



ON-CAMPUS ACCOMMODATION SERVICE QUALITY AND STUDENTS' SATISFACTION: A SURVEY¹

Linda Gabbianelli

Department of economics, society and politics, University of Urbino, Italy,
linda.gabbianelli@uniurb.it

Tonino Pencarelli

Department of economics, society and politics, University of Urbino, Italy,
tonino.pencarelli@uniurb.it

Abstract

Purpose of the paper: This study aims to examine the level of students' satisfaction toward the on-campus accommodation service provided by an Italian university. Notably, the objectives of the study are twofold:

- to examine the relationship between university students' satisfaction and on-campus accommodation service.
- to determine whether there is any significant difference in the on-campus accommodation students' satisfaction in terms of gender and dormitory of the university campus.

Methodology: The study is based on the results of a survey carried out through an online questionnaire. The sample under investigation is represented by 381 students attending the University of Urbino and that are living in the campus.

Main Findings: Findings reveal that general amenities, room amenities, interactions and cleanliness have a significant positive impact on students' satisfaction. In addition, there is a statistically significant difference between gender and the interaction dimension. There is a significant statistically difference between the all dimension of the on-campus accommodation services and dormitories.

Research limitation The study presents some limitations such as the lack of a comparison with previous years due to the use of a newly questionnaire and the fact that it refers to a only university.

Practical implications: The findings of this study help the management of public universities to improve the quality of services in their dormitories for the satisfaction of their students.

Originality/value: To the authors' knowledge there are no previous studies about on-campus accommodation service quality conducted in Italy.

¹ Although the study is the result of a joint work of the Authors, the introduction can be attributed to Tonino Pencarelli while the literature review, the research method and design, results and discussion and the conclusion can be attributed to Linda Gabbianelli.

Keywords

service quality; student satisfaction; on-campus accommodation service; Italy.

1. Introduction

There are various names that has been attributed to students' accommodation. These include students housing, dormitory, campus apartment, student hostel, hall of residence and student accommodation housing (Insch and Sun, 2013; Sawyerr and Yusof, 2013; Khozaei et al., 2014). Regardless of the adopted name, student accommodation is described by Najib et al. (2011b) as a supervised living-learning hostel consisting of basic housing as well as learning facilities and amenities and are administered to accommodate the undergraduate or postgraduate students.

Regardless of the type, Sawyerr and Yusof (2013) stated that on-campus accommodation is important in meeting the psychological and physical needs of students. More so, Insch and Sun (2013) concluded that such accommodation provides a common ground for students to relate and access various facilities provided by their institution. Najib et al. (2011a, 2011b) further pointed out that the provision of on-campus student housing is to cater for students' housing needs in accomplishing academic, living and social goals during their study.

Regardless of the name and type, the students that are accommodated in an on-campus accommodation are customers, whereas the universities management are the service providers. It is therefore the responsibility of the university management to provide accommodation that will satisfy their students. Najib et al. (2001a, 2011b) regarded student accommodation as an essential component of the facilities provided by the higher education institutions. Furthermore, Park (2006) opined that it is important to understand the expectation of students in term of how they would like to live and which feature of the accommodation they regard important for their housing satisfaction. This knowledge can be useful for future planning of student housing and also for the development of housing policies. The demand for accommodation of high quality with necessary features and amenities by students has been on the increase (Sawyerr and Yusof, 2013). Najib et al. (2011a, 2011b) noted that there have been dearth of literature materials and studies on this aspect due to high concentration of researchers on post-occupancy studies of either private or public residences.

It emerges that there is a need to investigate students' housing facilities and their level of satisfaction with various features, facilities and services.

This study intends to fill the gap in the body of knowledge of students' opinions and behaviors about the university of Urbino accommodation service as to the authors knowledge there are no previous studies conducted in Italy. This study also extends university management to understand the vital role of living experiences for students.

Therefore, the aim of current study is to investigate the relationships among on-campus accommodation service and customer satisfaction and more specifically:

- to examine the relationship between university students' satisfaction and on-campus accommodation service;
- to determine whether there is any significant difference in the on-campus accommodation students' satisfaction in terms of gender and dormitory of the university campus.

Notably, the study aims at answering the following research questions:

- A. what are the attributes that impact on on-campus housing student satisfaction?*
- B. is there a difference according to the gender?*
- C. is there a difference according to the dormitory?*

The rest of this paper is structured as follows. Section 2 describes the literature review on students' satisfaction and the hypotheses development. Section 3 explains the research method used in this study, while Section 4 presents and discusses the results. Last, Section 5 concludes the paper providing theoretical, managerial implications and directions for future research.

2. Literature review

Several researchers have considered "student accommodation" as one of the most adequate facilities provided by the higher learning institutions. For instance, Najib et al (2011a) noted that students' intellectual capabilities can be expanded through facilitation of good physical environment at their residence halls. Moreover, it was observed by Hassanain (2008) that desirable educational outcomes and mutual interests (among students) can be fostered through adequately planned residential facilities. Thus, for achieving the mission of improving student performance, the contribution of sustainable campus housing facilities shouldn't be underestimated.

Abdullah (2009) stated that organizations need to provide basic goods, facilities, amenities and services that make students highly satisfied so as to survive in highly competitive accommodation provision market. Level of satisfaction is usually a function of expectation (Najib et al., 2011a, 2011b; Aigbavnoa, 2016). This implies that when students are satisfied and their expectations are met, they are more likely to continue to stay in the same accommodation, but when they are dissatisfied, they are more likely to move elsewhere. The students have other accommodation options including off-campus and private residences, management of higher education institutions should therefore focus on the factors that attract and retain students (Aldridge and Rowley, 1998). It is vital for institutions to care about students' satisfaction towards their provided accommodation in ensuring that students enjoy their studying and living on campus.

Students' life in the campus is one of the important matters that should be put in consideration. This is due to the fact that students' life or activities outside the classrooms are still a part of the university responsibility and should be managed properly. For higher education institutions that provide accommodation for all their students in an on-campus residence where the majority of students resides, there will be more duties and responsibilities to make sure that the students' welfare is taken care of. The features for consideration include safety, quality and cleanliness of the accommodation, size and quality of furniture and fittings inside the room and in the surrounding, as well as good internet connection (Oke et al., 2017).

In literature, some models has been developed to measure the level of the consumer satisfaction on a service and so quality of the service provided.

Service quality is a multidimensional construct. The most widely reported set of service quality dimensions has been proposed by Parasuraman, Zeithaml and Berry (1985, 1988) comprising of five dimensions tangibility, reliability, responsiveness, assurance, and empathy (Parasuraman, et al.,1988), forming the basis of the SERVQUAL instrument (Durvasula, et al., 1999). In the service factory situation, the dominant service quality dimensions were found to be tangibility, responsiveness and reliability (Olorunniwo, et al., 2006; Rosen and Karwan,1994).

SERVQUAL has been a popular instrument for measuring service quality associated with aspects of tertiary education (e.g. Joseph and Joseph, 1997; Tan and Kek, 2004); as well as of accommodation (e.g. Getty and Getty, 2003; Juwaheer and Ross, 2003; Saleh and Ryan, 1991). The SERVQUAL model is founded on the argument that most consumers enter a service encounter with expectations formed on the basis of their knowledge and experience with the service (Joseph and Joseph, 1997). In a disconfirmation-based approach to service quality, quality is the difference between consumers' expectations and their actual experiences (Parasuraman, et al., 1988). Alternatively, following a performance-based approach, service quality is assessed by measuring consumers' actual experiences only (Cronin and Taylor, 1992).

Some studies on service delivery has been done within the framework of the so-called gaps model of service quality (Parasuraman, et al., 1985). This model comprises four provider gaps and one customer gap, the closing of which is a logical basis for improving service delivery (Grönroos, 2007). The four provider gaps relate to:

- Understanding (Gap 1): the difference between customer expectations and management perceptions of customer expectations.
- Service standards (Gap 2): the difference between management perceptions of customer expectations and service quality specifications.
- Service performance (Gap 3): the difference between service quality specifications and the service actually delivered.
- Communication (Gap 4): the difference between service delivery and what is communicated about the service to customers (Zeithaml, et al., 2006).

The four provider gaps affect the way in which the service is delivered, and their existence leads to Gap 5, the customer gap. Gap 5 denotes the difference between customer expectations and perceptions (Tsang and Qu, 2000). A positive difference in Gap 5 results when customers' perceptions of a service exceed their expectations, while a negative gap arises when expectations are not met, pointing to a need for service improvement (Silvestro, 2005).

The SERVQUAL framework is generally the most used in empirical studies due to its ease to understand and to fit to different types of services.

However, Carman's (1990) call for modifications to SERVQUAL tailored to different service settings. In this study, the SERVQUAL dimensions have been modified as follow: General amenities aimed at measuring the building elements (e.g. building facilities) of the housing service, while room amenities aimed at measuring the interior elements (e.g. bathroom facilities) of the service (Radder, Han, 2009). Interactions aimed at measuring the availability of the staff while cleanliness (Oladiran, 2013) the cleaning of the room and of common spaces.

H1: general amenities, room amenities, cleanliness and interaction have a significant influence on student satisfaction

One potential application of service quality analysis is the comparison of satisfaction scores across gender (Parasuraman, et al., 1988). Though investigating differences between genders might be critical for segmentation purposes, it has not been a popular research area (Babin and Boles, 1998). Only a few such studies (e.g. Abouchedid and Nasser, 2002; Burggraaf, 1997; Joseph and Joseph, 1997) investigated gender within an educational context.

As gender differences might indeed influence expectations regarding accommodation (Radder and Wang, 2006), we propose the following statement:

H2: Significant differences in student satisfaction scores exist in terms of students' gender

The on-campus accommodation provider at the University of Urbino is ERDIS - Ente Regionale per il Diritto allo Studio Universitario. Erdis is the organization that provides services to students of universities in the Marche region.

The goal of its activity is to remove the economic and social limits that hinder citizens' equal opportunities for access to university studies. The ultimate goal is to allow to those without means, as long as they are capable and deserving, to reach, if they wish, the highest levels of education and culture in the most varied fields. The services provided to students are of various types: financial aid, food service, accommodation, psychological support, medical service, services for students with disabilities and so on. Some of these are granted only to a limited number of students (subject to an annual competition notice) on the basis of defined income and merit requirements, while others are provided indiscriminately to the university student community. Among the services offered, the most used by students are the food service and the accommodation service.

Concerning the accommodation service, the University of Urbino has seven structures, for a total of about 1364 beds: Campus scientifico, Acquilone, Serpentine, Colle, Internazionale, Tridente and Vela.

Some of them differ for the service offered i.e. laundry and dryer service, food service and features of the room. In addition, they differ for the type of the student living there: generally for a short period in the Internazionale and for a long time in Colle, Tridente, Vela.

H3: significant differences in student satisfaction exist in terms of dormitory

3. Research method and design

3.1 Sample and questionnaire design

The present study aimed to answer the research questions by means of empirical analysis.

A self-administered questionnaire was developed to measure respondents' perception about the quality attributes offered by on-campus accommodation service. The questionnaire items were adopted from previous studies and modified to fit the current study setting (Radder, Han, 2009; Oladiran, 2013). Notably, a preliminary qualitative analysis was conducted thorough the interview method in order to identify the quality factors of the service. The interviews involved the general director of Erdis, and the area manager.

The questionnaire consisted of three sections: (1) 10 items of specific satisfaction attributes, (2) 1 items of overall satisfaction, and (3) demographic information. Except for demographic information, all questions were measured using a 5-point Likert scale (1=strongly disagree and 5=strongly agree).

The structured questionnaire was administered online to a sample of young Italian consumers aged between 18 and 35 years old. It was distributed via computer-assisted web interviewing (CAWI) in march 2019. A total of 381 young people attending Urbino University completed the questionnaire voluntarily.

According to the National Student Registry, there were 14.557 students attending Urbino University during the survey period. Brasini and colleagues' (2002) formula [1] was applied to find that the number of questionnaires that had to be administered to produce statistically significant results was 374. Therefore, our sample can be considered statistically significant, at least at the time of data collection.

$$n = \frac{Z^2 a}{2N} \left(\frac{1}{4} + \frac{1}{N} \right) + \frac{Z^2 a}{2} = 1.962^2 \times \frac{14,557}{2} \left(\frac{1}{4} + \frac{1}{14,557} \right) + 1.962^2 = 374.31 = 374 [1]$$

where:

n = sample size

$Z^{2\alpha/2}$ = confidence level = 1.96, computed using the tables of the standard normal distribution

N = population size

θ = margin of error (set at 5%)

Table 1 summarizes the sociodemographic characteristics of the sample.

Table 1: Sociodemographic characteristics of the sample

Characteristic		Percentage
Gender	Male	40.1
	Female	59.9
Scholarship	Yes	92.4
	No	7.6
Respondents per campus	Campus scientifico	3.4
	Acquilone/Serpentine	32.8
	Colle	7.9
	Internazionale	0.8
	Tridente	38.3
	Vela	16.8

Source: Authors' elaboration.

3.2 Data collection and analysis

The data were processed using analysis program SPSS (Statistical Package for Social Sciences) release 25.0 for Windows. Descriptive statistics described the respondents' sociodemographic features in percentages.

Pearson's test was used to determine correlation and relationship between dimensions.

The stepwise multiple regression analysis was employed to measure the impact of the on-campus accommodation service quality dimension on students' overall satisfaction.

Then, an independent t -test was performed to statistically test the equality of means and to analyze differences in on-campus accommodation service quality perception between gender.

Finally, one-way Analysis of Variance (ANOVA) was used to test any mean difference in student's satisfaction level with regard to the dormitory of the university campus.

Differences and associations were considered significant at $p < 0.05$.

4. Results And Discussion

Table 2 shows that the most important aspect of student satisfaction is the interaction i.e. the courtesy and availability of the staff (mean= 3.44) followed by the room amenities (mean=2.97) and general amenities and cleanliness (mean= 2.83). In general, the overall students' satisfaction is positive with a mean of 3.27.

These results are acceptable as all service quality dimension scores are higher than 2.5.

Table 2: Measurement items and Reliability analysis

<i>Dimension</i>	<i>Item</i>	<i>Mean</i>	<i>Std. Deviation</i>	<i>N</i>	<i>α Cronbach</i>
<i>General amenities</i>	GA1_Ease to reach	3,07	1,074	381	0.73
	GA2_hygienic services	2,72	1,191	381	
	GA3_Laundry service	2,38	1,041	381	
	GA4_Internet connection	2,78	1,224	381	
	GA5_Maintenance intervention	2,64	1,204	381	
	GA6 Common study rooms	3,40	,935	381	
	2.83				
<i>Room amenities</i>	RA1_Confort of the room	3,04	1,075	381	0.67
	RA2_Noise of the room	2,64	1,234	381	
	RA3_Room temperature	3,29	1,294	381	
	RA4_Perceived security	2,99	1,148	381	
	RA5_Value for money	2,87	,836	381	
	2.97				
<i>Interaction</i>	I1_Courtesy and availability of the staff	3,44	1,135	381	
<i>Cleanliness</i>	CL1_Cleaning of common areas	2,76	1,179	381	0.64
	CL2_Cleaning of the room	2,87	1,215	381	
	2.82				
<i>Overall satisfaction</i>		3,27	,951	381	

Source: Authors' elaboration.

Table 2 shows also the findings of the reliability analysis: it can be seen that the Cronbach's Alpha coefficients for all the four dimensions are greater than 0.6. It demonstrates that the variables in the research model are reliable (Nunnally and Bernstein, 1994). The reliability of all items is 0.90.

Table 3 shows the correlation between the dependent variable (overall satisfaction) and independent variables (service quality dimensions). The table reveals a positive correlation coefficient between all service quality dimensions and students' satisfaction and it implies that there is a positive relationship between them.

Table 3: Correlation matrix

	GA1	GA2	GA3	GA4	GA5	GA6	RA1	RA2	RA3	RA4	RA5	I1	CL1	CL2	ALL
GA1	1														
GA2	,393**	1													
GA3	,273**	,439**	1												
GA4	,202**	,458**	,433**	1											
GA5	,187**	,310**	,208**	,349**	1										
GA6	,232**	,339**	,345**	,325**	,212**	1									
RA1	,481**	,358**	,413**	,422**	,325**	,383**	1								
RA2	,196**	,275**	,252**	,202**	,208**	,226**	,337**	1							
RA3	,196**	,239**	,173**	,291**	,290**	,231**	,322**	,286**	1						
RA4	,308**	,479**	,330**	,362**	,220**	,347**	,450**	,317**	,281**	1					
RA5	,153**	,355**	,285**	,291**	,249**	,219**	,328**	,198**	,196**	,245**	1				
I1	,296**	,484**	,328**	,393**	,310**	,289**	,416**	,275**	,391**	,459**	,261**	1			
CL2	,490**	,496**	,283**	,347**	,245**	,224**	,544**	,229**	,225**	,388**	,256**	,346**	1		
CL1	,288**	,667**	,510**	,585**	,281**	,410**	,478**	,287**	,306**	,482**	,335**	,490**	,473**	1	
ALL	,478**	,636**	,374**	,455**	,351**	,470**	,676**	,350**	,397**	,475**	,352**	,512**	,534**	,537**	1

**the correlation is significant at level 0.01

Source: Authors' elaboration.

Stepwise multiple regression was conducted, with overall student satisfaction as dependent variable and general amenities, room amenities, interaction and cleanliness as independent variables to test for a relationship between these variables.

Table 4 shows the summary of the findings of analysis of variance (ANOVA). It can be seen that the value of statistics F (ANOVA) is 131,530 with the level of significance (Sig. of ANOVA) of 0.000 (i.e. Sig. = 0.000 < 0.05). It indicates that the linear regression model is suitable for this study. The study found that the value of R is 0,764 > 0.50. It means that this model is appropriate for evaluating the relationship between dependent and independent variables. Moreover, the value of R² of 0.583 indicates that 58% students' satisfaction is explained by the multiple linear regression model. Table 5 shows the summary of the findings of regression coefficients. The analyses reveals that Sig. value of the independent variable of GA, RA, I, CL are lower than 0.05 (i.e. Sig. level = 0.000 < 0.05). this means that all service quality dimensions have a significant impact on student's satisfaction. In addition, the findings of the standardized beta column indicate that, among the independent variables, the most influential one is general amenities (standardized beta is 0.339). In other words, general amenities have the strongest impact on the students' satisfaction. In particular, the students' satisfaction is positively influenced by the ease to reach (Sig.= 0.006), the cleanliness of the room (Sig. 0.018), the comfort of the room (Sig.=0.000), the room temperature (sig.=0.006), the availability of the staff (Sig.=0.011), the hygienic services (Sig. =0.000) and the common study rooms (sig.= 0.000).

Room amenities with standardized beta of 0.302 is the second most influential factor of students' satisfaction.

In particular, the students' satisfaction is positively influenced by the comfort of the room, the temperature of the room, the perceived security (Sig.=0.000) and the value for money (Sig.=0.005).

In addition, the collinearity analysis reveals that there are not multicollinearity problems as VIF value are all less than 3.

Table 4: Summary of the findings of the ANOVA

Model	Sum of squares	df	Quadratic mean	F	Sig.
Regression	200,398	4	50,100	131,530	,000
Residual	143,217	376	,381		
Total	343,615	380			

Source: Authors' elaboration.

Table 5: Findings of the multiple regression model

Model	Unstandardized coefficients		Standardized coefficients	t	Sign.	Collinearity statistics	
	B	Standard error	Beta			Tolerance	VIF
(Constant)	,216	,142		1,520	,129		
General amenities	,442	,071	,339	6,263	,000	,379	2,642
Room amenities	,386	,062	,302	6,201	,000	,469	2,134
Cleanliness	,141	,046	,152	3,067	,002	,451	2,217
Interaction	,076	,035	,091	2,182	,030	,641	1,559

Source: Authors' elaboration.

An independent sample t-test was conducted to test differences in scores satisfaction between gender. The test shows a statistically significant difference between male and female in terms of on-campus accommodation service appreciation (Table 6). Notably, it emerges that

there is a statistically significant difference concerning only the interaction dimension (sig.=0.051) with a mean gap between male and female of 0.25.

Table 6: Independent t-test_Gender and accommodation quality dimension

Dimension	Male		Female		Independent t-test	
	Mean	SD	Mean	SD	t	Sig.
General amenities	2,78	0,79	2,84	0,69	3,102	,426
Room amenities	2,99	0,77	2,93	0,72	,210	,446
Interaction	3,60	1,18	3,35	1,11	,743	,051*
Cleanliness	2,81	1,03	2,77	1,02	,031	,738
Overall satisfaction	3,32	0,97	3,19	0,93	,876	,240

* The mean difference is significant at the 0.05 level.

M = mean, SD = standard deviation, t = t-value

Source: Authors' elaboration.

In particular, there is a statistically significant difference in terms of availability of the staff (Sig.=0.051) and perceived security (Sig.=.015). Notably, males appreciate more the availability of the staff (Mean M=3.60; F=3.35) and the perceived security (mean M=3.17; F=2.86) respect to females.

Going deeply the evaluation of the on-campus accommodation service, it was asked to students to grade the service quality dimension proposed and to specify the dormitory they referred to (Table 7).

The ANOVA was conducted to statistically compare the student's satisfaction score between on-campus dormitories. The ANOVA analysis shows some differences between dormitories: the F-test points out a statistically significant difference concerning general amenities, room amenities, interaction, cleanliness and the overall satisfaction. However, more deeply there isn't a significant difference concerning the perceived security, room temperature, cleaning of common areas and laundry service. As a matter of fact, all dormitories received a positive appreciation from students: the Internazionale dormitory received highest scores for all service quality dimensions (overall satisfaction mean 5) followed by the Campus scientifico (overall satisfaction mean 3.50) and the Acquilone dormitory (overall satisfaction mean 3.41).

Deepening the students' appreciation of each dormitory, results show that concerning the ease to reach the unsatisfied students are those living in the Vela dormitory (mean=2.64) while the most satisfied are living in the Internazionale.

This could be explained because the Internazionale dormitory is the only one located in the centre of Urbino and this score could be due to the fact that students are all far from the center and that, it could be difficult to move even with the buses due to uncomfortable times.

Students are enough unsatisfied of the cleanliness of the room especially in the Vela (mean=2.36) and Colle dormitory (mean=2.67). However, they are completely satisfied of the internazionale (mean=5).

Overall, the comfort of the room is appreciated.

Concerning the noise of the room, the most unsatisfied students are living in the Tridente and Vela dormitory (mean respectively 2.41 and 2.64). it could be due to the scarce sound insulation of the rooms. Regarding the temperature of the room, students are generally satisfied together with courtesy and availability of the staff (mean 3.29 and 3.44 respectively).

The value for money is generally appreciated especially for the Internazionale and Campus scientifico as well as the hygienic services.

Students are slightly unsatisfied of the internet connection of the dormitories, it could be due to the fact that some areas are uncovered by the wifi coverage.

However, respondents are satisfied of study rooms of all dormitories (mean=3.40) and in general they are satisfied of the on-campus accommodation service.

Table 7: ANOVA _ Comparison between the on-campus dormitories and dimensions of the service quality

Dimension	Campus scientifico		Acquilone /serpentine		Colle		Internazionale		Tridente		Vela		ANOVA	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	F	Sig.
General amenities	3,11	0,74	2,95	0,70	2,87	0,81	4,41	0,15	2,68	0,71	2,79	0,69	5,388	,000*
Room amenities	3,32	0,77	3,02	0,77	2,99	0,68	4,45	0,53	2,87	0,70	2,93	0,74	3,695	,003*
Interaction	3,54	1,20	3,74	1,02	3,43	1,17	5,00	0,00	3,22	1,14	3,27	1,19	4,521	,001*
Cleaniness	3,10	1,10	2,92	1,01	2,63	0,99	4,29	0,61	2,82	1,02	2,56	1,02	2,758	,018*
Overall satisfaction	3,50	0,86	3,41	0,87	3,20	1,03	5,00	0,00	3,19	0,93	3,09	1,06	3,500	,004*

* The mean difference is significant at the 0.05 level.

M = mean, SD = standard deviation

Source: Authors' elaboration.

5. Conclusion

Customers have assumed and continues to assume over time an ever-greater power and relevance, which have led to the development of interpretative models of his perceptions and, therefore, of his degree of satisfaction. Companies can derive numerous advantages from acting with a view to satisfying its customers, setting itself the goal of improving the functions designed to protect and satisfy the needs of the community to create a real relationship of trust with users.

When students leave home to attend university, most of them have to keep their expenses to a minimum, and dormitories are very helpful in achieving this goal (Khozaei, et al., 2012).

However, the issue of costs and economic savings has led to a minimalist view of the design of dormitories (interior divisions, forms, building materials, furniture, and more), which is why most dormitories do not qualitatively meet the needs of students.

Based on the literature review, it is possible to identify multi-dimensional factors that influence user satisfaction with on-campus accommodation.

Because of their importance, researchers have studied the effects of dormitories on students (Cross, et al., 2009; LaNasa, et al., 2007). Therefore, it is necessary to pay attention the students' housing preferences and to investigate them in order to better understand their real demands and requirements (Khozaei, et al., 2011). If service providers are aware of students' accommodation preferences, they will be able to enhance the quality of living in student dormitories. Ignoring these priorities and differences can leave irreparable damage to the quality of education, too.

The aim of this paper was to investigate the students' satisfaction of on-campus accommodation services.

In this study we investigated the on-campus accommodation services provided by ERDIS at the University of Urbino.

We administered a semi structured questionnaire to students living in the on-campus accommodation structures and we asked them to evaluate the accommodation service.

From the empirical analysis, lights and shadows emerge. Overall, the study outlined a general satisfaction with the on-campus accommodation services offered to students at the University of Urbino, particularly for general amenities and interaction.

Notably, it emerges that general amenities, room amenities, cleanliness and interaction have a significant influence on students' satisfaction, confirming the H1 proposed.

According to Radder and Han (2009), room amenities and interaction are key dimensions that affect overall perceived service quality, while in our study are room amenities and general amenities.

The H2 is partially confirmed as the only significant difference between gender and the level of students' satisfaction concerns the interaction dimension. This is slightly in contrast with previous studies (Radder, Han, 2009) where there aren't statistically significant differences in the gap scores between males and females for any of the factors.

Another important aspect in line with previous studies (Nabilou and Khani, 2015) is that there is a significant difference in all dimensions of students' satisfaction and the on-campus dormitories, confirming the H3.

In addition, in this study, each dimension correlated positively with the overall quality of services and strengthens it. Therefore, it is suggested that service dimensions, will enhance students overall perception of service quality (Nabilou and Khani, 2015).

Our results provide support for Parasuraman, et al. (1988) and Carman's (1990) call for the modification to SERVQUAL tailored to different service settings.

Furthermore, the study provides some managerial implications useful for the service provider.

First of all, the service provider i.e. ERDIS could get information and suggestion to improve the on-campus service, listening to the students' needs and claims.

Concerning the general amenities, ERDIS could introduce a free or reduced-price shuttle service for students in order to improve the ease to reach the city center and viceversa.

The service provider could improve the perceived security with a greater surveillance at the entrance and exit of the dormitories or increasing the vigilance during the night.

It could be useful to provide more washing machines and dryers and organize the usage through a booking of the service, (maybe with a mobile app). In this way students are able to wash their clothes without queue.

Another relevant aspect could be strengthening the internet connection reaching all the students' rooms and the study rooms together with extend the opening hours of the study rooms until late.

Concerning the room amenities, the service provider could modernize the furniture of some rooms with a more comfortable and fashion furniture or provide rooms with a mini fridge.

The competitive environment of universities leads them to pay attention not only to training quality, which is – together with research and scientific output – the core of the offer, but also to the design of innovative solutions in the field of peripheral services, among them the on-campus accommodation service (Pencarelli, Splendiani, Cini, 2013).

This context can be analyzed using the development of the service offering model, attributable not only to one service but also in a corporate view. On-campus accommodation can be interpreted as the essential service of a basic package, differentiable from other universities through ancillary services such as organizing events, general amenities, meetings, etc. From a corporate-level view, the basic service package includes the core services like training, education and scientific research, while on-campus accommodation would be an ancillary service, with the task of enriching the university offer and distinguishing it from its rivals.

Adopting the value perspective, it is a complex concept defined as the difference between benefits and sacrifices perceived by the customer under a long-term relationship with the supplier, in which everyone involved takes on the dual role of user and producer of value. In this study, students also create value for the university by monitoring and evaluating services. This encourages the continuous processes of quality improvement by the service provider. In addition, students create value for the university by providing positive word of mouth, which has a strong impact on the image of the university (Pencarelli et al., 2013).

However, this study has some limitations. The first limitation is the lack of a comparison with previous years due to the use of a newly structured questionnaire. The second limit is related to the fact that it refers to a university.

In a future research perspective, it could be interesting to make a comparison over time (between different years) and space (between different universities managed by ERDIS in the Marche region) of student satisfaction.

The third limit concerns the service quality attributes investigated: the items used in this study is not exhaustive and future research could include the room size, the Aesthetics of building appearance, the social areas and activities, the availability of sport and free time facilities.

References

- Abdullah, B.R. (2009). "A descriptive study on students' satisfaction towards the services provided by Universiti Utara Malaysia", *Masters dissertation*, University of Malaysia.
- Abouchedid, K., Nasser, R. (2002). "Assuring quality service in higher education: Registration and advising attitudes in a private university in Lebanon", *Quality Assurance in Education*, 10(4), 198-206.
- Aigbavnoa, C. (2016). "Assessing beneficiaries' needs and expectations as a determinant of residential satisfaction in South Africa", *Housing, Care and Support*, 19(1), 10-22.
- Aldridge, S., Rowley, J. (1998). "Measuring customer satisfaction in higher education", *Quality Assurance in Education*, 6(4), 197-204.
- Babin, B.J., Boles, J.S. (1998). "Employee behavior in a service environment: A model and test of potential differences between men and women", *Journal of Marketing*, 62(2), 77-91.
- Burggraaf, W. (1997). "Management skills from different educational settings", *International Journal of Educational Management*, 11(2), 65-71.
- Carman, J.H. (1990). "Consumer perceptions of service quality: An assessment of the SERVQUAL dimensions", *Journal of Retailing*, 66(1), 33-55.
- Cronin, J.J. Jr, Taylor, S.A. (1992). "Measuring service quality: A reexamination and extension", *Journal of Marketing*, 56(3), 55-68.
- Cross, J. E., Zimmerman, D., O'Grady, M. A. (2009). "Residence Hall Room Type and Alcohol Use among College Students Living on Campus." *Environment and Behavior*, 41 (4): 583–603.

- Durvasula, S., Lysonski, S., Mehta, S.C. (1999). "Testing the SERVQUAL scale in the business-to-business sector: The case of ocean freight shipping service", *Journal of Services Marketing*,13(2), 132-150.
- Getty, J.M., Getty, R.L. (2003). "Lodging quality index (LQI): assessing customers' perceptions of quality delivery", *International Journal of Contemporary Hospitality Management*,15(2), 94-104.
- Grönroos, C. (2007). *Service Management and Marketing*, 3rd ed. Chichester: John Wiley & Sons.
- Hassanain, M. A. (2007). "Post-occupancy Indoor Environmental Quality Evaluation of Student Housing Facilities." *Architectural Engineering and Design Management*, 3 (4), 249–256.
- Hassanain, M. A. (2008). "On the performance evaluation of sustainable student housing facilities", *Journal of Facilities Management*, 6(3), 212-225.
- Hill, F.M. (1995). "Managing service quality in higher education: The role of the student as primary consumer", *Quality Assurance in Education*, 3(3), 10-21.
- Insch, A., Sun, B. (2013). "University students' needs and satisfaction with their host city", *Journal of Place Management and Development*, 6(3), 178-191.
- Joseph, M., Joseph, B. (1997). "Service quality in education: A student perspective", *Quality Assurance in Education*, 5(1), 15-21.
- Juwaheer, T.D., Ross, D.L. (2003). "A study of hotel guest perceptions in Mauritius", *International Journal of Contemporary Hospitality Management*,15(2), 105-115.
- Kay C. Tan, Sei W. Kek (2004). "Service quality in higher education using an enhanced SERVQUAL approach", *Quality in Higher Education*,10(1), 17-24
- Khozai, F., Hassan, A. S., Abd Razak N. (2011). "Development and Validation of the Student Accommodation Preferences Instrument (SAPI)." *Journal of Building Appraisal*, 6 (3–4), 299–313.
- Khozai, F., Hassan, A.S., Kodmany, K., Aara, Y. (2014). "Examination of student housing preferences, their similarities and differences", *Facilities*, 32(11/12), 709-722.
- Khozai, F., Ramayah, T., Hassan, A. S. (2012). "A Shorter Version of Student Accommodation Preferences Index (SAPI)." *American Transactions on Engineering & Applied Sciences*, 1 (3), 195–211.
- LaNasa, S. M., Olson, E., Alleman, N. (2007). "The Impact of On-campus Student Growth on First-year Student Engagement and Success." *Research in Higher Education*, 48 (8): 941–966.
- Nabilou, B., Khani, M. (2015). "Quality of Dormitory Services in Urmia University of Medical Science: Female Student's Perceptions", *Journal of Educational and Management Studies*, 5(4), 233-239.
- Najib, M.N.U., Yusof, N.A., Abidin, N.Z. (2011a). "Student residential satisfaction in research universities", *Journal of Facilities Management*, 9(3), 200 -212.
- Najib, M.N.U., Yusof, N.A., Abidin, Z.N. (2001). "Student residential satisfaction in research universities", *Journal of Facilities Management*, 9(3), 220-221.

- Najib, M.N.U., Yusof, N.A., Osman, Z. (2011b). "Measuring satisfaction with student housing facilities", *American Journal of Engineering and Applied Sciences*, 4(1), 52-60.
- Nunnally, J.C., Bernstein, I.H. (1994). "The Assessment of Reliability", *Psychometric Theory*, 3, 248-292.
- Oke, A.E., Aigbavboa, C.O., Raphiri, M.M. (2017). "Students' satisfaction with hostel accommodations in higher education institutions", *Journal of Engineering, Design and Technology*, 15(5), 652-666.
- Oladiran, O. J. (2013). "A Post Occupancy Evaluation OF Students' Hostels Accommodation." *Journal of Building Performance*, 4(1), 33-43.
- Olorunniwo, F., Hsu, M.K., Udo, G.J. (2006). "Service quality, customer satisfaction, and behavioral intentions in the service factory", *Journal of Services Marketing*, 20(1), 59-72.
- Parasuraman, A., Zeithaml, V.A., Berry, L.L. (1985). "A conceptual model of service quality and its implications for future research", *Journal of Marketing*, 49(3), 41-50.
- Parasuraman, A., Zeithaml, V.A., Berry, L.L. (1988). "SERVQUAL: A multiple-item scale for
- Park, J. (2006), *A Look at Satisfaction with Ethnicity Diversity of the Student Body for White, Black, Latino and Asian American students*, Annual Conference.
- Pencarelli, T., Splendiani, S., Cini (2013). "Quality and value in university services The experience of the placement service at the University of Urbino "Carlo Bo", *International Journal of Quality and Service Sciences*, 5(2), 140-154.
- Radder L., Han X. (2009). "Service Quality of On-Campus Student Housing: A South African Experience", *International Business & Economics Research Journal*, 8(11), 107-120.
- Radder, L., Wang, Y. (2006). "Dimensions of guest house service", *International Journal of Contemporary Hospitality Management*, 18(7), 554-562.
- Rosen, L.D., Karwan, K.R. (1994). "Prioritizing the dimensions of service quality", *International Journal of Service Industry Management*, 5(4), 39-52.
- Saleh, F., Ryan, C. (1991). "Analysing service quality in the hospitality industry using the SERVQUAL model", *The Service Industries Journal*, 11(3), 324-343.
- Sawyerr, P.T., Yusof, N. (2013). "Student satisfaction with hostel facilities in Nigerian polytechnics", *Journal of Facilities Management*, 11(4), 306 -322.
- Silvestro, R. (2005). "Applying gap analysis in the health service to inform the service improvement agenda", *International Journal of Quality & Reliability Management*, 22(3), 215-233.
- Tan, K.C., Kek, S.W. (2004). "Service quality in higher education using an enhanced SERVQUAL approach", *Quality in Higher Education*, 10(1), 17-24.
- Tsang, N., Qu, H. (2000). "Service quality in China's hotel industry: A perspective from tourists and hotel managers", *International Journal of Contemporary Hospitality Management*, 12(5), 316-326.
- Zeithaml, V.A., Bitner, M.J., Gremler, D.D. (2006). *Services Marketing: Integrating Customer Focus across the Firm*, 4th ed. New York: McGraw-Hill