Satisfacción de los estudiantes en educación superior: un estudio de caso portugués

Student satisfaction in higher education: a Portuguese case study

Caterina De Marie*; Marco Cono**; Paula Odete Fernandes***

Resumen

La competencia ha aumentado la presión sobre las instituciones públicas para ofrecer un servicio de calidad consistente para retener a los estudiantes, así como para reclutar nuevos estudiantes. Por lo tanto, los proveedores de educación superior deben ser conscientes de las expectativas de los estudiantes y poner en práctica estrategias orientadas a superar esas expectativas. La evaluación de satisfacción de los estudiantes es crucial para determinar la calidad del servicio en las instituciones de educación superior. En este respecto, esta investigación trata de evaluar el nivel de satisfacción de los estudiantes que frecuentan la Escuela de Tecnología y Gestión de Bragança (ESTiG) del Instituto Politécnico de Bragança (IPB) -Portugal-, durante el curso académico 2013/2014. Se realizó una encuesta para recoger los datos obteniendo una muestra de 220 estudiantes del área científica de Administración y Tecnologías. Los resultados mostraron que los estudiantes de la ESTiG en general estaban satisfechos con IPB. Existe una correlación significativa entre todos los ítems con la Satisfacción Global de los Estudiantes. Fueran identificados dos factores determinantes de la satisfacción: 'Calidad de Servicio' y 'Lealtad'. Por los resultados obtenidos con la regresión múltiple se observó que la Lealtad es la variable que influencia la Satisfacción Global de los Estudiantes. La lealtad y la Calidad de Servicio explican el 99,7% de Satisfacción del Estudiante. Los resultados de este estudio de investigación ayudarán a los Directores del IPB y ESTiG en la comprensión de las necesidades cambiantes de los estudiantes durante el proceso educativo.

Palabras clave: satisfacción de los estudiantes; Instituciones de Enseñanza Superior; ESTiG; Instituto Politécnico de Bragança; Portugal.

Abstract

The competition has increased pressure on public institutions to offer consistent quality service to retain students as well as to recruit new students. Hence, higher education providers should be aware of students' expectations and implement strategies to oriented for these expectations and exceed the same. The student satisfaction assessment is crucial in determining service quality at higher education institutions. In this regards, this research attempts to measures the level of student satisfaction who attend the School of Technology and Management of Bragança (ESTiG) with the Polytechnic Institute of Bragança (IPB) -Portugal-, during the academic year 2013/2014. A survey was conducted to collect the data involved a sample of 220 students from Business and Technologies scientific area. The results showed that ESTiG students were generally satisfied with IPB.

* Estudiante de Maestría en Ingeniería de Gestión de Empresas, con Especialización en Logística y Producción en la Università degli Studi di Brescia, en Italia. E-mail: c.demarie@studenti.unibs.it

** Estudiante de Maestría en Ingeniería de Gestión de Empresas, con Especialización en Economía y Organización en la Università degli Studi di Brescia, en Italia. E-mail: m.cono@studenti.unibs.it

*** Doctora en Economía y Administración y Profesora en el Departamento de Economía y Administración en el Instituto Politécnico de Bragança, en Portugal. E-mail: pof@ipb.pt

There is a significant correlation among all items with Student Overall Satisfaction. It was identified two satisfaction determinants: 'Quality Service' and 'Loyalty'. By the results produced with multiple regression it was achieved that the Loyalty is the variable with high influence on the Student Overall Satisfaction. Loyalty and Quality Service explain 99.7% Student Satisfaction. The results of this research study will help the main board of the IPB and ESTiG in understanding the changing needs of students during the educational process.

Introduction

In the last years the competitive academic environment where students have several options offered to them. Higher Education Institutions, which want to gain competitive advantage in the future, need to start searching for effective and creative procedures to attract and retain students.

Students require reputable and flexible study programmes that will ensure employment after graduation (Asif & Searcy, 2014). Thus, students are becoming more demanding and this is because the world has become very intellectual in all fields of business for example regarding the higher education, which has become very competitive.

The service quality applied to the higher education sector has to bet on satisfy the needs of stakeholders, students in this case. Thus, student satisfaction has become an increasingly important element of the higher education service (Alves & Raposo, 2007).

The quality of a Higher Education Institutions depends on the academic staff which with strategies has the task to instruct students in such a way to exploit their satisfaction to attract attention and improve the image of the Institutions.

To do this the academic service also needs to pay attention to the changing marketplace.

In this case study, using empirical data, went on to analyse the level of satisfaction of Portuguese students who attend the School of Technology and Management of Bragança (ESTiG) with the Polytechnic Institute of Bragança (IPB). Particularly, the data collected during the academic year 2013/2014, by the presentation of a questionnaire to students in the classroom, during April and May 2014. The sample included 220 students in a total of 2131 students that enrolled in that academic year the ESTiG. It was assumed a final sampling error of 6% and 5% of significance level. The notice that ESTiG is one of the five higher schools that belongs to the IPB.

It is important to understand the satisfaction of the students in order to improve their education and the image of the institution under consideration, which is among the 10 best Higher Education Institutions of the country, in particular in 2015 positioning in the 7th position (U-Multirank, 2015).

In order to answer to the main objective of the study, this paper is organized into three sections. First, an overview of the relevant literature on Higher Education Institutions and the importance of student satisfaction is provided. In the second section, are provided information about the methodology used and the results of analysis. The paper concludes with some considerations and some evidences of research that can be relevant to develop in the future.

Literature review

In nowadays with a turbulent market conditions and with an intensive competition the Higher Education Institutions (HEI) should undergoing rapid change (Ford, Joseph, & Joseph, 1999; Lazibat, Baković, & Duževic, 2014).

We are living in a globalized world where people can move from a place to another in a short time. Referring to the case of students, they can choose the Higher Education Institution in which they can study and improve their knowledge. Why students decide to select another HEI, often far from their home

cities? Actually we are in an era in which the job supply is less than the demand of students. From other side, Šula and Banyár (2015) have estimated that over the time, according with the population decline, that the number of students in higher education could decrease, which can be translated as an increase in supply over demand. For this reason, Higher Education Institutions have to build a positive image, increasing their competitiveness, and the satisfaction of their students is the key to achieve these results.

As well as companies, in which customers play a central role for the future and development of themselves, students may be considered as customers for higher education institutions. All types of customers, including students, have certain expectations about the type of service they receive or buy (Can & Nell, 2014). More satisfied students mean more revenue generation for institutions that they could invest in further services or improve the quality of existing services, increasing the students satisfaction, with a positive impact in brand image and competitiveness. Thus, students can be seen as customer because they pay a significant amount for their education but they could be considered as a product itself of the higher education system (Harris & Baggett 1992). According to Eagle and Brennan (2007) we assumed the definition of students as customers in higher education, pointing out that students share responsibility for the results they obtain in the education process. Overall satisfaction is the customers' dis/satisfaction with the organization based on all encounters and experiences with that particular organization (Rust & Oliver, 1993). Skaalvik and Skaalvik (2015) describe satisfaction as the positive or negative evaluative judgment that people make about their jobs. Satisfaction can therefore be regarded as students' emotional response that has resulted from a cognitive process of evaluating the service received against their perceptions (Rust & Oliver, 1993). Furthermore satisfaction could be described as a process where aspects such as expectations, perceptions and emotions

are a part of the satisfaction process (Eakuru & Mat, 2008). When students' perceptions meet their expectations, satisfaction will be the result; however, the opposite will occur when their expectations are not met (Oliver, 1981; Rust & Oliver, 1993) and according to Lazibat, Baković, and Duzević (2014) Higher Education Institution must find the balance between the requirements of their stakeholders to survive in the highly competitive market, attracting new stakeholders and getting competitive advantages.

Rowley (1996) identified four main reasons for collecting student opinion:

i. to promote auditable evidence that students have had the opportunity to pass comment on their courses and that such information is used to bring about enhancements;

ii. to encourage student reflection on their knowledge and learning;

iii. to allow institutions to benchmark and to provide indicators that will contribute and help to the reputation of the Higher Institution in the marketplace;

iv. to provide students with an opportunity to express their level of satisfaction with their academic experience.

In this regard to deliver total student satisfaction, all employees of a HEI should need to understand the factors that drive student satisfaction, whether they be front-line contact staff involved in teaching or administration, or non-contact staff in management or administrative roles (Gold, 2001).

Research Methodology

Study objective and research hypothesis.

To answer the main research question, if the School of Technology and Management of Bragança students are satisfied or not with the Polytechnic Institute of Bragança, it has been made a descriptive analysis and an inferential analysis in order to draw inferences regarding

the association between the variables and testing the truthfulness of the hypothesis. Further, the main research question it was purposed to understand how much the other variables could influent the total satisfaction of the students. For that the research hypothesis of the study are developed as below (table 1).

Table 1
Research Hypothesis

Label	Hypothesis
H$_1$	ESTiG students are satisfied with IPB.
H$_2$	There are differences by individual personal characteristics (gender, age, scientific area, region, academic year, type of degree) in relation with overall satisfaction ESTiG students with IPB.
H$_3$	Students who know IPB by a friend/ colleague are satisfied.
H$_4$	Students who would like to recommend IPB are satisfied.
H$_5$	Bachelor students who want to continue the study in IPB are satisfied.
H$_6$	There is a positive relationship between items satisfaction and student overall satisfaction.

Data collection and data analysis

The instruments used in this study was structured in two parts. The first part focused on students' profile (as demographics and academic information); and the second part include a group of 10 questions that will measure the level of satisfaction of the ESTiG students with IPB and it was used the five point Likert scale from 1 'Strongly Disagree' to 5 'Strongly Agree' to measure each item.

To collect the data a survey was conduct applying a questionnaire in the classroom, between April and May of 2014. It is possible to consider that was used a random sampling approach. To the sample belongs 220 students from a total of 2131 students that enrolled in that academic year the ESTiG. The students are from Business and Technologies scientific area, in total the ratio of respondents it was 10%. In

all process it was assumed a final sampling error of 6% and 5% of significance level.

In this research it was calculated the reliability of the second part of the questionnaire that measure the satisfaction of ESTiG students with IPB, by using a Cronbach's Alpha. The reliability of a measure indicates the internal consistence with which the instrument measures the idea and helps to evaluate the 'goodness' of a measure (Cavana, Delahaye, & Sekaran, 2001). In the present study, for the 10 items in study, it was achieved a Cronbach's Alpha of 0.941. Pestana and Gageiro (2008) say if the values are greater than 0.9 are 'very good'. In conclusion, the result showed that the score of the Cronbach's Alpha indicate that the measurement scale of the satisfaction construct were stable and consistent.

An exploratory descriptive statistics and inferential techniques to study the behaviour of the attributes under study, as well as the existence of correlation or differences between variables was made. By always having the non-infringement of assumptions intended to apply parametric tests: namely the t-student test in order to analyse whether there are differences between means for two independent samples. For the application of this test there is a need of sample size for independent sample which is greater or equal to 30 elements and verify that follows the normal distribution, resorting to the Kolmogorov-Smirnov test and verify that the variances are homogeneous for independent samples using Levene test. When not validated the application of the assumptions of parametric tests and for three or more independent samples a nonparametric test it was applied, the Kruskal-Wallis test.

To reduce the items under study into critical factors and to identify the satisfaction determinants, an exploratory analysis with Varimax rotation was used. First of all, it was tested feasibility of the factor analysis, checking the Kaiser-Meyer-Olkin (KMO) indicator and Bartlett's Test of Sphericity. Since the first index presents a value of 0.946 and the Bartlett's test (p-value<0.001), assumes a 5%

of significance level it could produce the factor analysis. The factor analysis selected only one factor, therefore not producing the rotated component matrix. At the end it was necessary fix two factors which explain almost the 78% of the total of variance. After achieved the factors and to know the influence of this factors in the student overall satisfaction a multiple regression will be produced and will be support by all assumptions related with it.

In all analysis, in order to make decisions concerning to the different research hypotheses it will be assumed a significance level of 5 %.

Analysis and Results

Student Profile.

Data were collected from 220 students from Higher School of Technology and Management

of Bragança (ESTiG) of the Polytechnic Institute of Bragança (IPB).

According with the information presented in table 2, the sample included 125 male students (56.8%) and 95 female students (43.2%), were between the ages of 18 and 24 years old (79.1%), and most of them came from the North region of Portugal in which is located the IPB.

Furthermore, in the table 2, is possible to observe that almost 33% belonged to business area and the rest came from technologies area (67.3%). Particularly, 184 students were attending an undergraduate program, 29.3% of them were attending the 1st academic year, 37.5% the 2nd and 33.2% the 3rd academic year. Only 36 students were in a master program, most of them in the 1st academic year (80%).

Table 2
Respondents profile

Variable	n	% of Sample	Variable	n	% of Sample
Gender			**Region**		
Male	125	56.8%	North	180	81.8%
Female	95	43.2%	Centre	18	8.2%
Age			Lisbon	3	1.4%
18-20	33	15.0%	*Alentejo*	2	0.9%
21-24	141	64.1%	Portuguese Islands	2	0.9%
25-29	26	11.8%	Others	15	6.8%
30 and over	20	9.1%	**Academic Year**		
Scientific Area			1.º Year	83	37.7%
Business	72	32.7%	2.° Year	76	34.5%
Technologies	148	67.3%	3.° Year	61	27.7%
Type Degree					
Bachelor	184	83.6%			
Master	36	16.4%			

Is important to know how the students obtained information about IPB, ESTiG or the curricula of the bachelor or master programme. In the Figure 1 is evident that the students obtained information from friends/colleague (42%), follow by other Students from the master or bachelor degree (26.4%). The ways Family/Brochures or documents from IPB and Press/Media, also achieved a good expression. According this, the mangers of IPB and ESTiG can oriented their strategies for

this cannels to promote the institution and the degree programmes.

The results also showed that 94.5% of the students (208 of the respondents) will recommend the IPB to a friend; and 73% of the students (from the 184 students that attend the bachelor degree) intends to continue their academic studies in IPB, after attending a bachelor. With this information is possible to say that the numbers revealed a level of satisfaction with IPB.
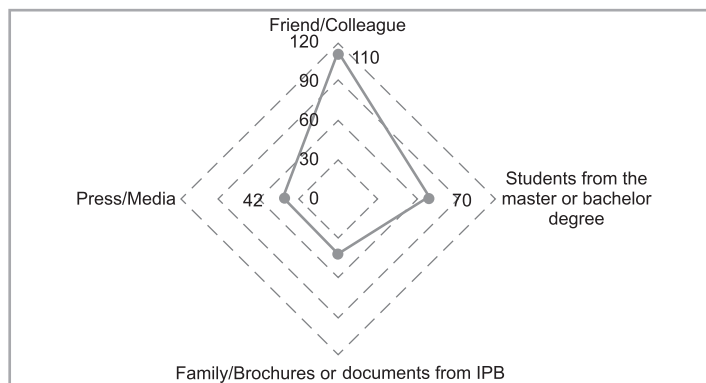
Figure 1: Information sources used by students

Descriptive analysis

Through the descriptive analysis showed in table 3, it was found that popular response was close to 3 and 4 and so in Likert scale corresponded to 'Agree' and produce a positive feel and attitude. Also, the overall satisfaction achieved a 3.89 points (standard deviation 0.759), that is very gratified. The item that was obtained a high values was 'I am pleased with my decision to attend IPB', with a mean of 4.13 points (standard deviation 0.808), followed by 'I am happy to attend the IPB' (4.05 points of average; 0.840 of standard deviation). The item that achieved a low average was 'People ask for information about the programmes offered at IPB', with 3.49 points and 1.07 for the standard deviation.

Table 3
Descriptive analysis that measure the satisfaction

Label	Questions/Items	Mean	Standard Deviation
Item 1	I am pleased with my decision to attend IPB. (n=219)	4.13	0.808
Item 2	If had a chance to do it over again, I would continue to enrol again in the IPB. (n=219)	3.76	1.126
Item 3	My choice to enrol in the IPB was the right decision. (n=220)	3.90	0.899
Item 4	I am happy to have chosen to stay on IPB. (n=220)	3.97	0.931
Item 5	I think I made the right choice when I decided to enrol in IPB. (n=220)	3.88	0.916
Item 6	I am happy to attend the IPB. (n=220)	4.05	0.840
Item 7	I like to talk about the IPB to my friends.(n=220)	3.94	0.907
Item 8	I like to help future students by giving them information about IPB and its programmes. (n=219)	3.95	0.915
Item 9	People ask for information about the programmes offered at IPB. (n=220)	3.49	1.070
Item 10	IPB corresponds to my expectations. (n=220)	3.83	0.943
	Overall Satisfaction	3.89	0.759

Inferential analysis.

To achieve the purpose of the study and answered the research hypothesis it was used the inferential analysis. To start it was divided the variables into two levels; the first level included variables connected to the individual students' personal characteristics (gender, age, scientific area, region, academic year and type of degree) while the second level included personal opinion about IPB.

According with the values presented in table 4, the 1st hypothesis was confirmed, once p-value is less than 0.001, so the null hypothesis is rejected, that is the mean of the variable overall satisfaction for this sample of students is close to 4 points (3.89; standard deviation of 0.759), which is different from the tested value (theoretical value 3 points) and this means that ESTiG students are significantly satisfied with IPB.

Table 4
Validation of hypothesis

Research Hypothesis	Variable	Test	p-value	Results
H_1	Overall Satisfaction	t-Student	< 0.001	Validated
H_2	Gender	t-Student	0.799	Not Validated
	Age	Kruskal-Wallis	0.418	Not Validated
	Scientific Area	t-Student	0.210	Not Validated
	Region	Kruskal-Wallis	0.556	Not Validated
	Academic Year	Kruskal-Wallis	0.005	Validated
	Type Degree	t-Student	0.709	Not Validated
H_3	Consciousness of IPB	t-Student	< 0.001	Validated
H_4	Recommendation of IPB	t-Student	< 0.001	Validated
H_5	Bachelor Students	t-Student	< 0.001	Validated

Note: 5% Level of significance assumed (α=0.05).

For the 2nd research hypothesis 'There are differences by individual personal characteristics (gender, age, scientific area, region, academic year, type of degree) related with overall satisfaction ESTiG students with IPB', it is possible to conclude that for only Academic Year there are significantly differences in satisfaction based on different academic years. For the others individual personal characteristics, it was confirmed that there were not significant differences. In this case the 2nd research hypothesis was not corroborated. Participants were asked to respond how they became aware of IPB and the result showed that most of them knew IPB from friends and colleagues (H_3). In this case it was analysed two independent samples (people that answered YES or NO). Applying a two independent t-test it was found out that people that answered YES provided a strong positive contribution to the total satisfaction (p-value < 0.001). This hypothesis was verified.

As well as previously discovered also analysed the case in which students answered that they would like to recommend IPB to a friend (H_4). Once the pvalue is less than 0.001 allow to say with statistical significance there are differences between the ESTiG students who would like to recommend IPB and they are satisfied with IPB.

Furthermore, the case in which they (only for bachelor students) expressed their desire to continue their studies in the same institute (H_5). Results showed that also in these case students that answered YES were more satisfied than students who answered NOT, in particular in the first situation we found out a mean difference of 0.539 and a p-value less than 0.001, while in the second the difference is higher with a mean difference of 1.532 and a p-value less than 0.001. The 5th research hypothesis was proved.

To answer the H_6, *There is a positive relationship between items satisfaction and student overall satisfaction*, it was purpose to find which questions are more representative for explain the students overall satisfaction. For that it was produced the Pearson correlation coefficient, once the assumption of normality is not violated. It was discovered that Item 5 'I think I made the right choice when I decided to enrol in IPB' was the answer which presented a very strong positive level of relation (r=0.909; p-value < 0.001), followed by Item 4 'I am happy to have chosen to stay on IPB' (r=0,906; p-value < 0.001), it means that are the variable which provided more benefits in satisfaction, while Item 9 was the worst, but strong, with a Pearson's correlation equal to 0.588 and a p-value less than 0.001.

All items satisfaction has a positive and very strong relationship with student overall satisfaction, as was possible observed in table 5. In this end the 6th hypothesis was validated, i.e., is possible to say with a statistical significance that there is a positive relationship between items satisfaction and student overall satisfaction.

Table 5
Pearson correlation coefficient

Label	Items	Correlation coefficient
Item 1	I am pleased with my decision to attend IPB. (n=219)	0.867
Item 2	If had a chance to do it over again, I would continue to enrol again in the IPB. (n=219)	0.800
Item 3	My choice to enrol in the IPB was the right decision. (n=220)	0.867
Item 4	I am happy to have chosen to stay on IPB. (n=220)	0.906
Item 5	I think I made the right choice when I decided to enrol in IPB. (n=220)	0.909
Item 6	I am happy to attend the IPB. (n=220)	0.881
Item 7	I like to talk about the IPB to my friends.(n=220)	0.793
Item 8	I like to help future students by giving them information about IPB and its programmes. (n=219)	0.729
Item 9	People ask for information about the programmes offered at IPB. (n=220)	0.588
Item 10	IPB corresponds to my expectations. (n=220)	0.833

Satisfaction determinants

As well as the methods to produce the Factor Analysis are already explained. In the present study the KMO was 0.946 which is according to Kaiser and Rise (1974) well above the 0.80 meritorious levels. With the factor analysis it was selected two components which explain approximately the 78% of the total of variance.

It was particularly helpful to see how the variables are organized in the common factor space (table 6). Is possible to observe that Item 1 until Item 6, and Item 10 were characteristic of the first factor. Whereas Item 7 until Item 9 belonged to the second factor. According to literature it was found that the main factors that influenced the students' satisfaction were 'Loyalty' and 'Quality Service'. The name given to each factors was based on the features of each item and the aggregation of the same.

Table 6
Items retained following Factor Analysis

Label	Item	Quality Service	Loyalty
Item 1	I am pleased with my decision to attend IPB. (n=219)	0.834	
Item 2	If had a chance to do it over again, I would continue to enrol again in the IPB. (n=219)	0.849	
Item 3	My choice to enrol in the IPB was the right decision. (n=220)	0.864	
Item 4	I am happy to have chosen to stay on IPB. (n=220)	0.870	
Item 5	I think I made the right choice when I decided to enrol in IPB. (n=220)	0.865	
Item 6	I'm happy to attend the IPB. (n=220)	0.831	
Item 10	IPB corresponds to my expectations. (n=220)	0.663	
Item 7	I like to talk about the IPB to my friends.(n=220)		0.629
Item 8	I like to help future students by giving them information about IPB and its programmes. (n=219)		0.717
Item 9	People ask for information about the programmes offered at IPB. (n=220)		0.876
Percent of Variance Explained by Factor		**68.03%**	**9.57%**
Cronbach's Reliability Coefficient		**0.953**	**0.770**

Note: Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. Rotation converged in 3 iterations.

Regarding the first label, according to Lazibat, Baković and Duževič (2014), Quality Service in higher education is a rather complex and vague concept. The main goal of higher education provision is to satisfy the needs of stakeholders. Quality Service is a multidimensional construct; it is related not only to the tangible assets of the HEI, such as buildings, equipment and working materials, but also to intangible aspects of the service. The most important intangible asset is teaching quality.

As was already mentioned in the literature review it was assumed the definition of student like a customer and as such loyalty

represents a very complex factor in the customer behaviour and has respectively been studied from various aspects in marketing literature (Purgailis & Zaksa, 2012). There is no unanimous definition of customer loyalty, in the area of higher education. Elliott and Healy (2001) describe satisfaction as a short-term attitude that has arisen after evaluating one's acquired experience during the use of the higher education service.

Moreover, was assess the reliability of measures, Cronbach's Alpha is calculated for the variables retained for each factor and the coefficients greater than or equal to 0.70 are considered a good indication of construct reliability (Pestana & Gageiro, 2008), (table 6).

After establishing the two factors (Loyalty and Quality Service), a multiple regression was conducted, where the dependent variable was Student Overall Satisfaction and Loyalty and Quality Service as independent variables.

Table 7 presents the results produced by multiple regression. All independent variables are statistically significance for the model. The Loyalty is the independent variable with high influence on the Student Overall Satisfaction. Is very important to know this information because the manager of IPB and ESTiG can oriented their strategies to support more the students, once the Loyalty is measure by the item: I like to talk about the IPB to my friends; I like to help future students by giving them information about IPB and its programmes; People ask for information about the programmes offered at IPB. The global model found was statistically significant (F, p-value < 0.001). Also the relationship between Loyalty and Quality Service and the Student Overall Satisfaction shows a stronger and positive relationship (Adjusted r^2=0.997), this means that 99.7% of Student Satisfaction is determined by Loyalty and Quality Service.

Table 7
Items retained following Factor Analysis

Model	Coefficients (Beta)	Standard Error	t-Student	p-value	Collinearity Statistics - VIF[1]
Constant	0.042	0.136	0.310	0.757	
Quality Service	2.945	0.045	65.990	< 0.001	1.923
Loyalty	7.033	0.044	161.168	< 0.001	1.923
r^2	0.998		Adjusted r^2		0.997
F (2, 217)	43337		p-value (F)		< 0.001
Durbin-Watson (d)	1.854		p-value (d)		< 0.001

Conclusion, limitation and future research

The purpose of this case study was to analyse if the ESTiG students are satisfied or not with the IPB. The academic staff could continuously improve the quality of services of the institute in order to attract the attention of students improving the image and competitiveness with the other Higher Education Institutions.

---

[1] *Variance Inflation Factor.*

Analysis' results showed that ESTiG students were generally satisfied with IPB, once the overall satisfaction achieved a mean of 3.89 points (standard deviation 0.759), a score closes to 4 points in the Likert scale. There were not found significant differences in evaluation of satisfaction between age, scientific area, region and type of degree. Also regarding gender, this case study did not present significant differences. In fact, according to Corts et al. (2000), was found that there is no significant difference between gender and satisfaction.

Regarding the academic year, we expected a growing satisfaction over time. First-year students are often less satisfied because they are not socially integrated (Tinto, 2006). In present study, it has been found that overall students' satisfaction had a negative trend over the years in fact the first-year students were more satisfied than those in the third-year. May be this is a consequence of the fact that during the first year students are engaged in extra-curricular integration. The factor analysis allowed us to compact all satisfactions in two principal components: 'Quality Service' and 'Loyalty'. The Loyalty is the independent variable with high influence on the Student Overall Satisfaction. Loyalty and Quality Service explain 99.7% Student Satisfaction, is possible to observe a stronger and positive relationship between variables under analysis in the multiple regression model.

From the point of view of Loyalty, according to Purgailis and Zaksa (2012), two aspects are important for higher education institutions: the willingness to recommend and if needed, the willingness to choose the same higher education institution or the same service provider repeatedly. From the 'Quality service' side in higher education it could provide direct effects on satisfaction and trust and an indirect influence on brand performance and behavioural intention (Lazibat, Baković, & Duževic, 2014).

In conclusion, it can demonstrate that the results achieved are consistent with past years as in fact supported by a study of The Center for Research in Higher Education Policies, where the Students of the Polytechnic Institute of Bragança are highly satisfied with the IPB (CIPES, 2009).

One of the limitation in this study is to the context of respondents is very limited to only one school of IPB, then it should be reasonable that the other schools of IPB should be included in the future research to compare the students' perceptions and also to analyse the expectations of the same. Nevertheless, a more comprehensive study can be conducted including more educational institutions in the country to develop a comprehensive service quality and student satisfaction model.

References

Alves, H., & Raposo, M. (2007). Conceptual Model of Student Satisfaction in Higher Education. *Total Quality Management & Business Excellence*, 18(5): 571-588.

Asif, M., & Searcy; C. (2014). Determining the Key Capabilities Required for Performance Excellence in Higher Education. *Total Quality Management & Business Excellence*, 25(12): 22-35.

Cavana, R., Delahaye, B. & Sekaran, U. (2001). *Applied Business Research: Qualitative and Quantitative Methods*. John Wiley & Sons, Australia Ltd.

CIPES (2009). Recortes IPB: Resultados Do Estudo Do CIPES Sobre a "Satisfação Dos Alunos Do IPB" http://recortes.ipb.pt/2009/10/resultados-do-estudo-do-cipes-sobre.html, Accessed January 20, 2016.

Corts, D., Lounsbury, J., Saudargas, R., & Tatu, H. (2000). Assessing Undergraduate Satisfaction with an Academic

Department: A Method and Case Study. *College Student Journal*, 34(3): 399.

Eagle, L., & Brennan, R. (2007). Are Students Customers? TQM and Marketing Perspectives. *Quality Assurance in Education*, 15(1): 44-60.

Eakuru, N., & Mat, N. (2008). The Application of Structural Equation Modeling (SEM) in Determining the Antecedents of Customer Loyalty in Banks in South Thailand. *The Business Review*, 10(2): 129-139.

Elliott, Kevin M., & Healy, M. (2001). Key Factors Influencing Student Satisfaction Related to Recruitment and Retention. *Journal of Marketing for Higher Education*, 10(4): 1-11.

Ford, J., Joseph, M., & Joseph, B. (1999). Importance-performance analysis as a strategic tool for service marketers: The case of service quality perceptions of business students in New Zealand and the USA. *The Journal of Services Marketing*, 13(2), 171186.

Gold, E. (2001). Customer Service: A Key Unifying Force for Today's Campus. Net results, National Association of Student Personnel Administration. http://www.naspa.org/netresults, Accessed January 20, 2016.

Harris, J., & Baggett, J. (1992). *Quality Quest in the Academic Process*. Samford University.

Kaiser, H., & Rice, J. (1974). Little Jiffy, Mark IV. *Educational & Psychological Measurement*, 34, 111-117.

Lazibat, T., Baković, T., & Dužević, I. (2014). How Perceived Service Quality Influences Students' Satisfaction? Teachers' and Students' Perspectives. *Total Quality Management & Business Excellence*, 25(7-8): 923-934.

Oliver, R. (1981). Measurement and evaluation of satisfaction processes in retail settings. *Journal of Retailing*, 57(3), 25-48.

Pestana, M., & Gageiro, J. (2008). *Análise de Dados para Ciências Sociais: A complementaridade do SPSS*. 5ª ed. Lisboa: Edições Silabo.

Purgailis, M., & Zaksa, K. (2012). The Impact of Perceived Service Quality on Student Loyalty in Higher Education Institutions. *Journal of Business Management*, 6, 138-152.

Rowley, J. (1996). Customer compatibility management: an alternative perspective on student-to-student support in higher education. *International Journal of Educational Management*, 10(4), 15-20.

Rust, R., & Oliver, R. (1993). *Service Quality: New Directions in Theory and Practice*. SAGE Publications.

Skaalvik, E., & Skaalvik, S. (2015). Job Satisfaction, Stress and Coping Strategies in the Teaching Profession-What Do Teachers Say?. *International Education Studies*, 8(3): 181192.

Šula, T., & Banyár, M. (2015). Innovative Marketing as a Tool for Building a Positive Image of an Institution of Higher Education and Increasing the Competitiveness of Its Graduates - Analysis of the Functional Use of Projects of the Department of Marketing Communications at the Faculty of Multimedia Communications of TBU in Zlín and Their Potential for Integration into the Teaching Process. *Procedia - Social and Behavioral Sciences*, 175: 146153.

Sullivan, P., & Sullivan, P. (2000). Valuing Intangibles Companies-An Intellectual Capital Approach. *Journal of Intellectual Capital*, 1(4): 328-340.

Tinto, V. (2006). Research and Practice of Student Retention: What Next? *Journal of College Student Retention: Research, Theory & Practice*, 8(1): 1-19.

U-Multirank (2015). Universities Compared. Online in http://www.u-multirank.eu/. Accessed January 20, 2016.