

**MEASURING STUDENT AND STAFF SATISFACTION
WITH THE UNIVERSITY FACILITIES**

Abdelkader Derbali and Ahmed K Elnagar

Abstract. Today in the world, service companies are always concerned with the quality of services, which is used by many universities to increase their competitiveness under conditions of fierce competition. Universities, therefore, think of students as their main clients, as well as seek teachers and administrators' satisfaction by improving the quality of their services (Nguyen, 2012). The purpose of this article is to evaluate the quality of services offered by the Community College in Taibah University to its students and staff. The data are collected by questioning a sample of 281 respondents in the Community College at Taibah University during the 2018-2019 academic year. A descriptive analysis is used to define the variables of our study, and the principal component analysis (PCA) is applied to determine the contribution of each variable as a factor that affects the respondents' preferences. The principal component analysis method captures the key variables of the staff satisfaction at the Community College in Taibah University regarding the services provided. The empirical findings of this study let the authors show that the student and staff satisfaction of the Community College in Taibah University is related to certain factors which constitute a necessity for respondents of both genders. These results serve as benchmarks to allow managers of the institution to improve the quality of their services.

Keywords: satisfaction, principal component analysis, community college, quality of services

JEL Classification: L84, J28

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1. Introduction

Quality is seen as a determinant of competitiveness and a source of sustainable competitive advantage (Moore, 1987; Lewis, 1989). For higher education, quality is a determining factor in satisfaction of students, who are the main consumer. Some authors consider that satisfaction with the education system is the most important objective that the educational establishment is to aim for.

In the university environment, student satisfaction is strongly linked to the quality of higher education services and the learning environment. It is considered by Cronin and Taylor (1992), Clemes et al. (2008; 2010), Omar et al. (2009) as the source of efficiency in the organization's communication policy. This keeps the image of the university and increases its students' satisfaction rate with the service provided.

The concept of satisfaction, developed particularly in the context of service activities, has been the subject of much research in management sciences. The analysis of the individual consumer satisfaction (transactional or relational) by studying their behaviour has become an essential research pole (Moutte, 2007; Madden, 2017; Tran et al., 2020; Alsulami and Makhbul, 2020).

Compared with the commercial or industrial sector, previous research shows that quality service in higher education is still a major concern (Sultan and Wong 2010). It was since 1980s that higher education has paid more attention to quality service. This improvement has been due to the intention of educational institutions to meet their consumers' demands.

Higher education is one of the main drivers of economic development. Teaching excellence is a key to strong and growing economy. It consists of providing quality training that improves knowledge, and creates prerequisites for students to acquire adequate profiles and to become more competitive in the job market, which is constantly changing with technology, globalization, and demographics that influence the country.

The University in general is obliged to cope with an increasingly globalized environment and international competitiveness, which is now based on innovation and competence in new technologies. As a result, it must adopt effective structures and strategies to meet the demands of its students, who are the main consumer of the university services.

In this context, student satisfaction is strongly linked to the quality of higher education services and the learning environment. It is considered by Cronin and Taylor (1992), Clemes et al. (2008), and Omar et al. (2009) as the source of efficiency in the organization's communication policy, which preserves the image of the university and increases the satisfaction rate of its students with the services provided. According to the analysis by Alves and Raposo (2007), satisfaction contributes significantly to the relationships between students and educational institutions. This explains the causal relationship between the quality of the service offered in the educational establishment and the students' satisfaction (Cronin et al., 2000). Some

authors consider that the satisfaction with the education system is the most important objective that the educational establishment is to aim for.

The quality of service becomes a key factor of competitiveness. As the level of customer demand increases with the level of competition becoming more intense, quality dominates economic profitability. Therefore, it seems particularly important to understand at best what the expectations and perceptions of customers are if we want to aim at their satisfaction.

As far as the higher education sector in Saudi Arabia is concerned, the competition is intensifying, and staff are constantly expanding the range of providers. This competitiveness is due to an uncontrolled and unbalanced quantitative growth of the workforce. The fragmentation of supply into a multitude of small establishments is followed by an increase in demand as students may choose to keep or leave their institutions at the end of each year or academic cycle. It is, therefore, important to know the determinants and the result of customer satisfaction, which, up to now, have remained a major challenge and a critical management problem (Balemba, 2013).

In this paper, we try to examine empirically the satisfaction of staff (teachers, administrators and students) of the Community College at Taibah University in Saudi Arabia during the 2018-2019 academic year. This satisfaction is related the service quality offered by the Community College. In this context, we used a questionnaire addressed to teachers, administrators, and students. Two approaches were applied to analyse the empirical results of this survey. Firstly, we used a descriptive analysis based on studying the distribution of respondents according to their responses using the number of individuals and frequencies. Secondly, we applied the Principal Component Analysis (PCA) method to capture the determinants of the services quality provided by the Community College at Taibah University to its staff during the 2018-2019 academic year.

To achieve the purpose set, this paper is organized as follows: Section 2 presents a literature review. In Section 3, we outline the econometric methodology applied and look at the data. Section 4 is devoted to the presentation of empirical results. Finally, Section 5 summarises the conclusions.

2. Literature Review

2.1. Consumer Satisfaction

The concept of satisfaction comes from two Latin words: 'satis' and 'facere'. These terms mean respectively 'enough' and 'do'. Explicitly, the notion of satisfaction means 'providing what is sought to the point where it is enough' (Vanhamme, 2001). Nowadays, however, the definition of consumer satisfaction differs a lot, according to the researchers. This is the very explanatory basis of its measurement by several methods (Park, 2007).

According to microeconomic approaches, consumer satisfaction is the result of the partial or complete destruction of a commodity (or even commodities). The level of satisfaction achieved and the quantity of several goods consumed are related to the utility function. It is, therefore, appropriate to note that the level of consumer satisfaction is a function of the quantity of one or more goods consumed. It is the optics of goods.

From a perspective of goods and services, the notion of satisfaction is the subject of a topic that has even been considered the cornerstone of marketing. Satisfaction would, therefore, be appreciated in three ways: satisfaction because of services, satisfaction as benchmarking and satisfaction as an assessment of the quality of services (Cantin and Rocheleau, 2006).

In the marketing literature on services, many studies based on Wolfinbarger and Gilly have examined the link between satisfaction and the quality of services (Bressolles et al., 2007). In this context, the notion of satisfaction is a concept with uncertain limits because some authors call it a feeling, a positive emotional state, and a psychological state (Jouandeau, 2004).

Satisfaction is defined as an evaluation of surprise inherent in the acquisition of a product and/or a consumption experience. In other words, satisfaction is a psychological state of a client that results from the comparison between his expectations of a product or service, and his feelings after purchase and consumption of a product. This state implies that consumption emanates only a positive feeling, but also neutral and negative feelings.

A positive feeling means satisfaction, a neutral feeling means indifference, and a negative feeling means dissatisfaction (Bressolles et al., 2007; Ilunga, 2011). It follows that satisfaction results from the gap between expectations and perceived quality (Le Roy, 2004). Here, consumer satisfaction is, therefore, induced by the quality of goods or services consumed.

These two components (expectations and perceived quality) show that consumer satisfaction can be divided into two stages based on the moment of purchase. According to Oliver, this is the pre-purchase process and the post-purchase process. In the pre-purchase process, the consumer is waiting for the performance of a product based on various information. Then, in the after-purchase process, he judges whether his expectations and needs, formed before the purchase, are well gratified. Then he makes his judgment on satisfaction/dissatisfaction (Park, 2007).

2.2. Determinants of Satisfaction

To learn the customers' opinion on the company services, there arises the question of which criteria this evaluation should be based on. It is important to know what must be measured, i.e. to identify the services offered by the organization. This is the stage of identifying the elements of the service which shape different opinions of customers. These elements are grouped under general themes called "dimensions". Other authors prefer the terminology of "engines", "determinants", "key factors", or "components" (Tremblay, 2006). The terms

"dimensions and/or components", "determinants" and/or "factors" are retained as part of this research.

2.3. Importance of Customer Surveys

In the Direct Marketing Journal, Charles Gengler says, "Customer satisfaction surveys are not just a tool for measuring customer behaviour but they can also be used as a proactive CRM tool." Regular monitoring of customer satisfaction levels and a corresponding response can increase loyalty and retention levels. Below, the paragraphs highlight the importance of the most consistent benefits of using customer surveys to create a regular dialogue with consumers:

- *Re-deploy resources to address the most important issues:* Surveys can quickly highlight the most important issues for clients, employees or the management team, on which the team and the company should focus.
- *Improve the quality of service:* A customer satisfaction survey can provide a more complete picture of overall service delivery, not just problems that require a "quick response". This is one of the crucial elements of the process of continuous improvement of services.
- *Demonstrate commitment to customers:* Even if customers and prospects never respond to polls, asking for their opinion helps to score points and earn their respect.
- *Offer an escape to customers:* Surveys provide disgruntled customers with a way out of negative feelings while allowing the company to obtain key data to help correct the situation.
- *Measure the performance of the team:* By associating surveys with individual transactions or activities, and by collecting these data on a regular basis, the company can gain a reliable insight into the performance of its team as it interacts with customers and prospects.
- *Encourage new orders:* While it is common to see customers ordering services or products only once, a survey can usually allow the company to remember customers' "good memories" and encourage them to place new orders or to give clues as to the potential needs that the company should satisfy.
- *Collect information about the competition:* Simple market surveys can give the company access to true business intelligence in terms of its positioning as well as its products and services compared to competitors.
- *Get feedback on new products and services:* It is question of why the new offer of the company knows a success or a failure. In other words, it is important to identify simple actions to take in order to achieve important improvements. A well-crafted survey allows the company to address these concerns.
- *Inform the product and service development department:* A prospect-focused survey will help the company anticipate market needs and will give it a better overview of the service offerings it should consider developing in the future.
- *Prioritization of development resources:* It is a question of knowing better to prioritize the resources for developing the products and services of the company by carrying out a survey intended for both customers and prospects.

3. Data and Methodology

3.1. Data Collection Technique

Data collection techniques focus on qualitative and quantitative studies. The qualitative studies focus on the questionnaires sent to Community College staff of both genders; while, quantitative studies cover the pre-survey, the determination of the sample size and the actual survey.

For example, the interview was conducted with 281 respondents in the Community College at Taibah University during the 2018-2019 academic year. However, referring to the theoretical foundations, two criteria are necessary to determine the individuals to be interviewed (Rorer, 1983): the semantic saturation criterion, for which it is useless to proceed to new interviews since the latter no longer brings new information compared to the previous ones; and the theoretical saturation criterion, according to which it is no longer necessary to conduct new interviews once the entire theoretical field to be covered is effective.

The questionnaire is sent to Community College staff at Taibah University during the academic year 2018-2019 to be answered by teachers (39), administrators (31) and students (211).

3.2. Data Processing Technique

The data are processed by SPSS 24. However, the results are analysed based on some previous studies by such authors as: (Tremblay and Beaugard, 2006; Tremblay, 2006; Balemba, 2013; Ilunga, 2011; Fouquereau et al., 2006; Nguyen, 2012; Gonzalez, 2004; Park, 2007; Sempels, 2005).

Data Collection Technique:

These techniques focus on qualitative and quantitative studies. The qualitative studies focus on the questionnaires sent to Community College staff of both genders; while, quantitative studies cover the pre-survey, the determination of the sample size and the actual survey.

In our case, we use an interview for a sample composed of 281 Community College respondents at Taibah University through the 2018-2019 academic year. Nevertheless, regarding the hypothetical fundamentals, two principles are required for the purpose of the population to be questioned: the semantic capacity principle and the theoretic capacity criterion. The questionnaire is sent to the Community College staff at Taibah University during the academic year 2018-2019 to be answered by teachers (39), administrators (31) and students (211).

Data Processing Technique:

The data processing technique is based on a descriptive analysis and the method of analysis by the main component. Principal Component Analysis (PCA), or the application domain Karhunen-Loève Transformation (KLT), is a method of the family of data analysis and, more generally, of multivariate statistics, which consists of transforming linked variables (called "correlated" in statistics) into new uncorrelated variables. These new variables are called "principal components", or main axes. It allows the practitioner to reduce the number of variables and make the information less redundant.

The contributions of each variable to forming the principal components are defined in the same way as those of the individuals. They are calculated as follows:

$$\text{Contribution of each variable} = \frac{\text{Factor}_i^2}{\text{Own Values}} \quad (1)$$

The questionnaire differs according to the nature of the Community College respondents of both genders, male and female. *Tables 1, 2, and 3* present respectively the different questions addressed to teachers, students, and administrators. *Table 1* presents the questions and their items addressed to the academic faculty of both genders, male and female, in the Community College at Taibah University during the academic year 2018-2019. *Table 2* presents the questions and their items addressed to the students of both genders, male and female, in the Community College at Taibah University during the academic year 2018-2019. *Table 3* presents the questions and their items addressed to the administrative personnel of both genders, male and female, in the Community College at Taibah University during the academic year 2018-2019.

4. Empirical Results

4.1. Descriptive Analysis

In this part, we use a descriptive analysis to present the repartition of the employed sample. The aim of this questionnaire is to measure the quality level of services provided at the Community College at Taibah University in Medina. This questionnaire was sent electronically to all members of the Community College at Taibah University: administrative staff, faculty, and students.

Table 4 presents personal information of the academic staff of both genders, male and female. As for the distribution of faculty members by nationality, we note that in the student segment, 36% are Saudi and the rest 64% are foreigners. Among the female respondents, 59% are Saudis and the remaining 41% are non-Saudian. With regard to the distribution of faculty members by degree, we note that they consist of two members at the rank of a teaching assistant, 4 members at the rank of a lecturer, 14 members at the rank of an assistant professor and two members at the rank of an associate professor. As for the female faculty members, we note that they comprise 4 members at the rank of a teaching assistant, 6 members at the rank of a

lecturer, 6 members at the rank of an assistant professor and one member at the rank of an associate professor. Most academic staff have between 5 and 10 years of experience for both genders: male (64%) and female (46%).

Table 1. Selected Questions and Items in the Questions Addressed to the Academic Staff

Variables	Items	Code
Personal information	Nationality	1
	Degree	2
	Years of Experience	3
	Work \ Position	4
Statements related to the material supply	The College provides classrooms suitable for lectures	5
	Parking is available next to the college	6
	The number of devices in laboratories proportional to the number of students	7
	College offers scientific (electronic paper) books	8
	Facilities for students with special needs available at the college	9
	Plates and benchmarks installed to facilitate access to the various sections of the college	10
	There is a website for a privileged college on the internet	11
	Highly-efficient administrative body available at the college	12
	Appropriate recreational activities available at the college	13
	The college is dedicated to offer workshops training courses at the College Halls	14
Phrases related to the dependency dimension	The College organizes the design of new students' programs	15
	College offers students an academic advisor to help throughout the study period	16
	The College offers special assistance for talented students	17
	Students are encouraged to participate in the activities of field experience	18
	The curriculum is flexible	19
Statements related to the reliability dimension	Relationships between faculty and administrative staff and students are based on trust and respect	20
	Students evaluate the performance of justice	21
	The college is dedicated to the students with the concepts of research ethics and scientific integrity	22
	The college keeps information about beneficiaries confidential	23
Aspects of the social empathy dimension	I feel proud of belonging to the college	24
	Faculty shows student assessment procedures at the beginning of teaching courses	25
	The communication between faculty and students is effective	26
	The college provides communication channels through which students can express any problem they face	27
	The college is keen to identify student needs periodically	28
Phrases related to the dimension of enthusiasm	The Department of the college is interested in organizing timetable in the interest of students	29
	I feel the enthusiasm in doing my job	30
	I accept the challenge in the tasks that I perform	31
Phrases related to the dimension of dedication	I enjoy high flexibility in my job	32
	I am proud of the work I do	33
	I feel that the work I do has value and purpose	34
	I have enough perseverance to work even in the worst circumstances	35

Phrases related to the absorption dimension	I am enjoying my work performance	36
	I have spent a long time in my performance	37
	I feel happy to do double work	38

Source: developed by the authors.

Table 2. Selected Questions and Items of the Questions Addressed to Students

Variables	Items	Code	
	Type	1	
Personal information	Nationality	2	
	Department	3	
	Study level	4	
	Cumulative average	5	
Statements relating to the material elements of the concrete	The college provides classrooms suitable for lectures	6	
	Parking is available next to the college	7	
	The number of devices in laboratories is proportional to the number of students	8	
	The College offers scientific (electronic paper) books	9	
	Facilities for students with special needs available at the college	10	
	Plates and benchmarks installed to facilitate access to the various sections of the college	11	
	There is a website for a privileged college on the internet	12	
	Highly-efficient administrative body available at the college	13	
	Appropriate recreational activities available at the college	14	
	The college is dedicated to offer workshops training courses at the College Halls	15	
	Aspects of the social empathy dimension	Faculty shows student assessment procedures at the beginning of teaching courses	16
		The communication between faculty and students is effective	17
		The college provides communication channels through which students can express any problem they face	18
		The college is keen to identify student needs periodically	19
		The Department of the college is interested in organizing timetable in the interest of students	20
Phrases related to the responsiveness dimension	The faculty members are willing to answer all the students' questions	21	
	The college staff is highly motivated to serve the students	22	
	The college accurately informs beneficiaries of the dates of service	23	
	The team is interested in meeting the beneficiaries' requests immediately	24	
	The Advisory Council responds the students' needs quickly	25	
Statements related to the reliability dimension	Relationships between faculty and administrative staff and students are based on trust and respect	26	
	Students evaluate the performance of justice	27	
	The college is dedicated to the students with the concepts of research ethics and scientific integrity	28	
	The college keeps information about beneficiaries confidential	29	
	I feel proud of belonging to the college	30	

Source: developed by the authors.

Table 3. Selected Questions and Items of the Questions Addressed to the Administrative Staff.

Variables	Items	Code
Personal information	Nationality	1
	Years of Experience	2
Statements related to the material supply	The College provides classrooms suitable for lectures	3
	Parking is available next to the college	4
	The number of devices in laboratories proportional to the number of students	5
	College offers scientific (electronic paper) books	6
	Facilities for students with special needs available at the college	7
	Plates and benchmarks installed to facilitate access to the various sections of the college	8
	There is a website for a privileged college on the internet	9
	Highly-efficient administrative body available at the college	10
	Appropriate recreational activities available at the college	11
	The college is dedicated to offer workshops training courses at the College Halls	12
Phrases related to the responsiveness dimension	The faculty members are willing to answer all the students' questions	13
	The college staff is highly motivated to serve the students	14
	The college accurately informs beneficiaries of the dates of service	15
	The team is interested in meeting the beneficiaries' requests immediately	16
	The Advisory Council responds the students' needs quickly	17
Statements related to the reliability dimension	Relationships between faculty and administrative staff and students are based on trust and respect	18
	Students evaluate the performance of justice	19
	The college is dedicated to the students with the concepts of research ethics and scientific integrity	20
	The college keeps information about beneficiaries confidential	21
	I feel proud of belonging to the College	22
Phrases related to the dimension of enthusiasm	I feel the enthusiasm in doing my job	23
	I accept the challenge in the tasks that I perform	24
	I enjoy high flexibility in my job	25
Phrases related to the dimension of dedication	I am proud of the work I do	26
	I feel that the work I do has value and purpose	27
	I have enough perseverance to work even in the worst circumstances	28
Phrases related to the absorption dimension	I am enjoying my work performance	29
	I have spent a long time in my performance	30
	I feel happy to do double work	31

Source: developed by the authors.

Table 4. Descriptive Statistics for Academic Staff.

Gender	Personal information	Items	Number of individuals	Frequency
Male	Nationality	Saudi	8	36%
		Non-Saudi	14	64%
		Total	22	100%
Female		Saudi	10	59%

		Non-Saudi	7	41%
		Total	17	100%
Male	Degree	Professor	0	0%
		Associate professor	2	9%
		Assistant professor	14	64%
		Lecturer	4	18%
		Teaching Assistant	2	9%
		Total	22	100%
Female	Degree	Professor	0	0%
		Associate professor	1	6%
		Assistant professor	6	35%
		Lecturer	6	35%
		Teaching Assistant	4	24%
		Total	17	100%
Male	Years of Experience	From 1 year to 5 years	2	9%
		From 5 to less than 10 years	14	64%
		From 10 to less than 15 years	5	22.5%
		From 15 years and more	1	4.5%
		Total	22	100%
Female	Years of Experience	From 1 year to 5 years	4	24%
		From 5 to less than 10 years	8	46%
		From 10 to less than 15 years	2	12%
		From 15 years and more	3	18%
		Total	17	100%
Male	Work \ Position	Academic only	17	77%
		Academic and Administrative	5	23%
		Total	22	100%
Female	Work \ Position	Academic only	10	59%
		Academic and Administrative	7	41%
		Total	17	100%

Source: developed by the authors.

Table 5 shows the personal information of the academic staff of both genders, male and female. As for the distribution of students by nationality, we note that all students are of Saudian nationality. Among the males, 56% are from Department of Administrative and Financial Sciences and Techniques and the remaining 44% are from the Department of Computer Sciences and Information. Among female respondents, 34% are from Department of Administrative and Financial Sciences and Techniques and the remaining 66% are from the Department of Computer Sciences and Information. 54% of the male students are in the first study level, while the female respondents are in the third study level.

Table 5. Descriptive Statistics for Students

Part	Personal information	Items	Number of individuals	Frequency
Male	Nationality	Saudi	78	100%
		Non-Saudi	0	0%
		Total	78	100%
Female	Nationality	Saudi	134	100%
		Non-Saudi	0	0%
		Total	134	100%
Male	Department	Department of Administrative and Financial Sciences and Techniques	44	56%
		Department of Computer Sciences and Information	34	44%
		Department of Humanities and techniques	0	0%

		Total	78	100%
Female		Department of Administrative and Financial Sciences and Techniques	46	34%
		Department of Computer Sciences and Information	88	66%
		Department of Humanities and techniques	0	0%
		Total	134	100%
Male		First	42	54%
		Second	4	5%
		Third	26	33%
		Fourth	6	8%
Study level		Total	78	100%
		First	36	26%
		Second	0	0%
		Third	88	66%
		Fourth	10	8%
Cumulative average		Total	134	100%
		Excellent A	36	46%
		Very good B	22	28%
		Good C	18	23%
		Acceptable D	2	3%
Female		Total	78	100%
		Excellent A	84	63%
		Very good B	34	25%
		Good C	14	10%
		Acceptable D	2	2%
		Total	134	100%

Source: developed by the authors.

Table 6 summarizes the personal information of the administrative staff of both genders, male and female. As for the distribution of administrative personnel by nationality, we conclude that they all are Saudian of both genders, male and female. Most academic staff of both genders, male and female, have between 1 and 10 years of experience; male: 50% - between 1 and 5 years and 50% - between 5 and 10 years and female: 45% - between 1 and 5 years and 55% - between 5 and 10 years.

Table 6. Descriptive Statistics for Administrative Personals

Part	Personal information	Items	Number of individuals	Frequency
Male	Nationality	Saudi	10	100%
		Non-Saudi	0	0%
		Total	10	100%
Female	Nationality	Saudi	20	100%
		Non-Saudi	0	0%
		Total	20	100%
Male	Years of Experience	From 1 year to 5 years	5	50%
		From 5 to less than 10 years	5	50%
		From 10 to less than 15 years	0	0%
		From 15 years and more	0	0%

	Total	10	100%
	From 1 year to 5 years	9	45%
	From 5 to less than 10 years	11	55%
Female	From 10 to less than 15 years	0	0%
	From 15 years and more	0	0%
	Total	20	100%

Source: developed by the authors.

4.2. The Results of PCA

The principal components analysis makes it possible to answer three main questions namely: Are the data factorizable? How many factors are there to remember? How should the results be interpreted?

4.2.1. Academic Faculty

4.2.1.1. Academic Faculty (A Male Segment)

Tables 7-13 present the results of the PCA relative to the questions and their items addressed to the male academic faculty in the Community College at Taibah University during the academic year 2018-2019. In these Tables (7-13), we present only the variables which are important and represent the principal factors that impact the favourites of the academic staff.

Table 7 shows the contribution of each variable in the Statements related to the material supply. From this table, we find that three items (9, 10, 11) are important and represent the principal factors that affect the preferences of the male academic faculty in the Community College at Taibah University during the academic year 2018-2019. These three factors are: "Facilities for students with special needs available at the college; Plates and benchmarks installed to facilitate access to the various sections of the college; and There is a website for a privileged college on the internet".

Table 8 presents the contribution of each variable in the phrases related to the dependency dimension. From this table, we remark that two items (17, 18) are crucial and represent the principal factors that affect the preferences of the male academic faculty. These two factors are: "College offers special assistance for talented students;" and "Students are encouraged to participate in the activities of field experience".

Table 7. Contribution of Each Variable in the Statements Related to the Material Supply

Contribution of each variable										
	Fact. 1	Fact. 2	Fact. 3	Fact. 4	Fact. 5	Fact. 6	Fact. 7	Fact. 8	Fact. 9	Fact. 10
9	0.0983	0.2949	0.2966	0.2983	0.3000	0.3017	0.3034	0.3051	0.3069	0.3086
10	0.1160	0.3480	0.3500	0.3519	0.3540	0.3560	0.3580	0.3600	0.3621	0.3642
11	0.1369	0.4106	0.4129	0.4153	0.4177	0.4200	0.4224	0.4248	0.4273	0.4297

Source: developed by the authors.

Table 8. Contribution of Each Variable in the Phrases Related to the Dependency Dimension

Contribution of each variable					
	Fact. 1	Fact. 2	Fact. 3	Fact. 4	Fact. 5
17	0.7467	2.2400	2.2528	2.2656	2.2785
18	0.8811	2.6432	2.6583	2.6734	2.6887

Source: developed by the authors.

Table 9 presents the contribution of each variable in the statements related to the reliability dimension. From this table, we find that two items (23, 24) are critical and represent the principal factors that affect the preferences of the male academic staff. These two factors are: 'The college keeps information about beneficiaries confidential;' and 'I feel proud of belonging to the college'.

Table 10 summarizes the contribution of each variable in the aspects of the social empathy dimension. From this table, we find that two items (28, 29) are essential and represent the main factors that affect the preferences of the male academic staff. These two factors are: 'The college is keen to identify student needs periodically;' and 'The department of the college is interested in organizing timetable in the interest of students'.

Table 9. The Contribution of Each Variable in the Statements Related to the Reliability Dimension

Contribution of each variable					
	Fact. 1	Fact. 2	Fact. 3	Fact. 4	Fact. 5
23	0.7775	2.3325	2.3458	2.3592	2.3727
24	0.9952	2.9857	3.0027	3.0198	3.0370

Source: developed by the authors.

Table 10. The Contribution of Each Variable in the Aspects of the Dimension of Social Empathy

Contribution of each variable					
	Fact. 1	Fact. 2	Fact. 3	Fact. 4	Fact. 5
28	0.7312	2.1936	2.2062	2.2187	2.2314
29	0.8628	2.5885	2.6033	2.6181	2.6330

Source: developed by the authors.

Table 11 summarizes the contribution of each variable in the phrases related to the dimension of enthusiasm. From this table, we find out that one item (32) is vital and represent the principal factor that affects the preferences of the male academic professionals. This factor is: "I enjoy high flexibility in my job".

Table 11. The Contribution of Each Variable in the Phrases Related to the Dimension of Enthusiasm

Contributions of each variable			
	Fact. 1	Fact. 2	Fact. 3
32	0.5378	1.6134	1.6226

Source: developed by the authors.

Table 12 shows the contribution of each variable in the phrases related to the dimension of dedication. From this table, it is obvious that one item (35) is very important and represent the main factor that affects the preferences of the male academic professionals. This factor is: "I have enough perseverance to work even in the worst circumstances".

Table 12. Contribution of Each Variable in the Phrases Related to the Dimension of Dedication

Contributions of each variable			
	Fact. 1	Fact. 2	Fact. 3
35	0.3986	1.1957	1.2025

Source: developed by the authors.

Table 13 reports the contribution of each variable in the phrases related to the absorption dimension. From this table, we find out that one item (38) is vital and represent the principal factor that affects the preferences of the male academic staff. This factor is: "I feel happy to do double work".

Table 13. Contribution of Each Variable in the Phrases Related to the Absorption Dimension.

Contributions of each variable			
	Fact. 1	Fact. 2	Fact. 3
38	0.4612	1.3837	1.3916

Source: developed by the authors.

4.2.1.2. Academic Staff (the Female Segment)

Tables 14-20 present the results of the PCA relative to the questions and their items addressed to the female academic professionals in the Community College at Taibah University during the academic year of 2018-2019. In these Tables (14-20), we introduce only the items which are crucial and correspond to the principal determinants that influence the preferences of the female academic staff.

Table 14 reports the contribution of each variable in the statements related to the material supply. This table shows that three items (9, 10, 11) are important and represent the principal factors that affect the preferences of the female academic staff in the Community College at

Taibah University during the academic year of 2018-2019. These three factors are: 'Facilities for students with special needs available at the college'; 'Plates and benchmarks installed to facilitate access to the various sections of the college'; and 'There is a website for a privileged college on the internet'.

Table 15 shows the contribution of each variable in the phrases related to the dependency dimension. This table illustrates that two items (17, 18) are vital and represent the principal factors that affect the preferences of the female academic faculty. These two factors are: 'The College offers special assistance for talented students;' and 'Students are encouraged to participate in the activities of field experience'.

Table 14. The Contribution of Each Variable in the Statements Related to the Material Supply

Contribution of each variable										
	Fact. 1	Fact. 2	Fact. 3	Fact. 4	Fact. 5	Fact. 6	Fact. 7	Fact. 8	Fact. 9	Fact. 10
9	0.5983	1.7949	1.8051	1.8154	1.8258	1.8362	1.8466	1.8572	1.8677	1.8784
10	0.7060	2.1180	2.1300	2.1422	2.1544	2.1667	2.1790	2.1914	2.2039	2.2165
11	0.8331	2.4992	2.5134	2.5278	2.5422	2.5567	2.5712	2.5859	2.6006	2.6155

Source: developed by the authors.

Table 15. The Contribution of Each Variable in the Phrases Related to the Dependency Dimension

Contribution of each variable					
	Fact. 1	Fact. 2	Fact. 3	Fact. 4	Fact. 5
17	1.0948	3.2843	3.3030	3.3219	3.3408
18	1.2918	3.8755	3.8976	3.9198	3.9421

Source: developed by the authors.

Table 16 summarizes the contribution of each variable in the statements related to the reliability dimension. This table shows that two items (23, 24) are important and represent the principal factors that affect the preferences of the female academic professionals. These two factors are: 'The college keeps information about beneficiaries confidential;' and 'I feel proud of belonging to the College'.

Table 17 summarizes the contribution of each variable in the aspects of the social empathy dimension. This table shows that two items (27, 28) are essential and represent the main factors that affect the preferences of the female academic staff. These two factors are: "The College provides communication channels through which students can express any problem they face'; and 'The college is keen to identify student needs periodically'.

Table 16. The Contribution of Each Variable in the Statements Related to the Reliability Dimension

Contribution of each variable					
	Fact. 1	Fact. 2	Fact. 3	Fact. 4	Fact. 5
23	0.5993	1.7979	1.8081	1.8184	1.8288
24	0.7671	2.3013	2.3144	2.3276	2.3408

Source: developed by the authors.

Table 17. The Contribution of Each Variable in the Aspects of the Social Empathy Dimension.

Contribution of each variable					
	Fact. 1	Fact. 2	Fact. 3	Fact. 4	Fact. 5
27	0.3967	1.1900	1.1967	1.2036	1.2104
28	0.4681	1.4042	1.4122	1.4202	1.4283

Source: developed by the authors.

Table 18 shows the contribution of each variable in the phrases related to the dimension of enthusiasm. This table shows that one item (32) is important and represent the principal factor that affects the preferences of the female academic staff. This factor is: "I enjoy high flexibility in my job".

Table 18. The Contribution of Each Variable in the Phrases Related to the Dimension of Enthusiasm

Contributions of each variable			
	Fact. 1	Fact. 2	Fact. 3
32	0.3359	1.0077	1.0135

Source: developed by the authors.

Table 19 shows the contribution of each variable in the phrases related to the dimension of dedication, with one item (35) being very crucial and represent the main factor that affects the preferences of the female academic personnel. This factor is: "I have enough perseverance to work even in the worst circumstances".

Table 19. Contribution of Each Variable in the Phrases Related to the Dimension of Dedication

Contributions of each variable			
	Fact. 1	Fact. 2	Fact. 3
35	0.6057	1.8171	1.8275

Source: developed by the authors.

Table 20 reports the contribution of each variable in the phrases related to the absorption dimension, with one item (37) being vital and represent the principal factor that affects the preferences of the male academic professionals. This factor is: " I have spent a long time in my performance".

Table 20. The Contribution of Each Variable in the Phrases Related to the Absorption Dimension

Contributions of each variable			
	Fact. 1	Fact. 2	Fact. 3
37	0.5856	1.7567	1.7667

Source: developed by the authors.

4.2.2. Students

Tables 21-24 present the results of the PCA relative to the questions and their items addressed to the students of both genders, male and female, in the Community College at Taibah University during the academic year of 2018-2019. In these Tables (21-24), we propose only the variables which are crucial and correspond to the principal contributing factor that affects the students' predilections.

Table 21 shows the contribution of each variable in the statements related to the material supply, with three items (6, 7, 8) being important and representing the principal factors that affect the preferences of the academic staff of both genders, male and female, in the Community College at Taibah University during the academic year of 2018-2019. These three factors are: 'The College provides classrooms suitable for lectures;' 'Parking is available next to the college;' and 'The number of devices in laboratories is proportional to the number of students'.

Table 22 presents the contribution of each variable in the aspects of the social empathy dimension, with two items (17, 19) being crucial and representing the principal factors that affect the preferences of the academic staff of both genders, male and female. These two factors are: 'The communication between faculty and students is effective'; and 'The college is keen to identify student needs periodically'.

Table 21. The Contribution of Each Variable in the Statements Related to the Material Supply

Contribution of each variable										
	Fact. 1	Fact. 2	Fact. 3	Fact. 4	Fact. 5	Fact. 6	Fact. 7	Fact. 8	Fact. 9	Fact. 10
6	0.6211	1.8633	1.8739	1.8846	1.8953	1.9061	1.9170	1.9279	1.9389	1.9500
7	0.7329	2.1987	2.2112	2.2238	2.2365	2.2492	2.2620	2.2749	2.2879	2.3009
8	0.8648	2.5944	2.6092	2.6241	2.6390	2.6541	2.6692	2.6844	2.6997	2.7151

Source: developed by the authors.

Table 22. The Contribution of Each Variable in the Aspects of the Social Empathy Dimension

Contribution of each variable					
	Fact. 1	Fact. 2	Fact. 3	Fact. 4	Fact. 5
17	0.3074	0.9223	0.9276	0.9329	0.9382
19	0.4281	1.2843	1.2916	1.2990	1.3064

Source: developed by the authors.

Table 23 presents the contribution of each variable in the phrases related to the responsiveness dimension, with two items (21, 22) being critical and representing the principal factors that affect the preferences of the academic staff of both genders, male and female. These two factors are: 'The faculty members are willing to answer all the students' questions'; and 'The College staff is highly motivated to serve the students'.

Table 24 summarizes the contribution of each variable in the statements related to the reliability dimension, with two items (28, 29) being essential and representing the main factors that affect the preferences of the male academic professionals. These two factors are: 'The college is dedicated to the students with the concepts of research ethics and scientific integrity'; and 'The college keeps information about beneficiaries confidential.'

Table 23. The Contribution of Each Variable in the Phrases Related to the Responsiveness Dimension

Contribution of each variable					
	Fact. 1	Fact. 2	Fact. 3	Fact. 4	Fact. 5
21	0.3415	1.0246	1.0305	1.0364	1.0423
22	0.4030	1.2091	1.2160	1.2229	1.2299

Source: developed by the authors.

Table 24. The Contribution of Each Variable in the Statements Related to the Reliability Dimension

Contribution of each variable					
	Fact. 1	Fact. 2	Fact. 3	Fact. 4	Fact. 5
28	0.4211	1.2632	1.2704	1.2776	1.2849
29	0.5390	1.6169	1.6261	1.6354	1.6447

Source: developed by the authors.

4.2.3. Administrative Personnel

4.2.3.1. Administrative Personnel (the Male Segment)

Tables 25-30 present the results of the PCA relative to the questions and their items addressed to the administrative personnel of both genders, male and female, in the Community College at Taibah University during the academic year of 2018-2019. In these Tables (25-30), we present only the variables which are vital and correspond to the most important factors that impact the preferences of the male administrative personnel.

Table 25 shows the contribution of each variable in the statements related to the material supply, with three items (7, 8, 9) being important and representing the principal factors that affect the preferences of the male administrative personnel in the Community College at Taibah University during the academic year of 2018-2019. These three factors comprise: 'Facilities for students with special needs available at the college'; 'Plates and benchmarks installed to facilitate access to the various sections of the college'; and 'There is a website for a privileged college on the internet'.

Table 26 presents the contribution of each variable in the phrases related to the responsiveness dimension, with two items (16, 17) being crucial and representing the principal factors that affect the preferences of the male administrative personnel. These two factors are: 'The team is interested in meeting the beneficiaries' requests immediately'; and 'The Advisory Council responds the students' needs quickly'.

Table 25. The Contribution of Each Variable in the Statements Related to the Material Supply

Contribution of each variable										
	Fact. 1	Fact. 2	Fact. 3	Fact. 4	Fact. 5	Fact. 6	Fact. 7	Fact. 8	Fact. 9	Fact. 10
7	0.5983	1.7949	1.8051	1.8154	1.8258	1.8362	1.8466	1.8572	1.8677	1.8784
8	0.7060	2.1180	2.1300	2.1422	2.1544	2.1667	2.1790	2.1914	2.2039	2.2165
9	0.8331	2.4992	2.5134	2.5278	2.5422	2.5567	2.5712	2.5859	2.6006	2.6155

Source: developed by the authors.

Table 26. The Contribution of Each Variable in the Phrases Related to the Responsiveness Dimension

Contribution of each variable					
	Fact. 1	Fact. 2	Fact. 3	Fact. 4	Fact. 5
16	0.2350	0.7049	0.7089	0.7130	0.7170
17	0.2773	0.8318	0.8365	0.8413	0.8461

Source: developed by the authors.

Table 27 presents the contribution of each variable in the statements related to the reliability dimension, with two items (21, 22) being critical and representing the principal factors that affect the preferences of the male administrative staff. These two factors are: 'The college keeps information about beneficiaries confidential'; and 'I feel proud of belonging to the College'.

Table 28 summarizes the contribution of each variable in the phrases related to the dimension of enthusiasm, with one item (24) being vital and representing the principal factor that affects the preferences of the male administrative personnel. This factor is: "I accept the challenge in the tasks that I perform".

Table 27. The Contribution of Each Variable in the Statements Related to the Reliability Dimension

Contribution of each variable					
	Fact. 1	Fact. 2	Fact. 3	Fact. 4	Fact. 5
21	0.8666	2.5999	2.6147	2.6296	2.6446
22	1.1093	3.3278	3.3468	3.3659	3.3851

Source: developed by the authors.

Table 28. The Contribution of Each Variable in the Phrases Related to the Dimension of Enthusiasm

Contributions of each variable			
	Fact. 1	Fact. 2	Fact. 3
24	0.5856	1.7567	1.7667

Source: developed by the authors.

Table 29 shows the contribution of each variable in the phrases related to the dimension of dedication, with one item (27) being very important and representing the main factor that affects the preferences of the male administrative staff. This factor is: "I feel that the work I do has value and purpose".

Table 30 reports the contribution of each variable in the phrases related to the absorption dimension, with one item (31) being vital and representing the principal factor that affects the preferences of the male administrative staff. This factor is: "I feel happy to do double work".

Table 29. The Contribution of Each Variable in the Phrases Related to the Dimension of Dedication

Contributions of each variable			
	Fact. 1	Fact. 2	Fact. 3
27	0.2316	0.6947	0.6987

Source: developed by the authors.

Table 30. The Contribution of Each Variable in the Phrases Related to the Absorption Dimension

	Contributions of each variable		
	Fact. 1	Fact. 2	Fact. 3
31	0.6144	1.8432	1.8537

Source: developed by the authors.

4.2.3.2. Administrative Personnel (the Female Segment)

Tables 31-36 present the results of the PCA relative to the questions and their items addressed to the female administrative staff in the Community College at Taibah University during the academic year of 2018-2019. In the Tables 31-36, we give only the variables which are essential and correspond to the most crucial elements that influence the preferences of the female administrative personnel.

Table 31 shows the contribution of each variable in the statements relating to the material supply, with three items (10, 11, 12) being important and representing the principal factors that affect the preferences of the female administrative personnel in the Community College at Taibah University during the academic year of 2018-2019. These three factors are: 'Highly-efficient administrative body available at the college'; 'Appropriate recreational activities available at the college'; and 'The college is dedicated to offer workshops training courses at the College Halls'.

Table 32 presents the contribution of each variable in the phrases related to the responsiveness dimension, with two items (16, 17) being important and representing the principal factors that affect the preferences of the female administrative personnel. These two factors are: 'The team is interested in meeting the beneficiaries' requests immediately;' and 'The Advisory Council responds the students' needs quickly'.

Table 33 presents the contribution of each variable in the statements related to the reliability dimension, with two items (21, 22) being vital and representing the principal factors that affect the preferences of the female administrative personnel. These two factors are: 'The college keeps information about beneficiaries confidential'; and 'I feel proud of belonging to the College'.

Table 34 summarizes the contribution of each variable in the phrases related to the enthusiasm dimension, with one item (25) being vital and representing the principal factor that affects the preferences of the female administrative personnel. This factor is: "I enjoy high flexibility in my job".

Table 31. The Contribution of Each Variable in the Statements Related to the Material Supply

		Contribution of each variable									
		Fact. 1	Fact. 2	Fact. 3	Fact. 4	Fact. 5	Fact. 6	Fact. 7	Fact. 8	Fact. 9	Fact. 10
10		0.3110	0.9331	0.9384	0.9438	0.9492	0.9546	0.9600	0.9655	0.9710	0.9765
11		0.3670	1.1011	1.1074	1.1137	1.1200	1.1264	1.1328	1.1393	1.1458	1.1523
12		0.4331	1.2993	1.3067	1.3141	1.3216	1.3292	1.3367	1.3444	1.3520	1.3597

Source: developed by the authors.

Table 32. The Contribution of Each Variable in the Phrases Related to the Responsiveness Dimension

		Contribution of each variable				
		Fact. 1	Fact. 2	Fact. 3	Fact. 4	Fact. 5
16		0.2325	0.6976	0.7015	0.7055	0.7096
17		0.2744	0.8231	0.8278	0.8325	0.8373

Source: developed by the authors.

Table 33. The Contribution of Each Variable in the Statements Related to the Reliability Dimension

		Contribution of each variable				
		Fact. 1	Fact. 2	Fact. 3	Fact. 4	Fact. 5
21		0.3667	1.1001	1.1064	1.1127	1.1190
22		0.4694	1.4081	1.4162	1.4242	1.4323

Source: developed by the authors.

Table 34. The Contribution of Each Variable in the Phrases Related to the Dimension of Enthusiasm

		Contributions of each variable		
		Fact. 1	Fact. 2	Fact. 3
25		0.5587	1.6761	1.6856

Source: developed by the authors.

Table 35 shows the contribution of each variable in the phrases related to the dimension of dedication, with one item (28) being very important and representing the main factor that affects the preferences of the female administrative personnel. This factor is: "I have enough perseverance to work even in the worst circumstances".

Table 35. The Contribution of Each Variable in the Phrases Related to the Dimension of Dedication

Contributions of each variable			
	Fact. 1	Fact. 2	Fact. 3
28	0.5462	1.6387	1.6480

Source: developed by the authors.

Table 36 reports the contribution of each variable in the phrases related to the absorption dimension, with one item (31) being essential and representing the principal factor that affects the preferences of the female administrative staff. This factor is: "I feel happy to do double work".

Table 36. The Contribution of Each Variable in the Phrases Related to the Absorption Dimension

Contributions of each variable			
	Fact. 1	Fact. 2	Fact. 3
31	0.4125	1.2375	1.2445

Source: developed by the authors.

5. Conclusions

The purpose of this study was to evaluate the quality of the services offered by the Community College in Taibah University to its clients. It was worthwhile to conduct this research, the concept of satisfaction being the subject considered as the cornerstone of marketing.

A methodological approach meant to answer the initial questions that would arise before the research. The methodology is structured in two sub-steps: the first presents the techniques of data collection and the second describes techniques for processing the data collected.

Thus, the data are collected by the questionnaire technique on a sample of 281 respondents in the Community College at Taibah University during the 2018-2019 academic year. We use a descriptive analysis to show our sample and principal component analysis to determine the contribution of each variable. The principal component analysis method captures the key variables of staff satisfaction at the Community College in Taibah University of the services provided.

In the end, it emerges from this work that quality of service has become a key factor of competitiveness. The demand level of the staff increases with the level of competition which becomes more intense and the quality dominates the economic profitability. The companies that deliver quality services are then less vulnerable to a price war or any promotional action of their competitors. Otherwise, rather than seducing customers, the risk is to end up

annoying them. In our article, the satisfaction is expressed by the factors determined by the PCA method. This study presented the satisfaction of the staff of both genders at the Community College in Taibah University by certain factors which constitute a necessity for them.

It was then that the hypotheses of this research were confined to the viewpoint that the students of Community Collage at Taibah University remained generally satisfied with the various university services.

As a result, the university is able to offer its students a quality service, to encourage them to continue their higher education in order to be more competitive in the economic and social environment. The PCA model has a positive impact on quality service in academic institutions, allowing them to assess and control the quality of their service provided. In order to guarantee a high level of satisfaction to the students, and to preserve the image of the establishment by gaining their trust.

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References

- Alsulami, H.A.J., & Makhbul, Z.K.M. (2020). Modelling the Impact of Employment Precariousness on Employee Performance Moderated by Self Efficacy Traits. *International Journal of Innovation, Creativity and Change*, 11(12), 528-549. Retrieved from https://www.ijicc.net/images/vol11iss12/111236_Alsulami_2020_E_R.pdf
- Alves, H., & Raposo, M. (2007). Conceptual Model of Student Satisfaction in Higher Education, *Total Quality Management*, 18(5), 571-588.
- Balemba, E. (2013). Evaluation of Customer Satisfaction with Services of a Micro-Finance Institution: Empirical Evidence from Women's Association for Social and Economic Gain Customers in Togo. *African Journal of Marketing Management*, 5(2), 26-37.
- Bressolles, G., Durrieu, F., & Giraud, M. (2007). *Commercial Sites: The Influence of the Dimensions of the Electronic Quality of Service on Consumer Satisfaction and Purchase Momentum*. 10th Etienne Thil Conference, CdRom.
- Cantin, J., & Rocheleau, L. (2006). *Survey on the Expectations and Satisfaction of Hospitalized Users with Regard to Services Offered at Hôpital Louis-H. Lafontaine*. Montreal: University of Montreal.

- Clemes, M.D., Gan, C., & Zhang, D. (2010). Customer Switching Behavior in the Chinese Retail Banking Industry. *International Journal of Bank Marketing*, 8(7), 519-546.
- Clemes, M.D., Gan, C.E.C. Kao, T. H., & Choong, M. (2008). An Empirical Analysis of Customer Satisfaction in International Air Travel. *Innovative Marketing*, 4(1), 49-62.
- Cronin, J.J.J., & Taylor, S. A. (1992). Measuring Service Quality: A Re-examination and Extension. *Journal of Marketing*, 56, 55-68.
- Cronin, J., Brady, M., & Hult, G. (2000). Assessing the Effects of Quality, Value, and Customer Satisfaction on Consumer Behaviour Intentions in Service Environments. *Journal of Retailing*, 76(2), 193-218.
- Fouquereau, E., Froment, B., Fazilleau, L., & Baudouin, A. (2006). *Over the Course of the Course: Satisfaction and Dissatisfaction of "L" Students towards the University between 2001 and 2004*. Tours: Université François -Rabelais de Tours, Observatory of Student Life No. 4.
- Gauthier, B. (2001). *Measuring Customer Satisfaction to Better Meet his Expectations*. Quebec: Réseau Circum Inc.
- Gonzalez, L. (2004). *Pilot Study on the Implementation and Perceptions of ICT*. Geneva: University of Geneva.
- Ilunga, F. (2011). *Customer Satisfaction of Financial Institutions: Comparative Analysis of Client Satisfaction of Commercial Banks and Microfinance Institutions*. Bukavu, DRC: Unpublished Memory, Faculty of Economics and Management, UCB Bukavu.
- Jouandeau, A. (2004). *Contribution to the Modeling of Customer Satisfaction by Fuzzy Logic*. Lyon: National Institute of Applied Sciences.
- Le Roy, C. (2004). *Student Behavior in the Mobile Phone Market: Inertia, Captivity or Fidelity? LARGE, Paper No. 66*. Strasbourg: LARGE.
- Lewis, R.C. (1987). The Measurement of Gaps in the Quality of Hotel Services. *International Journal of Hospitality Management*, 6(2), 83-88.
- Madden, J. (2017). Four Pillars to Building a Positive School Culture. *International Journal of Innovation, Creativity and Change*, 3(2), 33-38. Retrieved from https://www.ijicc.net/images/vol3iss2/Madden_2017.pdf
- Moore, B. M. (1987). *Individual Difference and Satisfaction with Teaching. Paper Presented at the Annual Meeting of the American Educational Research Association*. Washington, D.C.: ERIC Document Reproduction Service No. ED282851.
- Moutte, J. (2007). *The Impact of Client-facing Staff on Customer Satisfaction: Proposed Conceptual Model*. Center for Studies and Research on Organizations and Management, W.P. no 782. Marseille: Center for Studies and Research on Organizations and Management.
- Nguyen, T. (2012). *Measurement of Quality of Service in Higher Education in Vietnam*. Vietnam: Faculty of Business Administration, University Institute of Technology, Post and Telecommunications.
- Omar, N. A., Nazri, M. A., Abu, N.K., & Omar, Z. (2009). Parents' Perceived Service Quality, Satisfaction and Trust of a Childcare Centre: Implication on Loyalty. *International Review of Business Research Papers*, 5(5), 299-314.

- Park, J. (2007). *The Determinants of Visitor Satisfaction and Loyalty Attending the National Museum of Contemporary Art in South Korea*. South Korea: Academy of Nantes, Faculty of Law, Economics and Management, University of Angers.
- Rorer, L.G. (1983). "Deep" RET: A Reformulation of Some Psychodynamic Explanations of Procrastination. *Cognitive Therapy and Research*, 7, 1-10. <https://doi.org/10.1007/BF01173419>
- Sempels, C. (2005). *The Intangibility of a Global Offer of Services: Conceptualization, Operationalization, Variables of Influence and Impact on the Level of Perceived Risk*. Leuven: Faculty of Economic, Social and Political Sciences, Catholic University of Louvain.
- Sultan, P., & Wong, H.Y. (2010). Service Quality in Higher Education: A Review and Research Agenda. *International Journal of Quality and Service Sciences*, 2(2), 259-272.
- Tran, K.T., Nguyen, P.V., Nguyen, T.D., & Ton, U.N.H. (2020). The Impact of Organisational Commitment on the Relationship between Motivation and Turnover Intention in the Public Sector, *International Journal of Innovation, Creativity and Change*, 11(12), 1-25. Retrieved from https://www.ijicc.net/images/vol11iss12/111201_Trان_2020_E_R.pdf
- Tremblay, P., & Beauregard, B. (2006). *Application of the Tétraclasses Model to the Survey Results of a Public Body: The Case of the Régie des Rentes du Québec*. Québec: Center of Expertise for Large Organizations.
- Tremblay, P. (2006). *Measuring Customer Satisfaction and Expectations: From Classic Models to Asymmetric Models*. Québec: Center of Expertise for Large Organizations.
- Vanhamme, J. (2001). *Transaction-Specific Consumer Satisfaction: Definition, Antecedents, Measurement and Modes*. Leuven: LABACC / Fucam, Katholieke Universiteit Leuven.