


UNIVERSITY SOCIAL RESPONSIBILITY AS ANTECEDENT OF STUDENTS' UNIVERSITY EXPERIENCE

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Abstract:

This paper aims to present a model on the perception of University Social Responsibility (USR) by students and to analyse its usefulness to predict two dimensions of university experience, namely quality of service and satisfaction. To this end, after reviewing the previous literature on USR, a survey study was conducted with a sample of 200 last-year students at the University of León (Spain). Data were analysed through factor and PLS (Partial Least Squares) techniques. Factor analysis identified a solution of six factors defining the students' perception regarding university impacts, whereas only three of them influenced their overall perception regarding USR. Furthermore, this perception acted as an antecedent of quality of service and satisfaction. The analysis of the obtained results allows significant implications for the design of marketing strategies focused on students' retention and attraction, as universities that use USR strategies will have a competitive advantage as a tool for improving the university experience.

Keywords: *quality of service; satisfaction; University Social Responsibility (USR), higher education; Spain*


LA RESPONSABILIDAD SOCIAL UNIVERSITARIA COMO ANTECEDENTE DE LA EXPERIENCIA UNIVERSITARIA DE LOS ESTUDIANTES

Resumen:

Este artículo trata de proponer un modelo sobre la percepción de la Responsabilidad Social Universitaria (RSU) por los estudiantes y analizar su utilidad para predecir dos dimensiones de la experiencia universitaria, como son la calidad del servicio y la satisfacción. Para ello, tras revisar la literatura previa sobre RSU, se encuestó a una muestra de 200 estudiantes de último curso en la Universidad de León (España). Los datos se analizaron mediante técnicas factoriales y PLS (Partial Least Squares). El análisis factorial identificó una solución de seis factores definitorios de la percepción por los estudiantes de los impactos universitarios, en tanto sólo tres de ellos influían su percepción global de la RSU. Asimismo, esta percepción actuó como antecedente de la calidad del servicio y la satisfacción.

El análisis de los resultados concluye con importantes implicaciones para el diseño de las estrategias de marketing en entornos universitarios, la retención de estudiantes y la atracción de nuevos al contar con la ventaja competitiva de la RSU como instrumento de mejora de la experiencia universitaria.

Palabras clave: *calidad del servicio; satisfacción; Responsabilidad Social Universitaria (RSU); educación superior; España*

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1. Introduction

The quality of service in the field of higher education has acquired great importance in recent years due to the global environment and the competitive environment in which universities develop their work. In this context, the concern about the construct has spread from the analysis of the teaching content and teaching process in general until other levels (Alashloo et al. 2005), such as search and understanding of the background, determinants and consequences of accurately measuring the quality and implementation of policies for improving quality of service (Abdullah 2005; Shekarchizadeh et al. 2011).

Some authors believe that the only way of survival for universities in this global world relies in improving the quality of service (Barnes, 2006). This represents a strategic option for many institutions of higher education (Ramaiyah et al. 2007), and provides a significant competitive advantage based on the effort to meet the needs of students to strengthen leadership opportunities in the market (Hasan et al. 2008; Hanaysha et al. 2011).

In line with the above, the European Union plays an important role in the consolidation of knowledge and innovation as drivers of our future growth. This requires improving the quality of our education, consolidate the results of research, promote innovation and knowledge transfer or exploit the new information technologies. The measures taken under this priority will improve educational outcomes and quality simultaneously exploiting the economic and social benefits (European Commission 2010).

Higher education institutions are governed by many of the principles of any other service industry and, therefore, it is important to know the satisfaction of the expectations and needs of its key stakeholders, the students. The European Higher Education Area (EHEA) has proposed the student as the cornerstone of the educational system (Blázquez et al. 2013). Therefore, the quality is so essential to the success of universities (Landrum et al. 2007), retention of students (Russell 2005) and the work of recommendation generated by satisfied students who see their university as trusted institution.

Moreover, students are the real reason for existence of the University and are called to transform society, so that institutions of higher education have to implement strategic and operational plans and assess them quality training and ethics citizen. A responsibility govern of the University is required to ensure the fulfilment of its mission through integrity and honesty, fairness, responsibility, excellence and competitiveness, as well as to promote socially responsible values in the university community, the generation and transfer of knowledge, applying criteria of social responsibility to the internal management college, integrating the corresponding control procedures and mechanisms for evaluating the quality and satisfaction of the various stakeholders and the inclusion of the University in their local environment and under one severally globalized world (EU 2015). Likewise, the University is facing unique challenges to be socially useful since new coordinates, given the current situation of debate and controversy lived in Spain on the role of higher education in changing the production model (Rodríguez 2010).

Current University must implement social responsibility transversely, providing maximum awareness and involvement of the university community, as well as other stakeholders (Rubiralta and Barañano 2010) through sustainable development initiatives and responsibility requirements education (García, 2010). That is why University Social Responsibility (USR) models let you solve global problems we face. The more developed model –the so called “four-impact” based model– was proposed by Vallaey (2008), and is defined in terms of compensation for the impacts generated by the development of university work, which are specified in four categories: i) the educational impact that promotes professional and responsible citizenship education; ii) the cognitive impact that promotes social knowledge management; iii) the organizational impact that drives the campus makers; and iv) the social impact that promotes the participation of the university community.

Specifically, an international common space as the European Union has become essential to encourage universities to integrate social responsibility, sustainable development and responsible citizenship in educational programs, signing the United Nations Principles for Responsible Management Education and promoting university research quality that contributes to the development of business practices and public policies in the field of social responsibility (European Commission, 2011). Therefore, it is understood that the quality of service and student satisfaction in the institution make the university experience should be improved through the implementation of USR models.

When conducting this research we took firstly in consideration that the relationship between quality of service and satisfaction has been extensively studied, demonstrating a direct, positive and significant relationship between perceived quality and satisfaction (Hasan et al. 2008; Oliver 2010; Hanaysha et al. 2011). In this sense, this study provides novelty of analyzing the relationship between the two constructs of university experience.

However, the implications of social responsibility in universities have not been sufficiently studied in the recent literature. In general, studies in this field are related to descriptive research (Christensen et al. 2007; Setó-Pamiés et al. 2011; Larrán and Andrades 2014), or involved pedagogical (Caldwell, 2009; Hartman and Werhane 2009), or less analytical approaches (Kolodinsky et al. 2010; Moon and Orlitzky 2011) to the research. Even more, previous research has not taken into account the views of students (Joseph et al. 2005), then increasing the potential interest of this study. Regarding this issue, it is necessary to clarify that past researches have been mostly focused on the educational impact, while other impacts have barely been studied.

Finally, this study raises USR as an antecedent of university experience. This relationship has not been studied before, but there are reasons to justify the link between the two concepts, as in recent years new public management practices have been introduced more and more in higher education through different approaches to quality education services. Therefore, the adoption of models of social responsibility represent a new step in improving university governance systems and a more transparent system of accountability (Casani et al. 2010) in response to the demands of current society.

On the above basis, the main purpose of this study is proposing a model of USR based on its perception by the students, as well as checking if this model can act as an antecedent of their university experience, namely, the service quality and the student satisfaction. In order to achieve these objectives, the paper is organized as follows; firstly, the dimensions of the university experience and their interrelations are analyzed; then, the second section examines the USR model by Vallaeys (2008, 2014) and its applicability to the study of the students' university experience; thirdly, an empirical study is conducted to test the model proposed in a Spanish university and the main results are presented; finally, a concluding section is provided, including suggestions for future research.

2. Literature review

1.1. Dimensions of University experience

Nowadays, universities' concerns involve not only the training of their students but also attracting new students and retaining those who are already being ensured a good overall educational experience. At this purpose, they have to face curricular reforms, to design technological innovation programs, to find new patterns of governance and financing, and to go further in developing quality management systems of university service, all this joined with a growing involvement in the measurement and evaluation of the student satisfaction and the achievement of a trustworthy institutional image.

Universities provide the highest level of education so that they face great pressure to improve the value of their activities and thus increase the satisfaction of their students for success (Prasad and Jha 2013). Therefore, it is necessary to evaluate their performance in terms of quality of services provided and resources used. Such measurement is made by assessing the satisfaction of students, e.g. by comparing the expected quality, the quality provided and perceived quality (Baccarani 2004), which allows developing strategies to improve the experience of student.

In the academic context, it is therefore legitimate to ask students about their level of satisfaction with the academic and administrative services received (Cardona and Bravo 2012), since they are considered as the main consumers of educational services (Lee and Tai 2008). Furthermore, it is clear that a positive perception of service quality can lead to student satisfaction, so satisfied students attract other students through word-of-mouth communication processes (Ramaiyah et al. 2007).

Therefore, it is widely assumed that customer satisfaction has its roots in the quality of service (Hasan et al. 2008; Hanaysha et al. 2011). So, an increasing number of universities have gradually adopting a marketing approach, assuming a reality competition to attract and retain the best students (Petruzzellis et al. 2006).

In this paper the concept of *service quality* is understood as “...the difference between what a student expects to receive and their perceptions of actual delivery” (O’ and Palmer 2004, p. 42) and the concept of *satisfaction* as the “...evaluative summary of the direct educational experience based on the discrepancy between previous expectations and perceived performance after going through the education cycle” (Munteanu et al. 2010, p. 125). The university experience is made from both constructs, as “satisfaction is an evaluation after consumption of the perceived quality compared with the expected quality” (Anderson and Fornell 1994, p. 245).

The relationship between these two variables (quality of service and satisfaction) has highly been studied in the previous literature. There are numerous studies on satisfaction and quality of service, and even on the relationship between them in the services sector and the higher education sector. In this respect, we assume the following hypothesis in our model on formation of the university experience:

H_1 : quality of service positively influences satisfaction.

2.2. USR as an antecedent of university experience

Up to date, most researches on USR have been developed in Latin American universities, while in other countries as Spain, universities do not have a long tradition of responsibility. However, nowadays some progress can be perceived in the frame of the University Strategy 2015 promoted by the Ministry of Education to encourage universities to develop strategic plans based on USR principles (Melle 2007; Gaete 2011).

The most developed model regarding this topic is an impact-based one, that is, a proposal conceived under a business perspective, bonding social responsibility to the way organizations manage their impacts on people, society, economy and nature around them (Vallaeyes et al. 2009). In this sense, it is understood that universities cause four different types of impacts in their environment:

- an *educational* impact reflects in the kind of professionals and citizens who are educated at university;
- a *cognitive* impact concerns the type of knowledge produced at university, its social relevance and recipients;
- an *organizational* impact is made on the domestic sphere of university staff and students, involving consideration of environmental aspects in the management of resources; and
- a *social* impact relates to the promotion of the development of society through collaboration to solve fundamental problems, creating social capital or making knowledge accessible to society.

Within this view, it is acknowledged that both educational and cognitive impacts are caused by universities themselves as organizations, whereas organizational and social impacts are similar in case of universities, public institutions or private companies.

Thus, USR can be approached by considering it as a strategy of ethical and intelligent management of the impacts of the organization as a human, social and natural environment (Garde-Sánchez et al. 2013). Therefore, university institutions should implement it transversely, seeking for maximum participation levels and the involvement of the whole university community, as well as of other stakeholders, through policies, procedures, systems and evaluation indicators as appropriate.

USR has also been proposed as a source of positional superiority and competitive advantage (Brown and Mazzarol 2009). From the perspective of competitiveness, the experience of social responsibility can be understood as a core component in case of: i) the pursuit of excellence, the fit, value addition, improvement and effectiveness of resources and results (i.e. *quality of service*); ii) satisfying the needs and expectations of students (*satisfaction*); and iii) the set of beliefs and perceptions that lead to loyalty, prestige, reputation and, ultimately, credibility the institution (*trust*). Given the strategic nature of social responsibility, and even when no studies have addressed USR and the history of the university experience, it is logical to suggest that the use of USR models enhance the college experience achieving higher quality and more satisfied students. Therefore, the following hypotheses are suggested:

H_2 : overall perception of USR positively influences quality of service.

H_3 : overall perception of USR positively influences satisfaction.

Most previous researches on USR from the perspective of students have focused on only one of the four above mentioned impacts, namely the so-called educational impact. Furthermore, these researches use to consider an eminently descriptive and pedagogical to treat it (McDonald 2004). On the contrary, there is little knowledge about the perception held by students regarding the activity of universities in the remaining three spheres of impact (cognitive, organizational and social).

As a consequence of this situation, new hypotheses are suggested aiming the empirical validation of the influence of the four impact factors identified in the literature (Vallaey 2008) in explaining the perceptions of students regarding the USR. Namely:

H_{4a} : students' perceptions regarding the social impact of universities positively influence their overall view of USR.

H_{4b} : students' perceptions regarding the cognitive impact of universities positively influence their overall view of USR.

H_{4c} : students' perceptions regarding the organizational impact of universities positively influence their overall view of USR.

H_{4d} : students' perceptions regarding the educational impact of universities positively influence their overall view of USR.

3. Methodology

Self-reported data were collected by applying a structured questionnaire to a total sample of 200 students at the Spanish University of León, in the period from April to May 2013. The size of the sample ensured representativeness at a 95% level ($e = \pm 0.05$; $p = q = 0.50$). Individuals were selected from the population of students in their last courses and on the basis of the real distribution of their enrolment in the different degrees offered in Social Sciences and Humanities Faculties.

Based on these criteria, the total sample comprised 159 males (37%) and 241 females (63%) aged 20 to 27 years old ($M = 22.93$; $SD = 1.67$). Regarding the students' background, this sample was composed of 55.5% of respondents which were studying degrees in Humanities (in the Faculty of Education, the Faculty of Philosophy, the Faculty of Physical Activity and Sports Studies, and the University School of Social Work) and of a 44.5% which were studying degrees in Social Sciences (in the Faculty of Economics and Business Studies, the Faculty of Law, and the Faculty of Labour Sciences).

The questionnaire used for data collection was mostly designed *ad hoc* for the purposes of this research. To ensure content validity, the different items were developed to be integrated into the scales following a deductive approach (Hinkin 1995), based on the operational definition of the theoretical constructs from a thorough review of specialized literature (McDonald 2004; Christensen et al. 2007; Vallaey 2008; Vallaey et al. 2009; Moon and Orlitzky 2011) and the evidence in other similar instruments.

Additionally, the selection of the indicators which were used in the measurement of the variables to analyze participants' views towards USR was based on the judgment of three experts in the field, as well as in the results from a pre-test conducted with a small group of undergraduate students who were consulted about the difficulty and understanding of the content of the items. Every participant was asked to provide his/her answers on the basis of a five-point Likert scale grading the importance of each activity defined. Items were related to the four impacts of university activities, together to an overall USR index. To be precise:

- 12 items were used to grade the importance given by students to university performance in terms of its social outreach (*social impact*) as, for example, "*sensitizing, educational campaigns on environmental protection in areas of influence which are close to the University*" or "*organizing volunteering programs for students, professors and administrative staff*".

- 10 items were used to grade the importance given by students to university performance in terms of researching activities (*cognitive impact*), including, e.g., "*implementing research projects on sustainability*" or "*scientific research on social problems and knowledge generation for social development*".

- 12 items were used to grade the importance given by students to the university internal performance (*organizational impact*), as "*work-life balance*" or "*efficient and reasonable resource distribution*".

- 12 items were used to grade the importance given by students to university performance in educational terms (*educational impact*), as “*teaching environment-friendly habits*” or “*adding professional ethics and moral contents*”.

- 3 items were used to grade de importance given by students to USR as an overall perception (*overall USR index*), namely: “*my university has a high potential to contribute to environmental respect*”, “*my university has a high potential to contribute to the economic development*” and “*my university has a high potential to contribute to the resolution of social problems*”.

At the same time, *quality of service* was assessed with 5 sentences in reference to the contributions by authors who had developed quality models in higher education (Abdullah 2005; Correia and Miranda 2011); and *student satisfaction* was measured through 6 items on university performance in accordance to the previous literature on the field (Fornell 1992; Eklöf 2000; Johnson et al. 2001).

An exploratory factor analysis was carried out with the 46 items that were used to measure student's perceptions on the four impacts of the university performance. The principal components analysis revealed a better solution consisting in six factors explaining 50.32% of the total variance: *external projection* (6 items), *research* (5 items), *education in environmental values* (5 items), *internal management* (4 items), *university-business relationships* (4 items), and *education in social values* (3 items). Meanwhile, 16 out of the proposed set of 46 items did not show loads high enough or do it referred to several factors and then were removed for the analysis. Later on, the Partial Least Squares (PLS) technique was used to test the effect of the six factors identified on the students' overall perception of USR.

At this purpose, the relationships between the constructs were analysed through the statistical program SmartPLS 2.0 (Ringle et al. 2005). The application of the PLS procedure allows the estimation of the research model in two stages: on the one hand, a first stage implies evaluating the strength of the measurement model (also known as outer model) by looking at item reliabilities, their internal consistency, and validity of constructs; on the other hand, a second stage focuses on the estimation of the fit parameters for the structural model (what becomes the inner model), reporting on the implementation of the research hypothesis through standardized path coefficients and R^2 values (Hulland 1999).

4. Results

Firstly, analysing the psychometric properties of the measurement model appears as appropriate. Table 1 shows these properties for the 10 constructs that were under analysis, namely USR factors (i.e. the above mentioned set of six factors), the overall perception of USR, and the dimensions of university experience.

Specifically, Table 1 shows the items included in the measurement model and their psychometric properties. Item reliabilities were evaluated by examining the significance of the standardized loadings (λ), or simple correlations of indicators with their respective latent variables. All loadings were above the reference threshold of 0.50 (Barclay et al. 1995; Chin 1998a, 1998b), according to a significance level of $p < 0.05$ calculated on the basis of 500 bootstrapping runs. For the measurement of the internal consistency of scales, the program SmartPLS produces the two indicators Cronbach's alpha (α) and composite reliability (ρ_c), the latter being considered by some authors as superior to the first measure due to its independence from the number of attributes associated to each construct (Fornell and Larcker 1981). The interpretation of both indices is quite similar and values above 0.70 are considered reasonable (Nunnally 1978; Barclay et al. 1995). The obtained results showed compliance with such requirement, so ensuring the minimization of the measurement error regarding the indicators that were used.

Convergent validity was examined through the Average Variance Extracted (AVE) index, which determines the amount of variance that a construct gets from its indicators in relation to the amount of variance due to the measurement error. For all latent variables, AVE values were above the minimum benchmark of 0.50 which is used as reference (Fornell and Larcker 1981). Likewise, to test discriminant validity, we verified that each construct shared a larger variance with its indicators than with other constructs of the model (Barclay et al. 1995). In order to check this condition, Table 2 displays the square roots of the AVE values (diagonal elements) showing that they were greater than the latent variable correlations (off-diagonal elements), and thus suggesting satisfactory discriminant validity (Fornell and Larcker 1981).

Table 1. Psychometric properties of scales

Constructs and items	λ	α	ρ_c	AVE
External projection		0.81	0.86	0.51
Collaboration with companies, public services or NGOs in social projects	0.77***			
Sensitizing, educational campaigns on social responsibility in areas of university influence	0.73***			
Collaboration with public services and NGOs in sustainable initiatives.	0.81***			
Sensitizing educational campaigns on environmental protection in areas of university influence	0.59***			
Organization and sponsoring of performances committed to both local and regional socioeconomic development	0.69***			
Organization of volunteering programs for students, professors and staff.	0.67***			
Research		0.74	0.82	0.50
Incorporation of sustainable values to scientific research	0.78***			
Scientific research on social problems and knowledge generation	0.77***			
Implementing research on environmental sustainability	0.66***			
Application of scientific knowledge to the development of new environment-friendly products, technologies and processes	0.68***			
Integrating values such as respecting individual and social rights when carrying out scientific research	0.59***			
Internal Management		0.72	0.83	0.55
Fostering respect for diversity and equal opportunities for workers	0.78***			
Electing authorities and management bodies by means of a transparent, democratic process	0.76***			
Work-life balance for professors and staff	0.78***			
Efficient and reasonable resource distribution	0.63***			
Education in environmental values		0.73	0.83	0.55
University awareness of environmental problems .76***	0.76***			
Vocational training to solve environmental problems .71***	0.71***			
Adding professional ethics and moral contents to the syllabus .81***	0.81***			
Preserving university eco-areas	0.68***			
University-business relationships		0.66	0.80	0.58
Fostering entrepreneurship among students	0.74***			
Transferring knowledge to companies	0.72***			
Collaborating with employers to improve vocational training and hiring (internships)	0.81***			
Education in social values		0.63	0.80	0.57
Fostering respect for diversity and equal opportunities among students	0.74***			
Recognition of students' opinions and participation	0.77***			
Education in human and social values and fostering civic solidarity	0.66***			
Overall perception of USR		0.73	0.85	0.85
My University has a high potential to contribute to environmental respect.	0.79***			
My University has a high potential to contribute to economic development.	0.85***			
My University has a high potential to contribute to the resolution social problems	0.78***			
Quality of service		0.79	0.86	0.54
My University has both high quality resources and infrastructure	0.76***			
My University degree programs have a high quality	0.75***			
My University's professors carry out quality tasks	0.70***			
Management staff and services at my University carry out quality tasks	0.70***			
My University offers quality services in compared to similar others	0.78***			
Satisfaction		0.89	0.92	0.65
I am satisfied with my education given by the University	0.78***			
My decision to choose this University was successful	0.84***			
I am satisfied with my overall University experience	0.77***			
I will recommend this University to others	0.75***			
I am proud to belong to this University	0.86***			
My university experience covers my expectations	0.82***			

λ : loading; α : Cronbach's alpha; ρ_c : composite reliability; AVE: Average Variance Extracted

*** $p < 0.001$ (based on two-tailed t -test with 499 df)

Table 2. Correlations, Square Roots of AVE and Summary Statistics

	1	2	3	4	5	6	7	8	9
1. External projection	0.71								
2. Research	0.62**	0.71							
3. Internal Management	0.42**	0.44**	0.74						
4. Education in environm. values	0.56**	0.49**	0.38**	0.74					
5. University-firm relationships	0.55**	0.48**	0.31**	0.39**	0.76				
6. Education in social values	0.51**	0.42**	0.34**	0.52**	0.49**	0.76			
7. Overall perception of USR	0.44**	0.33**	0.39**	0.44**	0.25**	0.27**	0.81		
8. Quality of service	0.45**	0.33**	0.37**	0.34**	0.33**	0.37**	0.59**	0.74	
9. Satisfaction	0.36**	0.29**	0.20**	0.37**	0.31**	0.358**	0.50**	0.68**	0.80
<i>M</i>	2.16	2.33	2.57	2.26	2.24	2.50	2.81	2.83	3.02
<i>SD</i>	0.62	0.64	0.77	0.67	0.67	0.75	0.82	0.74	0.86

M: mean; *SD*: standard deviation; Square roots of AVE are in bold

** $p < .01$ (based on two-tailed *t*-test with 499 df)

Once the reliability and validity of the measurement model were proved, we used PLS program to test the hypothesized relationships between exogenous and endogenous latent constructs. A bootstrapping procedure with 500 subsamples was applied to obtain the *t*-statistic values (Chin, 1998b) of each estimated path in the model. According to that, Table 3 displays the direct effects obtained for the overall sample by this procedure and *t*-test obtained and their significance levels.

From the above results, according to hypotheses, hypothesis 1 was supported because there was a positive and direct effect of quality of service on student satisfaction with a $\beta = .59$ to $p < .001$ level.

In line with hypothesis 2 and 3, it was confirmed a direct effect of overall perception of USR on quality of service and satisfaction with path coefficients of .59 and .15 respectively. With regard to hypotheses 4, the model tested did not provide empirical evidence supporting the direct effects of three factors related to the perception of university impacts (research, university-enterprise and education in social values) on the overall perception of USR. These results lead us to reject hypothesis 4b, 4e and 4f.

For its part, hypothesis 4a was supported empirically because there was a positive and direct effect of the external projection on the overall perception of USR ($\beta = .25$; $p < .001$). Hypothesis 4c was also statistically significant because it was a positive and direct effect of internal management on the overall perception of USR ($\beta = .22$; $p < .001$). Finally, the hypothesis 4d was also confirmed the positive and direct effect of education in environmental values on the overall perception of USR ($\beta = .25$; $p < .001$).

Table 3: Direct and indirect effects

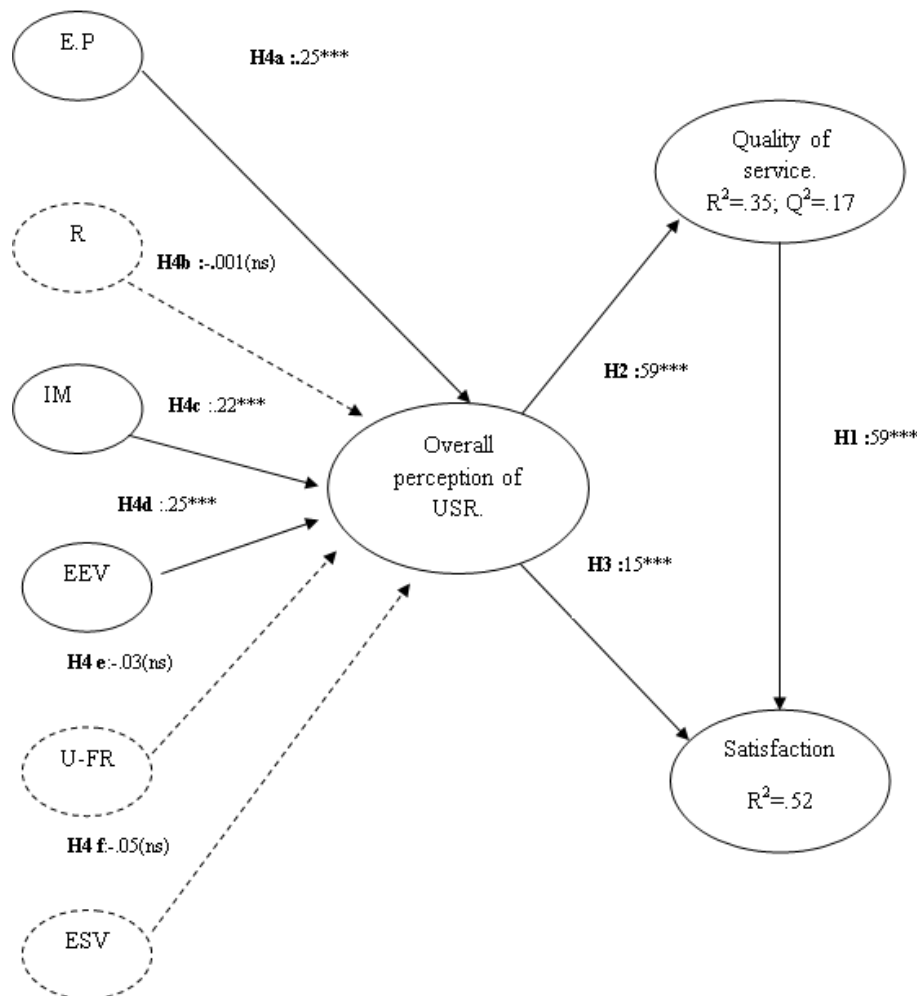
Path coefficients	Direct effects	<i>t</i>
H ₁ : Quality of service → satisfaction	0.59***	11.16
H ₂ : Overall perception of USR → quality of service	0.59***	11.09
H ₃ : Overall perception of USR → satisfaction	0.15***	2.48
H _{4a} : External projection → overall perception of USR	0.25***	2.97
H _{4b} : Research → overall perception of USR	-0.001 (ns)	0.11
H _{4c} : Internal management → overall perception of USR	0.22***	2.84
H _{4d} : Education in environmental values → overall perception of USR	0.25***	2.91
H _{4e} : University-firm relationships → overall perception of USR	-0.03 (ns)	0.38
H _{4f} : Education in social values → Overall perception of USR	-0.05 (ns)	0.57

*** $p < 0.01$ (based on two-tailed *t*-test with 499 df).

In the context of such results, and in order to assess the predictive ability of the model, Figure 1 shows the statistical value of R^2 . As Falk and Miller (1992) stated, such values must exceed the minimum of 0.10. According to R^2 values, the overall model explains 22% of the total variance regarding the *overall perception of USR*, 32% of the total variance in case of *quality of service*, and 52% of total variance in case of *satisfaction*.

Regarding the Q^2 index, it is related with the Stone-Geisser criterion and these results showed that they were consistently higher than zero (Geisser 1974; Stone 1974), thus indicating that prerequisites of predictive relevance for the model were fulfilled (Chin 1998a). The results were adequate for *satisfaction* ($Q^2 = 0.28$), *quality of service* ($Q^2 = 0.17$) and *overall perception of USR* ($Q^2 = 0.19$). Finally, obtaining the GoF index was also appropriate (Tenenhaus et al. 2005), which allowed a general adjustment of 0.46, then indicating a high performance structural model (Wetzels et al. 2009).

Figure 1. Empirical model



EP: external projection; R: research; EEV: education in environmental values; IM: internal management; U-FS: university-firm (business) relationship; ESV: education in social values

*** $p < .001$; ns: non-significant (based on two-tailed t -test with 499 df)

5. Conclusions and suggestions for future research

Universities are currently facing very competitive environments, and so they need to find competitive opportunities to strengthen its market leadership advantages. In this situation, quality of service is an essential factor for success (Landrum et al. 2007) as well as getting satisfied students which will recommend their university to others. Both constructs are essential to achieve the desired image of a trustworthy institution.

Therefore, in an attempt to improve the university experience of students, this research has been conducted on the basis of the model about the four impacts of university performance that was proposed by Vallaey (2008) in order to determine whether USR strategies can become a distinguishing element in the educational services market.

In this sense, a review on existing literature pointed to the role of quality of service as a predictor with a positive effect on student's satisfaction (Hasan et al. 2008; Hanaysha et al. 2011). Accordingly, an increase in service quality, and therefore in satisfaction, will result into higher levels of student retention. These findings are consistent with those obtained by authors like Ramaiyah et al. (2007), who concluded that a positive perception of service quality can lead to student satisfaction, and therefore the quality of service in education will be determined by the satisfied needs and expectations of students (Tan and Kek 2004). Therefore, two constructs are inseparable in higher education research.

Regarding the dimensions of the university experience, the proposed model assumes *overall perception of USR* as associated to an improvement in *quality of service* and *satisfaction*, and these variables are positively related among them. In this respect, the overall perception of USR had a direct effect on the two dimensions, supporting the theoretical assumptions suggesting that a USR strategy may function as a competitive advantage helping students to choose between institutions. The proposed USR model can be considered as an antecedent of quality and satisfying experience. This situation will cause the generation of useful information for university marketing strategies, and will lead in the medium term to improve the university prestige and notoriety. In this way, it can generate useful information for university marketing strategies given the importance of retaining students, preventing their drop out and attracting new ones.

However, we should take in mind that this research does not provide evidence to properly test the four-impact model as proposed by Vallaey (2008, 2014), even when our suggested model is based on it. The statistical factor analysis allowed the identification of six factors when defining students' view of USR (*external projection, internal management, education in social values, education in environmental values, university-business relationships, and research*). Therefore, the four impact-based model does not identify students' vision of USR, while our results point to the convenience of dividing the educational impact in the three facets: social, environmental and economical. These findings are in accordance with the CSR model which was designed by Elkington (1997) identifying the three well-known components (economic, social and environmental) of responsibility. From this view, we can conclude that the triple bottom line can be generalized to the formulation of USR model in order to get a better understanding of students' experiences regarding responsible education.

Once the initial USR model was defined, three of the six intended factors (*research, education in social values, and university-business relationships*) were found as not significant because they did not contribute to students' *overall perception of USR*. This pattern suggests that the development of this kind of relationships may depend on the previous USR knowledge that students have, since it does not seem at present a concept too entrenched among them.

Facing such trend, there were found significant direct impact between the other three factors (*external projection, internal management, and education in environmental values*) and the students' *overall perception of USR*. These results can be explained accordingly to the content of the *White Papers* by the Spanish National Agency for Quality Assessment and Accreditation (ANECA 2015) which must be taken as compulsory reference when designing the different degree curricula in the country.

So, and firstly, the obtained result in case of *external projection* is likely due to the close relationship between some faculties (e.g. Business Faculties) and companies and institutions, which promotes an appropriate partnership space for communication campaigns, sponsorship, etc. (activities all of them in the sphere of university extension programs), thus explaining the increased visibility of the university impact for these students.

Secondly, the specific significance of the *internal management* impact can be explained as respondents in this survey could have a relatively better understanding on internal issues than other aspects of the day-to-day life at university (due to the subjects/degrees they were enrolled in). That is, all students may know that university staff's working conditions are good because they are informed about that (whereas other activities –e.g. research activities– are less spread) and these students –in particular– who were providing their responses to the survey are more conscious than others about the real importance of working conditions on employees' performance.

Thirdly, it is quite paradoxical that only one of the three educational factors –the one on *education in environmental issues*– appeared as significant. This finding shows a better students' knowledge and consciousness on environmental issues when compared with those in the other two main categories of social responsibility, i.e. economic and social issues. In other words, economic and social issues do not appear as closely associated to (university) social responsibility as environmental questions and performance do. Therefore, we should underline that there is little education in responsibility issues at the moment, regardless their degree, and this could take to the fact that the USR concept is not well-understood by students. Furthermore, universities often made responsible activities in different areas but such initiatives are not reported as USR activities, which contributes to confusion.

Finally, the significance of the above three factors (as a whole) may be due to the circumstance that respondent students' background and curricula are strongly oriented towards the development of generic skills relating to the extension of university activities which implies, among others, the understanding and interpretation of cultural and social diversity, as well as sensitivity to environmental issues.

However, it can be ventured that there is certain lack of connection between the students' perception of USR and the other variables in the model, a fact which became particularly evident when it was revealed that only three of the six factors in the initial model design had a significant direct effect on the rest of variables. The existence of this gap between perceptions of USR and overall perception of USR, together with a slight tendency to get involved in any dimension of the university responsibility experience support the idea that the understanding of the USR construct should be considered as a core competence in all four relevant university facets: *education, research, internal management* and *external projection*.

At any case, the scope of the obtained results should be assessed taking into account certain limitations of the study. So, as this paper proposes an exploratory analysis of students' perceptions on USR, and the theoretical framework has not been well-developed yet, then additional research will be required in accordance with future theoretical developments.

Thus, for example, additional research considering the inclusion of different measures in the construct will be advisable. Furthermore, as data were collected at one single Spanish university, comparative studies will also be recommended. Besides it would be convenient to complement this model with the inclusion of other variables, such as the students' *previous knowledge of USR*.

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