientation of the institution should be translated into the level of these relationships in order to be effective. As stated by Gronroos, building long-term relationships with students should be the marketing goal, since the students are the most valuable university resource [21,23]. Accordingly, this study attempts to evidence which marketing mix instruments, from the students' perspective, have the strongest influence on student satisfaction, in order for them to be used as a tool to improve it further.

The research question of this study is the following: Which marketing mix instruments affect the student satisfaction in higher education institutions to the largest extent? The corresponding hypothesis is the following: H—Marketing mix instruments affect student satisfaction in higher education institutions to a large degree.

### 3. Method and Data

#### 3.1. Defining the Sample—Sociodemographic Characteristics of the Sample

The research was carried out at faculties in two countries—Serbia (703; 78.5%) and Spain (193; 21.5%). The entire sample included 896 respondents. As for the gender of the respondents, the sample included 386 (43.1%) males and 510 (56.9) females. The sample consisted of 20- to 60-year-olds, with an average age of 29.10 years ( $SD = 5.41$ ). The sample involved 165 (19.3%) first-year students, 208 (23.2%) second-year students, 240 (26.8%) third-year students, 227 (25.3%) fourth-year students and 17 (1.9%) fifth-or-higher-year students. A total of 39 (4.4%) respondents did not provide an answer to the question referring to their year of study. The average grade of the respondents ranged from 5 to 10, with an average value of 7.85 ( $SD = 0.95$ ).

In the Republic of Serbia, the research was carried out at four private faculties within the private University Business Academy in Novi Sad, which include the following: Faculty of Economics and Engineering Management in Novi Sad, Faculty of Law for Commerce and Judiciary in Novi Sad, Faculty of Stomatology in Pančevo and Faculty for Applied Management in Belgrade. Concerning the respondents' gender, the subsample from Serbia consisted of 322 (45.8%) male, and 381 (54.2) female respondents. The subsample included 20 to 59-year-olds, with an average age of 29.42 years ( $SD = 4.97$ ). Regarding the faculty, 226 (32.1%) students attended the Faculty of Economics and Engineering Management in Novi Sad, 231 (32.9%) students attended the Faculty of Law for Commerce and Judiciary in Novi Sad, 164 (11.7%) students were from the Faculty of Stomatology in Pančevo, and 82 (11.7%) students were from the Faculty for Applied Management in Belgrade. The subsample was balanced where the year of study is concerned, with 156 (22.2%) first-year students, 161 (22.9%) second-year students, 156 (22.2%) third-year students, and 191 (27.2%) fourth-year students. The average grade of the respondents ranged from 5 to 10, with an average value of 8.07 ( $SD = 0.90$ ). The subsample was sufficient, and a volunteer sampling method was used. The research was conducted during one semester (summer) in 2018/19 school year. The survey was anonymous and group.

In Spain, the survey was conducted at two public faculties within the public University Jaume I in Castellon de la Plana, which included the following: Faculty of Law and Economic Sciences and Faculty of Health Sciences. Concerning the gender of the respondents, the subsample from Spain included 64 (33.2%) male, and 129 (66.8) female respondents. The subsample consisted of 20 to 62-year-olds, with an average age of 26.28 years ( $SD = 4.97$ ). As for the faculty, 94 (48.7%) students attended the

Faculty of Law and Economic Sciences, whereas 99 (51.3%) students were from the Faculty of Health Sciences. Most respondents were third-year students (84; 43.5%), second-year students (47; 24.4%), and fourth year students, respectively (36, 18.7%). First-year students were fewer (9; 4.7%), as well as fifth and higher-year students (17; 8.8%). The average grade of the respondents ranged from 5 to 10, with an average value of 7.24 (SD = 0.82). The subsample was sufficient, and the volunteer sampling method was used as in the Republic of Serbia. In Spain, the survey was carried out using the online questionnaire, while students in the Republic of Serbia responded to questions via the printed questionnaire in paper form. The subsample comprised students of all years of studies at the above faculties. The research was carried out during one semester (winter) in 2018/19 school year. The questionnaire was online and anonymous.

### 3.2. Procedure for Data Collection and Structure of the Questionnaire

The research was conducted using the method of theoretical analysis and the empirical method, the so-called research method. The empirical research method's primary goal was the gathering of facts about the ongoing situation, as well as their subsequent analysis. There were three phases in conducting the empirical research: data collection, preparation of data for analysis, and statistical analysis. To collect concrete data and facts from the respondents via printed and online questionnaires, the survey method was applied. The non-standardized survey questionnaire was used as an instrument for data collection. It was a closed-question one specifically designed for the research. The results obtained using this and other adequate statistical methods were compared with the information from the theoretical analysis method application, which ensured more comprehensive conclusions and recommendations.

The survey method used for the purpose of the research and the instrument used in the survey is a non-standardized questionnaire, created particularly for this research. Key sections, factors and features were formulated using a detailed analysis of theoretical data resources and consulting relevant authors' works [16,18,19,24–27]. On these grounds, the questionnaire was created to include questions whose answers would lead to the possibility of processing the data and obtaining the necessary results.

The first part of the questionnaire contains five general questions serving to obtain detailed information on respondents, i.e., the sample. The questions refer to the gender, birth year, the faculty the respondent is attending, year of study, and average grade of the respondents. This information was used only for the purpose of the descriptive analyses. The questionnaire consisted of 64 items with the respondents giving their response relative to the degree of agreement with the statement on the scale from 1 to 7 (1—I totally disagree, 7—I agree completely). As for the research variables, the questionnaire is divided into two topical sections. The first segment addresses the independent research variable—marketing mix instruments. Applying different combinations of marketing mix instruments can lead to improved competitive advantage in the education market, boosting the student satisfaction. For this reason, each instrument is highlighted separately within this segment. This segment includes 56 closed type questions, i.e., statements that can be graded on the scale from 1 to 7. The section is divided into seven subsections that address each marketing mix instrument individually. The second segment addresses the dependent research variable—student satisfaction. This segment includes eight closed-type questions, i.e., statements which can be graded on the scale from 1 to 7.

Internal consistency (reliability) of seven dimensions of the questionnaire marketing mix instruments and the questionnaire, students' satisfaction is estimated based on the Cronbach  $\alpha$  coefficient. The  $\alpha$  coefficient is utilised to estimate the internal consistency, i.e., reliability of the test/scale. It ranges from 0.00 to 1.00 and is an estimate of the extent to which the dimensions of a single dimension measure the same construct. The  $\alpha$  coefficient values for the applied questionnaires and their dimensions are given in Table 1, ranging from 0.854 to 0.915. According to the criteria proposed by Cho and Kim [28], the reliability of all dimensions is very high.

**Table 1.** Reliability of the dimensions of the questionnaire’s marketing mix instruments and student satisfaction.

| Instrument                | Dimension            | $\alpha$ |
|---------------------------|----------------------|----------|
| Marketing mix instruments | Service              | 0.854    |
|                           | Price                | 0.893    |
|                           | Distribution         | 0.875    |
|                           | Promotion            | 0.952    |
|                           | Human factor         | 0.912    |
|                           | Physical evidence    | 0.915    |
|                           | Service process      | 0.903    |
|                           | Student satisfaction | 0.939    |

### 3.3. Statistical Analysis

The collected data are processed through the SPSS program for 291 Windows, v21 (SPSS Inc., Chicago, IL, USA, 2012), with the frequency sampling method, descriptive statistics (arithmetic mean, standard deviation, asymmetry and kurtosis), correlation analysis (the coefficient of Pearson’s correlation), multiple regression analysis and independent sample tests *t*. The research results are given numerically and shown in the form of a graph or a table.

#### 3.3.1. Descriptive Analysis: Analysis of the Assessment of Marketing Mix Instruments and Students’ Satisfaction

Descriptive analysis was carried out so as to analyses the assessment of marketing mix instruments and students’ satisfaction. Descriptive statistic parameters (arithmetic mean, minimum and maximum value and standard deviation), for seven marketing mix instruments and students’ satisfaction, are given in Table 2. The value of parameters indicating the distribution form (skewness and kurtosis presented in Table 2), are within the range of recommended values ( $\pm 1.5$ ) [29]. Therefore, it can be inferred that the distribution of scores is within the normal distribution range, on all tested questionnaires.

**Table 2.** Descriptive statistics parameters.

|                           |                        | Min | Max | AM    | SD    | Sk    | Ku    |
|---------------------------|------------------------|-----|-----|-------|-------|-------|-------|
| Marketing mix instruments | Service                | 8   | 56  | 42.76 | 8.61  | −0.52 | 0.26  |
|                           | Price                  | 8   | 56  | 36.34 | 12.11 | −0.33 | −0.54 |
|                           | Distribution           | 8   | 56  | 46.23 | 8.61  | −0.90 | 0.60  |
|                           | Promotion              | 8   | 56  | 36.07 | 13.54 | −0.42 | −0.77 |
|                           | Human factor           | 8   | 56  | 42.61 | 9.73  | −0.55 | −0.12 |
|                           | Physical evidence      | 8   | 56  | 42.81 | 11.08 | −0.99 | 0.66  |
|                           | Service process        | 8   | 56  | 41.98 | 9.84  | −0.49 | −0.14 |
|                           | Students’ satisfaction | 8   | 56  | 42.96 | 10.76 | −0.72 | 0.02  |

Legend. Min—minimum value. Max—maximum value. AM—arithmetic mean. SD—standard deviation. Sk—skewness. Ku—kurtosis.

#### 3.3.2. Correlation Analysis: Analysis of the Correlation between Marketing Mix Instruments and Students’ Satisfaction

Correlation analysis examines the correlation between variables and cannot be interpreted by causality link. Correlation does not imply that one variable is dependent and the other is independent; it suggests that the two variables are linearly correlated. It can be interpreted as symmetrical: the correlation between X and Y is the same as the one between Y and X. The correlation analysis was carried out so as to analyze the correlation between marketing mix instruments and student satisfaction. Pearson correlation coefficient was used to analyze the correlation (Table 3).

**Table 3.** The correlation between marketing mix instruments and student satisfaction.

| Students' Satisfaction |         |
|------------------------|---------|
| Service                | 0.715 * |
| Price                  | 0.560 * |
| Distribution           | 0.620 * |
| Promotion              | 0.463 * |
| Human factor           | 0.735 * |
| Physical evidence      | 0.631 * |
| Service process        | 0.769 * |

\* Significant for the level of  $p < 0.01$ .

### 3.3.3. Multiple Regression Analysis: Analysis of the Effect of Marketing Mix Instruments on Students' Satisfaction

Multiple regression analysis is a statistical technique that allows examination of the relationship between several independent or predictor variables. It is based on the effect, and therefore it tells us about the effect, but not about the causality of the link between the predictor and the criterion variable. It gives insight into how, precisely, the set of variables (predictor) can predict the specific outcome (criterion variable), as well as which predictor variable offers the most accurate prediction (criterion variable) [30]. The aim of the analysis was to identify which marketing mix instruments most efficiently predict student satisfaction. In this case, marketing mix instruments present independent (predictor) variables, while student satisfaction is the criterion variable.

In Table 4, the adjusted  $R^2$  (the coefficient of determination) indicates the percentage of the variance of criterion variable which is explained by the set of predictor variables. The regression model is statistically significant ( $F(895) = 261.0, p < 0.001$ ), whereby the set of predictors can explain 67.0% of the variance of the criterion variable—hence, marketing mix instruments explain 67.0% (adjusted  $R^2 = 0.670$ ) of the satisfaction variance. Based on the percentage of the explained variance, it is inferred that the set of predictors is strongly correlated to the criterion variable.

**Table 4.** Regression model parameters: criterion of student satisfaction.

|            | Sum of Squares | Degree of Freedom | Mean Square | Significance |         |       |                |                         |
|------------|----------------|-------------------|-------------|--------------|---------|-------|----------------|-------------------------|
|            |                |                   |             | F            | F Level | R     | R <sup>2</sup> | Adjusted R <sup>2</sup> |
| Regression | 103,541.6      | 895               | 9953.763    | 261.003      | 0.000   | 0.820 | 0.673          | 0.670                   |

The multiple regression analysis was carried out so as to analyze the effect of marketing mix instruments on student satisfaction (Table 5).

**Table 5.** Marketing mix instruments as predictors of students' satisfaction.

| Predictors        | B     | SE    | Beta  | t-Test | p Value |
|-------------------|-------|-------|-------|--------|---------|
| Service           | 0.270 | 0.039 | 0.216 | 6.900  | 0.000   |
| Price             | 0.045 | 0.026 | 0.051 | 1.776  | 0.076   |
| Distribution      | 0.122 | 0.034 | 0.098 | 3.565  | 0.000   |
| Promotion         | 0.006 | 0.021 | 0.008 | 0.296  | 0.767   |
| Human factor      | 0.215 | 0.039 | 0.195 | 5.556  | 0.000   |
| Physical evidence | 0.125 | 0.029 | 0.129 | 4.300  | 0.000   |
| Service process   | 0.287 | 0.043 | 0.262 | 6.600  | 0.000   |

Legend. B—non-standardised coefficient. SE—standard error. Beta—standardised coefficient.

### 3.3.4. Descriptive Analysis and *t*-Independent Samples Test: Analysis of the Differences between the Assessment of Marketing Mix Instruments and Students' Satisfaction by the Subsamples from Serbia and Spain

Descriptive statistical measures, and a series of *t*-independent samples tests were applied in order to examine the potential differences between subsamples from the two countries (Serbia and Spain), within the context of marketing mix instruments and student satisfaction. Descriptive analysis and *T*-tests were carried out with the aim of identifying potential differences between subsamples from Serbia and Spain. Differences were analysed based on the assessment of marketing mix instruments and students' satisfaction. The aim of the analysis was to determine the assessment of relevant marketing mix instruments in faculties in Serbia and in faculties in Spain, as well as to determine if there is a need for the improvement in the instruments. In the same way, the analysis provided insight into the difference between the assessment of the students' satisfaction of each subsample separately, which gave us a clear insight into the present-day state of affairs in faculties in two countries (Serbia and Spain).

As particular differences were noticed in the arithmetic means of almost all dimensions/instruments in the context of the country of origin of the faculty (Serbia and Spain), a set of *t*-independent samples tests was used—tests were applied to analyse the importance of differences in arithmetic means between the two groups. Group membership (Serbia or Spain) is the independent (grouping) variable in all analysis, whereas the seven dimensions of marketing mix and students' satisfaction represent the dependent variable in each group. The results are shown in Table 6.

**Table 6.** The differences between the assessment of marketing mix instruments and students' satisfaction.

| Instrument                | Country                | N            | AM             | SD            | <i>t</i> Test | DF  | <i>p</i> |
|---------------------------|------------------------|--------------|----------------|---------------|---------------|-----|----------|
| Marketing mix instruments | Service                | Spain<br>703 | 39.23<br>43.73 | 5.80<br>9.00  | −6.57         | 894 | 0.000    |
|                           | Price                  | Spain<br>703 | 36.28<br>36.35 | 7.68<br>13.07 | −0.06         | 894 | 0.946    |
|                           | Distribution           | Spain<br>703 | 40.46<br>47.82 | 6.73<br>8.39  | −11.22        | 894 | 0.000    |
|                           | Promotion              | Spain<br>703 | 39.21<br>35.21 | 8.68<br>14.49 | 3.65          | 894 | 0.000    |
|                           | Human factor           | Spain<br>703 | 38.94<br>43.62 | 7.68<br>9.99  | −6.03         | 894 | 0.000    |
|                           | Physical evidence      | Spain<br>703 | 44.69<br>42.29 | 7.45<br>11.84 | 2.68          | 894 | 0.008    |
|                           | Service process        | Spain<br>703 | 38.35<br>42.98 | 7.35<br>10.20 | −5.90         | 894 | .000     |
|                           | Students' satisfaction | Spain<br>703 | 38.55<br>44.17 | 8.60<br>10.97 | −6.58         | 894 | 0.000    |

Legend. AM—arithmetic mean. SD—standard deviation. DF—degree of freedom. *p*—*p* value.

## 4. Results and Discussion

The results of a descriptive analysis on the level of total sample, which are shown in Table 2., and present the arithmetic mean value of the observed sample, indicate that distribution received the highest assessment grade (AM = 46.23). Student satisfaction (AM = 42.96), physical evidence (AM = 42.81), service (AM = 42.76), human factor (AM = 42.61) and service process (AM = 41.98) received medium assessment grades. The lowest assessment grades presented in the table refer to price (AM = 36.34) and promotion (AM = 36.07).

From the Correlation analysis figures given in Table 3, it is evident that student satisfaction achieved the largest correlation with service process (the Pearson correlation coefficient  $r = 0.77$ ), human factor (the Pearson correlation coefficient  $r = 0.73$ ) and service (the Pearson correlation coefficient  $r = 0.71$ ). Fairly smaller, yet still moderately large, correlations are achieved using physical evidence (the Pearson correlation coefficient  $r = 0.63$ ), distribution (the Pearson correlation coefficient  $r = 0.62$ ), price (the

Pearson correlation coefficient  $r = 0.56$ ) and promotion (the Pearson correlation coefficient  $r = 0.46$ ). Even though it is evident that the lowest student satisfaction is achieved by price and promotion, it is also comprehensively observable that all the marketing mix instruments are more or less related to student satisfaction or correlate with student satisfaction.

Multiple regression analysis results, on the level of total sample (Table 5), show the effect of each separate marketing mix instrument on student satisfaction. The standardised coefficient beta indicates the level of contribution of each predictor of students' satisfaction. The best effects in the students' satisfaction prediction are attained by the service process ( $\beta = 0.26, p < 0.001$ ) and service ( $\beta = 0.22, p < 0.001$ ). A slightly smaller effect is attained by the human factor ( $\beta = 0.19, p < 0.001$ ), and physical evidence ( $\beta = 0.13, p < 0.001$ ), while the distribution ( $\beta = 0.10, p < 0.01$ ) attains the smallest effect in student satisfaction. A positive correlation with the criterion variable is attained by all the significant predictors. Price and promotion are not considered significant predictors of student satisfaction. In line with the regression analysis results, the conclusion was reached that hypotheses H0 is partially confirmed.

The results of the correlation analysis obtained at the total sample level show the correlation (to a greater or lesser extent) of all marketing mix instruments with student satisfaction, whereas multiple regression analysis shows influence of all marketing mix instruments on student satisfaction but for price and promotion. When correlating the results of correlation analysis and multiple regression analysis with the results of descriptive analysis at the total sample level, it can clearly be observed that the highest assessment grade and received medium assessment grades are precisely the tools of the marketing mix (distribution, physical records, service, human factor, service process), which proved to be significant for achieving student satisfaction using the aforementioned analysis, while the worst rated ones, at the total sample level, were those marketing mix instruments (price, promotion) which did not prove to be significant for improving student satisfaction. Descriptive analysis also indicates a medium assessment of student satisfaction at the total sample level.

Comparing the obtained results with the viewpoints of the authors concerning these relationships, it can be seen that there are authors who also emphasise the significance of marketing mix instruments, which, in this study, proved to be vital for achieving student satisfaction. Thus, Gerson points to the importance of the study programme quality as one of the key service aspects by stating that it is necessary to conduct market research in order to design and develop study programmes. Otherwise, unanticipated difficulties may occur, there might be less interest for certain study programmes, students might become discontented with the teaching process and the curricula, or they might even decide to transfer to other courses [4]. Banwet and Datta [31] and Hill et al. [32] reached the same conclusions through their research. Their conclusions state that student satisfaction is largely affected by the service itself, as they specifically highlighted the importance of the service quality and the teaching quality. Gruber et al. came to the same conclusions [33]. When measuring the level of correlation between 15 different elements in relation with the business of higher education institution and students' satisfaction, they ascertained that the quality and the concept of study programmes are largely correlated with students' satisfaction in faculties, which is also in line with the research results when the service–student satisfaction relation is in question. Likewie, Banwet and Datta [31] and Hill et al. [32] point to the importance of the service distribution for achieving student satisfaction, which is in line with the obtained research results. Douglas et al. [34] noted that the current demand is for cutting-edge service distribution, using technical equipment and state-of-the-art computer technologies, which can attain student satisfaction. Gajić [35] initially views distribution in the higher education sector considering the location of the institutions as an important factor, and concurrently he emphasises the importance of distance learning studies with the application of advanced technology. He specifically highlights his opinion that institutions have to take particular care of the service delivery methods, the atmosphere in the faculty and the message they are sending to the prospective students in this way. This confirms the exceptional importance of this instrument for achieving students' satisfaction, which is, together with the views of the majority of authors, consistent with the results of the research when it

comes to the impact of distribution on students' satisfaction. As far as the effect of human factor on students' satisfaction is concerned, authors have voiced their opinions only about some individual aspects of the human factor and their impact on students' satisfaction, therefore, Hill et al. [32] and Pozo-Munoz et al. [36] assert that teaching staff play a crucial part in the business of higher education institutions and that the responsibility for the level of student satisfaction rests solely upon them. Voss et al. [37] and Price et al. [38] consider that the enrolled students affect the satisfaction of other students to a large degree, while Deming [39], in the same manner, states that many students form their own opinion based on the opinions of their peers. When examining the role that student services play in the faculty, Galloway [40] determined that the staff at students' services, the non-teaching staff, have an immediate influence on the way a faculty as an institution is perceived by students. According to him, it is vital that the non-teaching staff be professional, appropriately dressed and always available to students, because they have a strong effect on students' satisfaction, which was confirmed by the results of this research. Although the authors dealt only with some aspects of the human factor and their effect on student satisfaction, the largest share of views are in accordance with the research results. The authors also emphasised the importance of physical evidence and the service process for achieving student satisfaction in their studies, in line with the results of the research, so Starck, Zadeh, Ekman and Olsson [41] carried out research on Bangkok University International College, where 36% of students pointed to the importance of physical evidence, while at Webster University 40% of students responded in the same way, highlighting the significance of physical evidence for making a decision concerning which institution to enroll in, whereas Dale [42] pointed out the importance of the service process for achieving student satisfaction by emphasizing that the most important factor affecting student satisfaction is the overall impression concerning service, with special emphasis on the organisation of service delivery, and Banwet and Datta [31] carried out research among students who attended four different lectures given by the same professor, and had different impressions regarding the lectures. The students formed their opinion, among other categories (the obtained knowledge, availability of literature and course materials), based on the interactive nature of lectures and the entire lecturing process, which indicated the importance of certain aspects of service process for students' satisfaction.

On the other hand, the results in this study indicate that price and promotion do not have an effect on student satisfaction. Even though the authors have dealt very little with these marketing mix instruments and their impact on student satisfaction, there are a few, such as McCollough and Gremler [43,44], who highlight the importance of the tuition fee and service quality ratio by asserting that students should get value for the tuition fee they pay, and that this is the method by which to achieve satisfaction. Consequently, provided value should be proportional to the tuition fee and, in this manner, the tuition fee is definitely considered as adequate. Likewise, Gajić [35] defines price in higher education institutions from the economic and psychological points of view by correlating them with students' satisfaction. It can clearly be seen that research results, which do not point to the price as a significant factor for student satisfaction, are completely compatible with the position of the aforementioned authors, who did not attribute too much significance to price and never analysed it separately, only as a marketing mix instrument which can only be observed in synergy with other instruments. Therefore, authors have not analysed marketing mix instruments a lot. Likewise, when it comes to promotion, certain authors still emphasise the importance of promotion for students' satisfaction, although this study did not confirm promotion as being significant for student satisfaction. Hence, Kotler and Fox [20] assert that the marketing communicator has to identify the target audience, clarify the required response, create a message, choose medium or media, choose resource attributes and collect feedback in order to achieve student satisfaction. Ivy [45] points out that promotion is abundant in other tools which can be used to attract new service users and achieve student satisfaction. In contrast, some authors suggest online promotional activities are the most efficient with students [46]. Many authors [47] state that public relations are prevalent promotional activities in private higher education institutions, and that they include a number of activities such as media relations interviews, which have a role in raising awareness in public about the accomplishments of the institution [48].

As can be inferred, the majority of the aforesaid authors only analysed specific aspects of promotion and their effect on students' satisfaction, without taking into account the complete effect of promotion in these types of institutions.

The results (Table 6) of this study (*T*-independent samples test at the level of subsample) point to the current situation in higher education institutions in the Republic of Serbia and Spain. Faculties in Serbia have statistically higher scores ( $p < 0.01$ ) within the following dimensions/instruments: service, distribution, human factor, service process, and student satisfaction. However, faculties in Spain show statistically higher scores ( $p < 0.01$ ) within the following dimensions/instruments: promotion and physical evidence. There is no statistically significant difference between the two groups of respondents concerning the dimension of price. The above results clearly indicate the current situation and the possible need to improve the marketing mix instruments and student satisfaction at the mentioned faculties in two different countries, such as the Republic of Serbia and Spain.

## 5. Concluding Remarks and Suggestions for Future Research

The research goals (scientific and social) were entirely accomplished by coming to a series of scientific and practical findings.

The scientific goal of the research is achieved by partially confirming the validity of the hypothesis and, on the grounds of the scientifically based research process, reliable data were obtained in an area that had not been sufficiently explored by other authors. Namely, through a theoretical review of the literature and a discussion of the results, it has been proved that a small number of authors have dealt with this topic, and that there are both different and contradictory attitudes about the effect of particular marketing mix instruments on students' satisfaction, and that there is no research analyzing the effect of marketing mix instruments on students' satisfaction, and especially not at faculties in Serbia and Spain. Therefore, the scientific purpose and justification of this research are undoubtedly proven.

On the basis of the research results (correlation analysis) it was determined that the strongest correlation with students' satisfaction is attained by (in this order): service process, human factor, service, while a somewhat weaker, yet still moderately strong, correlation was attained by (in this order) physical evidence, distribution, price, promotion. A general inference that can be made, with regard to the correlation analysis results, is that all marketing mix instruments correlate with student satisfaction.

Whereas the results of the correlation analysis highlight the correlation between all marketing mix instruments and students' satisfaction, the results obtained within multiple regression analysis imply that student satisfaction is affected by service, distribution, human factor, physical evidence and service process, while price and promotion do not have an effect on student satisfaction. These results give rise to a partial confirmation of the hypothesis, which suggests that the student satisfaction in higher education institutions is not affected by all marketing mix instruments and that it cannot be enhanced by improving all marketing mix instruments, but only those that turned out to be significant.

Consequently, the multiple regression analysis results lead to the inference that the betterment of students' satisfaction can be achieved by refining the following:

- Service (the study programme quality, the professors' lectures quality, quality of teaching assistants' seminars, quality of the literature used in a study programme, opportunity to perform professional practice, opportunity for international student exchange and training abroad, contemporariness and practical applicability of competencies acquired in faculty);
- Distribution (conducting lectures, seminars, consultation, exams according to the defined schedule, information availability at the student service, over the phone line, on website or social media);
- Human factor (professors' lectures and teaching assistants' seminars, professors' and teaching assistants' effort in motivating students, quality work and kindness by non-teaching staff, quality of the enrolled students regarding their average grades, knowledge and education level, etc.);
- Physical evidence (faculty location, design of the building and entire exterior of the faculty, number of amphitheatres and classrooms, interior and well-equipped faculty rooms, computer equipment, functional and well-equipped library, dress code of the faculty staff);

- Service process (teaching process organization—lectures, seminars and consultations, organisation process of exams and colloquiums, professional practice organisation process, international exchange organisation process, organisation process of informing students in faculty and providing interactive lectures and seminars).

They also lead to the inference that the betterment of students' satisfaction cannot be achieved by improving the following:

- Price (tuition fee and the correction of tuition fee relative to the competition and what the faculty offers for the set price, terms of payments, additional study costs—application forms, certificates, course books, scholarships);
- Promotion (quality promotion on TV, radio, billboards, in print media, in other institutions, on faculty website and social media, organising interesting promotional events, seminars, congresses and conferences).

General inferences that these results gave rise to undoubtedly imply that marketing mix instruments need to be enhanced by higher education institutions so as to improve students' satisfaction.

By producing practically applicable guidelines for improving students' satisfaction in higher education institutions, the social goal of the research is achieved. Where marketing mix instruments, which affect student satisfaction the most, are concerned, on the level of the total sample, a high assessment grade was given for distribution, thus improvements are not necessary to enhance student satisfaction, since students are satisfied with this marketing mix instrument. Service, human factor, physical evidence and service process obtained medium grades on the level of total sample, which suggests that there is room for betterment within these instruments so as to improve students' satisfaction in higher education institutions. When it comes to marketing mix instruments that affect students' satisfaction, the general inference is that, on the level of total sample, service, human factor, physical evidence and service process leave space for further betterment to improve students' satisfaction, because they were medium-rated.

The results which we came to within descriptive analysis of the total sample were finalised and updated with the *t*-independent samples test of the research subsamples. The inferences are that faculties where research was conducted in Serbia have space for the enhancement of physical evidence and service process because they were medium-rated, to improve students satisfaction, whereas faculties in Spain where research was conducted have space for improving service, human factor, and service process, because they were medium-rated, to improve students' satisfaction.

The limitations of the research process which the author was faced with were related to the sample size (especially in Spain). The fact that data collection was conducted in two different countries imposed certain difficulties in both Serbia and Spain. In this respect, certain limitations were encountered concerning the adjustment of the questionnaire to the different territorial, cultural, language, economic and other specificities of the two countries. Moreover, the poor data availability and the insufficient degree of respondents' motivation to answer the entire set of questions were also present throughout the research. However, the comprehensive and studious approach led to successfully overcoming any dilemma or limitation.

Considering the present-day state of affairs in the education market in general, the increasing number of institutions of higher education creates the need for further research which would improve the business performance of certain institutions and lead to winning the market game. Owing to the constant competition between public and private institutions regarding the quality and overall business, it is necessary to carry out research which would determine the effect of marketing mix instruments on the student satisfaction in private and public faculties in other EU and non-EU countries. Considering the fact that the research had been conducted in faculties within the private University Business Academy in Novi Sad and the public University Jaume I in Castellon de la Plana, there is the possibility of conducting research which would be mostly based on the comparison which would

provide insight into the similarities and differences in results obtained in public and private institutions, with an emphasis on this exact correlation.

To enhance the business performance of higher education institutions in general, research on the effects of marketing mix instruments on students' satisfaction could be conducted in universities in other countries or continents as well. Faculties in Europe and North America, for example, could be compared within the suggested research, which could use a comparison of the results to gain insight to be used for the scientific and practical purposes alike.

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