ASSESSMAND OF EDUCATION SERVICE QUALITY LEVEL IN THE FACULTY OF ENGINEERING AT THE UNIVERSITY OF SCIENCE AND TECHNOLOGY (UST)-YEMEM

Dr. Alladeen Mohamad Al-Shariabi

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الملخص

ABSTRACT:
This study has aimed to measure the level of educational Quality Service (QS) in the Faculty of Engineering (FoE) at the University of Science and Technology (UST) in Yemen from the perspective of students as targeted customers. In addition, the correlational relationship between SQ dimensions and the overall level was examined. Quantitative research was applied utilizing the questionnaire as the instrument for collecting data. The population consists of 422 students from which 223 students were selected as a purposeful sample. The researchers used descriptive statistics to examine the level of quality and Person's Correlation to test the relationship to respond to the research question. The results presented an acceptable level of quality services in general with a mean of the overall level of SQ (3.33). For its dimension, the mean ranging from (3.43) for infrastructure and (3.12) to administrative staff. The results also strong correlational relationship between overall SQ and its dimensions ranging from (0.65) for curricula to 0.78 for academic staff. The researchers recommend further studies on the topic of educational SQ in the various colleges and universities field as well as a comparison study on level of the SQ among the colleges to enrich the field of knowledge of SQ.

Keywords:
Service Quality, SQ, Faculty Engineering, UST, students, Yemen.

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ملخص الدراسة:

هدفت الدراسة إلى تقييم مستوى جودة الخدمات التعليمية في كلية الهندسة بجامعة العلوم والتكنولوجيا في اليمن من وجهة نظر الطلاب. بالإضافة إلى ذلك ، كما هدفت الدراسة إلى معرفة مستوى العلاقة الإرتباطية بين جودة الخدمات التعليمية وابعادها المختلفة، تبنت الدراسة المنهج الكمي لتحليل البيانات ، وكان الاستبيان الاداة المستخدمة لجمع البيانات وقد بلغ مجتمع الدراسة 421 طالبًا وطالبة وتم اختيار 223 من الطلبة كعينة قصدية. استخدم الباحثان الاحصاء الوصفي لدراسة مستوى الجودة بينما تم استخدام اختبار ارتباط بيرسون لإختبار طبيعة العلاقة الإرتباطية، وقد اشارت النتائج ان هناك مستوى مقبول من جودة الخدمات التعليمية بحيث كان المستوى العام لجودة الخدمات بمتوسط (3.33)، وكان مدى متوسطات الأبعاد من (3.12) لمحور الموظفين الاداريين الى 3.43 للبنية التحتية، وكان حجم واتجاه العلاقات بين أبعاد الجودة مع جودة الخدمة التعليمة ككل فقد تراوحت من (0.65) للمناهج، و (0.78) لمحور الكادر الأكاديمى، وقد اوصى الباحثان بإجراء مزيد من الدراسات حول الموضوع في الكليات المختلفة والجامعات لإثراء مجال جودة الخدمات، كما اوصى الباحثان بدراسة مقارنة بين مستوى جودة الخدمات في الكليات المختلفة لإثراء مجال جودة الخدمات.

الكلمات المفتاحية:

جودة الخدمة، كلية الهندسة، جامعة العلوم والتكنولوجيا، الطلاب، اليمن.

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Introduction:

Quality is a non-static process that include the interactions of products, services, people, process and environment to meet and surpass the expectation of the customer (Goetsch & Davis, 2013). To meet and excel in reaching customer satisfaction as well as to achieve their quality objective, organizations are required to compare their achievement against the preset goals and then take the necessary steps (Besterfield, et. al, 2007).

Customers are the crucial target for quality. They are the persons being affected by products or services provided by the manufacture of goods or services where these should meet their needs and wants (Gryna, Chua, and DeFeo, 2016). Goetsch & Davis (2013) categorize the customer as internal or external. The internal customers are receiving products/services inside the organization from co-workers while the external are those outside the organization buying the product/ services to meet their needs with expected quality. Therefore, the focus of this paper is on external customers. It is assessing their feedback on the quality of educational services provided to them by Faculty of Engineering (FoE) at the University of Science and Technology in Sana'a, Yemen.

Manning-Chapman (2017) questioned the education services. Her reflection on the question of whether the role and nature of education services developed over the years. Even though it takes different names in a different organization, however, there is a fact it is related to customer-facing training where its focus is on partners or internal employees. While this responds to the targeted group, it is not responded to the main functions of the education services that included its adoption, enablement, revenue, and customer success. This may be the reason that many organizations are going through the calamity on its identity of education services.

1.1 Literature Review

Proomprow (2003) indicated that the quality is closely associated with service. The letters of "SERVICE" can even represent the different quality component. The letter "S" can represent "satisfaction", "E" for "expectation", "R" for "readiness", "V" for "value", "I" for "Interest", "C" for "Courtesy" and "E" for "Efficiency". Services is intangible and cannot be touched similar to the manufactured goods (Kotler & Keller, 2015; Dseoskar, 2009). One the hand, the goods that we can expresses as "product" is palpable can be touch. It is prepared within some standardized procedures. Receiver of services needs to express their acceptance for the quality of services. An example of services requires certain level of quality is the public services. It includes education, health, transportation etc. Therefore, the model for measuring the quality of services and its dimensions is different from the one used for manufactured goods (Dseoskar, 2009).

Alhadad, Abu Taleb and Badran (2018) explained that the quality of service has different characteristic than goods due to its contents that include partisanship, discrepancies, the required changing in behaviors and attitude of customers. Besterfield et al. (2007) expressed that customer have the ability to identify the level of quality of the services provided to them. They consider it as vital for them to reflect their satisfaction. Hence, providing a service will face obstacles if it is not delivered in line with the client's expectation for the level of quality in their mind. When an organization is aware how the customer value the service from his/her prospective, it will match the provided service with required needs and wants of the customer (Ribeiro, 1993).

Ada, Baysal & Erkan, (2017) proclaimed that the higher education is an essential tool for countries to advance themselves in a competitive world because it leads to achieve positive changes towards their intended goal. Especially these days, the advance in technology and globalization are

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considered the main drivers for these changes. Higher education can be the vehicle for countries to cope with them through the academic programs provided to students who considered as the human asset. Therefore, countries are keen to ensure those programs are provided with high quality that meet student's satisfaction.

Since higher education are crucial role for developing the countries (Ada, Baysal and Erkan, 2017), it should meet stakeholders' needs and the student is one of them. These needs will be fulfilled through service quality of its institutions and based on their set goals and functions (Dseoskar, 2009). As summarized by Al-Assry (2015), the functions of higher education have been listed in Delors reports of UNESCO for (1996) which includes the preparation of student for research and teaching, ensure quality of training that match the economic and social life, adaption the concept of lifelong learning and education for all, and encourage of the international cooperation through academic programs, technology and networking and other means such as free movement of individuals and transfer of notions.

While the stakeholders in higher are diverse and wide-ranged from instructors, students, employee, government, public non-governmental organization and businesses (Ada, Baysal, Erkan, 2017), they are either external or internal customers. Therefore, research on quality may take one type of customers or different ones to provide their feedback on quality. This leads researchers to decide customers can fulfill their objective (Besterfield et al., 2007). Some researchers consider instructor such as the study of Naggar, Abbas, and Alameri (2015) and Ebrahim (2016). Others render students as their subject of research such as Papanthymou and Darra (2018) and Alsharjabi and Alsharjabi (2020). Another studies their subjects are mixed from instructors and students such as (Hassan & Bakkar, 2019) which used as a comprehensive approach to have a broader idea about the SQ in the institue. This study is guided by latest study done by the researcher published in 2020 as mentioned above in terms of design, tool and followed same research process.

1.2. Problem Statement

UST is attentive to Service Quality (SQ). Its effort for SQ was reflected in the position of the concerned department in the organizational organigram. It is under directly supervision of university's president. This department has a unit in each of the 9th faculty of the university. The main function of these units to support the main department in applying its mandate (UST website, 2021). The effort of UST put it on the top ranked Yemeni university in Quality by Webometric rank (2021). Even though UST has intensive effort on quality, the researchers have not found official studies from it assessing the level of the quality of services from the prospective of students. However, two studies were found. One for graduate study conducted by Al-Assry (2015) while the other one by the researchers published in (2020) assessing the quality in the administrative faculty in UST. The researcher in their paper of assessing the SQ in Administrative Faculty of UST, they recommended to conduct further study in other colleges to investigate further the level of quality of education services. Based on this recommendation, the researchers conducted this study at the Engineering Faculty (FoE) to investigate its level of SQ. this will enable further comparison between the different type of collages that offers program on applied and human and art sciences using the same research design.

1.3. Objectives of the study

The main objective of the study is to investigate level of quality service in the Faculty of Engineering (FoE) from the prospective students during the academic year of 2019- 2020 through the following:

- To identify the level of service quality in targeted faculty in general and specifically in the following dimensions:
  a) Curricula
  b) Educational Aids
  c) Library Services
  d) Academic Staff
  e) Administrators
  f) Infrastructure
- To investigate the differences among student's opinions as related to curricula, education aids, library services, academic staff, administrators and infrastructure on the basis of gender, study level and area of specialization.
- To investigate the level of correlation between the quality service dimensions and overall level of quality dimensions.

1.4. Research Questions:

The two study questions guided this study are:

1. What is the level of quality at FoE in general and as related to its different dimensions "Curricula, Educational Aids, Library Service, Academic Staff, Administrators and Infrastructure"?

2. What are the differences in opinions of students on quality service dimensions based on gender, area of specialization and level of students?

3. What is the level of correlation relationship between quality service dimension and overall level of service quality.

1.5. Research hypothesis

In response to study question no. 2, the hypotheses are as follows:

- There are differences in opinions of students on quality dimensions based on "gender, level of study, area of specialization" in Faculty of Engineering (FoE). Three sub-hypothesis stem from this main hypothesis. They are as follows:
  - There are differences in students' opinions on each dimension of quality services based on gender.
  - There are differences in students' opinions on each dimension of quality services based on level of study.
  - There are differences in Students' opinions on each dimension of quality services based on area of specialization.
  - There is strong relationship between the dimensions of quality and the total level of quality service.

1.6. Research Framework

Based on the study's questions, the 'dependent variables' identified for this study is the quality of services while the 'independent variables' are represented by "gender, levels, and area of

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specialization". Also, the dimensions are independent variables and SQ is dependent variables. The Figure 2 below illustrates these variables and their relationships.
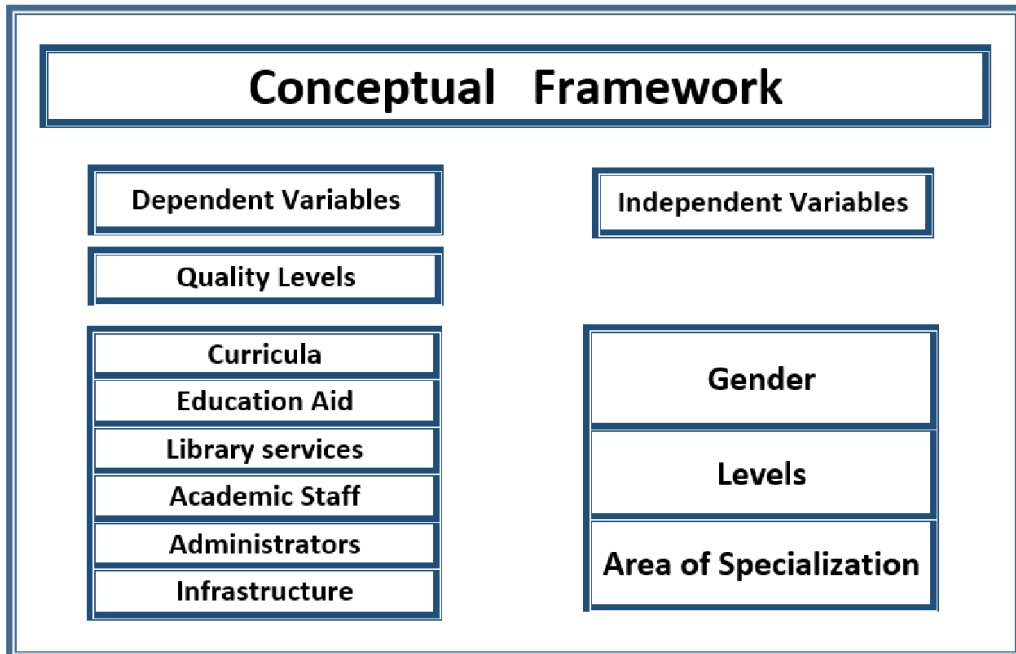

Figure 2. Research Frameworks (Relationship between Variables)

1.7 Conceptual and Operational Definitions

Service Quality: Defined as "the perception that meet or exceed customers' expectation" Kotler & Keller (2015). It is defined here as satisfaction that expressed by the students on SQ.

Infrastructure: It is the underlying permanent structure in the Faculty of Administrative Sciences (Merriam Webster, 2021).

Area of specialization: is defined as one of the program students are enrolled in at the Faculty of Engineering (FoE) at UST such as electronic, architect, medical equipment and civil engineering (UST website, 2021).

1.8 Limitations of the Study

The study took place at a period of time that the country is not stable due to the current war in the country. Therefore, the results of the study reflected the current situation in the country. The quality of services might be at the minimum level. However, it might interpret as high level due to the comparison with the current situation and the quality of service somewhere else not according to SQ standards in UST. In addition, the limited time provided to students may force them to answer imprecisely. Therefore, the results of the study need to be looked at with thoughtful. It cannot use for the purpose of generalization.

2. Research Methodology

The study was conducted at UST in Yemen to measure the level of educational SQ in the Faculty of Engineering (FoE) from the point of view of students. The researchers used a quantitative approach where descriptive statistics and correlation were utilized with their related statistic techniques. The study surveyed the opinions of the students, i.e., external customers, through structured closed-ended questionnaires to targeted students in the FoE at UST to collect the data. All students, male and female, registered in FE registered during the academic year 2019-2020 were considered as the population for the study and the student of FoE was the unit of analysis. The customers identified the quality of educational service received based on the designed questionnaire distributed to them. According to the registrar documents, there are 968 students, 849 males and 119 females. The researchers believe that not all students have enough experience in the education system of the faculty to respond to the questionnaire. Therefore, they identified the group of students who were in 3rd and 4th year in the programs to be as targeted population due to their adequate period experienced in the program. The targeted population enrolled in the in these two levels were 422 students (366 male and 56 female). Convenience sampling was used to target students who were reachable and feeling comfortable in answering the questionnaire (Zikmund et al., 2013). There were 223 questionnaires distributed out to the accessible population, however, only 132 questionnaires were returned. The valid number of questionnaire for analysis was 103, which was considered as acceptable.

2.1 Data Collection

The researchers use the questionnaire applied in their study of Administrative Faculty in 2021. The structure of the questionnaire contains six sections as closed-ended questions. The first section is for demographic information while the other five sections are formatted on Likert scale to respond to SQ dimension. All 'closed-ended' items of quality were evaluated on five-points of "strongly agree, agree, neutral, disagree and strongly disagree" for five sections.

Data was collected from questionnaires that were distributed in the female and male sections of the university. Some difficulties in collecting data were experienced due to the reluctance of some students in responding to the questionnaire. However, the researchers with support of administrative staff of FoE, researcher distributed the questionnaires to all available students in classes during the academic year of 2019-2020.

2.2 Reliability & Validity:

As mentioned above, the instrument employed in this research is the same one used by researchers in their study on Faculty of Administrative Science because they believe it respond to research objectives. The instrument was reviewed for face validity by panel of experts in the field of quality management. The validity and reliability of the instrument were examined through Cronbach's Alpha test. Table 1 shows the detailed results of Cronbach's Alpha test. It is reflected high value for 'reliability' equal to 0.91 and 'validity' of 0.96 for the tool. It is also indicated high value for dimension as explained in Table 1.

Table 1. Reliability and Validity of Research Instrument

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Variables	Reliability (Cronbach's Alpha)	Validity (Cronbach's Alpha½)	No. of Items
Curricula	0.77	0.88	7
Educational Aids	0.72	0.85	6
Library Services	0.81	0.90	10
Academic Staff	0.80	0.89	7
Administrators	0.68	0.83	4
Infrastructure	0.85	0.92	8
All Variables	**0.91**	**0.96**	**42**

2.3. Data Analysis

The quantitative data has been obtained from surveying of the opinions through the questionnaire. "Statistical Package for the Social Sciences [SPSS-22]" software has been utilized to run related test to research objective such as descriptive statistics' to respond to question 1 and ANOVA and T-Test to test the hypothesis related to respond to question 2. According to Glass and Hopkins (1996), one-factor "ANOVA" is used when we test more than two variables while the T-Test is used when we test only two variables *i.e.,* "dependable and independent variable". For question 3, the Person Correlation test was applied to test the type of relationship

3. Results and Discussion

The targeted population was students registered in level three and four in FoE. It has 422 students (366 male and 56 female). Researchers employed purposeful sample to accessible students during the period of research in the second semester of academic year 2019/2020. Despite the researchers distributed 223 students, only 132 was return. However, 103 of these questionnaires were acceptable for analysis. Accordingly, the SPSS was used to generate the results based on research objective and associated test. The section below will present and discuss the resulted findings.

3.1 Descriptive Results

The descriptive analysis was used to answer question 1 of the research which is "What is the level of quality at Faculty of Engineering (FoE) in general and as related to its different dimensions "Curricula, Educational Aids, Library Services, Academic Staff, Administrators and Infrastructure?". In response to the question and to have common interpretation for descriptive results, Table 2 explained the calculated means. It is divided into three categories for the purpose of discussing the results. The researchers divided the mean value into three levels. The mean value of statements with less than 2.5 is interpreted as 'low agreement'. Those statements with a mean's value between 2.5 and 3.4 can be described as 'moderate agreement'. Other statements have a mean's value more than 3.4 are interpreted as high.

Table 2 Interpretation of Mean's Values

Mean Value	Interpretation
Less than 2.5	Low agreement
Between 2.5 to 3.4	Moderate
More than 3.4	High average

3.1.1 Descriptive results for Level of quality of Services:

Table 3 shows the descriptive statistic according to the responses of the students on the level of quality of service. The items are presented in descending order and according to the calculated means and standard deviations associated with each statement. In general, the level of quality services at FoE is at a moderate level. It obtains a mean of (3.33) with a standard deviation of (0.50). All the dimensions of quality receive moderate means except the infrastructure dimension which obtain a mean of 3.34 the remaining dimensions obtain a mean between 3.39 and 3.12. This indicates that FoE has better focus on infrastructure more than other dimension especially on the dimension related to human resources development.

Table 3. Descriptive Statistics on the Quality Service Based on Quality Service Dimensions

N	Category	Mean	Std. Deviation
1	Infrastructure	3.43	0.78
2	Educational aids	3.39	0.61
3	Curricula	3.38	0.61
4	Academic staff	3.35	0.68
5	Library services	3.34	0.68
6	Administrative	3.12	0.79
	Quality of services	**3.33**	**0.50**

3.1.2 Descriptive Statistics Per statement of Curricula Dimension:

Table 4 presents seven statements that are related to curricula dimension. The statements within the dimension were presented in the table in descending order and according to the calculated means and standard deviation. In general, the level of quality of service in curricula can be described as acceptable because it has moderate mean of (3.38) and standard deviation of (0.61) which reflects moderate satisfaction. This suggests there is an area of improvement in the curricula of FoE.

The results show that three statements obtained the higher mean. They are: "Syllabus I studied added me new knowledge and skills", "Objective of Syllabus is clear" and "Nature of syllabus I

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studied enabled me to link between the theoretical and practical aspects with means of (3.80), (3.70) and (3.45) respectively. It seems that FoE has made adequate efforts to set standard for the curricula that make students feel satisfies with it, but FoE still needs to work on these areas to improve it further and keeps and increase the level of satisfaction among students. The remaining four statements received moderate mean between (3.30) and (3.08). These results suggested that the quality of service related to curricula is acceptable to students because most of the means are moderate. This may suggest further improvement in FoE is needed in these areas to increase level of satisfaction of its students.

Table 4. Descriptive Statistic for Curricula's Dimension

N	Item	Mean	Std. Deviation
1	Syllabus I studied added me new knowledge and skills	3.80	0.89
2	Objective of Syllabus is clear	3.70	0.76
3	Nature of syllabus I studied enabled me to link between the theoretical and practical aspects.	3.45	0.98
4	Syllabuses are suitable with the updates in area of specialization	3.30	0.97
5	Textbooks reflected the announced contents	3.20	1.01
6	Information I acquired from syllabus met my expectation	3.11	1.00
7	Knowledge and Skills in the syllabus cover what is announced	3.08	1.03
	Curricula Dimension	**3.38**	**0.61**

3.1.3 Description Statistics of Education Aids Dimension

Table 5 presents six statements that are related to educational Aids. The statements are presented in descending order and per value of the calculated means and its associated standard deviation. In general, the educational aids used in FoE are in line with the objective of quality of services. However, it received high moderate means of (3.39) and a standard deviation of (0.61). Therefore, more work is required to improve the services for this dimension to increase the level of satisfaction of students.

The results show that some statements obtained higher means such as: "presentations and summaries provided with textbooks help me to understand the subject" and "technology used in teaching contributes to communicate the information". They obtained the highest mean of (3.62 and 3.55) respectively. The remaining four statements attained means between (3.03) and (3.46). These low-moderate means may urge FoE to do more work on improving these aspects to satisfy the needs of students as they are important in the teaching and learning process.

Table 5. Descriptive Statistic for Educational Aids Dimension

N	Item	Mean	Std. Deviation
1	Presentations and summaries provided with textbooks help me to understand the subject	3.62	0.91
2	Technology used in teaching contribute to communicate the information	3.55	0.83
3	Various type of technologies are used in teaching	3.46	0.96
4	Techniques used in teaching are in line with Syllabus	3.38	0.86
5	Using the electronic technology within teaching the syllabus assist in enriching lectures	3.27	1.10
6	The collage provides practical aspects that assist in understanding the syllabus	3.03	1.04
	Educational Aids Dimension	**3.39**	**0.61**

3.1.4. Description Statistics of Library Services Dimension

Table 6 presents ten statements that are related to Library Services. The statements are presented in descending order and according to the calculated means and associated standard deviation. In general, the library services provided in FoE are in line with the objective of quality of services. This dimension has obtained moderate mean of (3.34) with standard deviation of (0.68), which suggests more work is required from FoE.

The results show that some statements have obtained higher means between (3.71) and (3.43). It seems that FoE has supported these areas, which is reflected in higher students' satisfactions. FoE needs to carry on the support to these areas to preserve students' satisfactions. The remaining five statements have attained means between (2.50) and (3.34). The result levels of satisfactions based on students' responses may urge FoE to work on them to improve these aspects to increase the level of satisfaction of its students.

Table 6. Descriptive Statistic for Library Services Dimension

N	Item	Mean	Std. Deviation
1	Working hours are suitable	3.71	1.06
2	Arrangement for borrowing books are smooth and quick	3.70	1.09
3	General environment for the library is adequate (quiet, temperature, light)	3.69	1.01

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N	Item	Mean	Std. Deviation
4	Books, Journals related to specialization are available with right quantities	3.51	1.17
5	Reading areas in the library are sufficient	3.43	1.09
6	Liberian provided outstanding services	3.34	1.10
7	There is electronic library to be utilized	3.28	1.23
8	Database is available to assist in searching for required books	3.17	1.16
9	References are up to date	3.04	1.14
10	Service of photocopying are available in the library	2.50	1.21
	Library Services Dimension	3.34	0.68

3.1.5. Description Statistics of Academic Staff Dimension

Table 7 presents seven statements that are related to academic staff. The statements are presented in descending order and per the calculated means and associated standard deviation. The academic staff provided in the faculty are in line with the objective of quality of services. The academic staff dimension obtains a higher mean of (3.35) and a standard deviation of (0.68) which is high moderate and closer to the rating of high. The academic dimension is important for quality as it is the core item responsible for providing direct services to students on a day-to-day basis.

The results show that two statements have obtained higher means between (3.66) and (3.61). They are: "instructors are using different teaching methods (lecture, presentation and research)" and "Teaching practice in line with the plan in the syllabus description". The remaining five statements attained means between (3.42) and (3.16). These values of means suggest to FoE to do more work on improving these aspects to be reflected in the increase of students' satisfaction.

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Table 7. Descriptive Statistic for Academic Staff Dimension

N	Item	Mean	Std. Deviation
1	Instructors are using different teaching methods (lecture, presentation and research)	3.66	0.91
2	Teaching practice in line with the plan in the syllabus description	3.61	0.96
3	Instructors have long experience in their areas of specialization	3.42	0.98
4	Feedback for assignments and tests are provided on timely manner	3.23	1.01
5	Student are evaluated by instructors with fairness and objectivity	3.18	1.06
6	Students are treated by instructors in a way reflected their needs	3.17	1.12
7	Instructors allocate adequate office hours for their students	3.16	1.03
	Academic Staff Dimension	**3.35**	**0.68**

3.1.6. Descriptive Statistic for Administrators' Dimension

Table 8 presents four statements related to administrators' dimension. The statements are presented in descending order and according to the calculated means and associated standard deviation. The administrators provide services in line with the objective of quality of services. The administrators dimension obtained a mean of (3.12) and standard deviation of (0.79). It reflects moderate mean, but it is reflected lower satisfaction from the other dimensions. The FoE is encouraged to work heavily on this dimension because the human resource has important role in providing quality of services.

The results showed that all the four statements attained means between (3.31) and (2.99). These statements are "students are received by Administrative cadre in a good manner", "brochures on the college system are provided to students", "students counselling is helping me in well-adjusted during my studies", and "I received my academic documents in effective manner" which obtained mean of (3.31), (3.10), (3.09), and (2.99) respectively. These may suggest that FoE needs to work on improving these aspects to increase students' satisfaction because these areas are important to support students during their study time in FoE.

Table 8. Descriptive Statistic for Administrators' Dimension

N	Item	Mean	Std. Deviation
1	Students are received by Administrative cadre in a good manner	3.31	1.12
2	Brochures on the college system are provided to students	3.10	1.09
3	Students counseling is helping me in well-adjusted during my studies	3.09	1.08
4	I received my academic documents in an effective manner	2.99	1.15
	Administrators' Dimension	**3.12**	**0.79**

3.1.7. Descriptive Statistic for Infrastructure Dimension

Table 9 presents eight statements that are related to the infrastructure dimension. The statements are presented in descending order and according to the value of the calculated means and standard deviation. According to the results, the infrastructure services provided in FoE are in line with the objective of quality of services. The infrastructure dimension has obtained the highest mean of (3.43) with a standard deviation of (0.78). This indicates that the UST has a crucial investment in infrastructure which put it in a leadership position in comparison with the other dimensions. It may be due to its tangible services, and are being recognizable better and the requirements are noticeable to be fulfilled.

The results showed that seven statements obtained higher means which represent most of the statements of the dimension. These means are between (3.73) and (3.4). These results suggest FoE has to keep up the good work on them and make development when possible. The remaining statements obtained a moderate mean. The highest moderate is "Equipment is modern" while the lowest modern mean is "general internal environment and the available furniture provide friendly education climate" which obtained mean of (3.16). This suggest to FoE needs to work on improving these items to satisfy the needs of students through enabling instructors and students to utilize modern equipment for effective teaching and learning.

Table 9 Descriptive Statistic for Infrastructure Dimension

N	Item	Mean	Std. Deviation
1	Area of lecture room is adequate for teaching	3.73	1.01
2	Availability of guidance sign that leads to the different location in the collage	3.53	1.15
3	The collage's building is suitable and has comfortable surrounding areas	3.51	1.08
4	Furniture in the lecture room are suitable and sufficient	3.50	1.00
5	Continuous maintenance services for college 's building and furniture	3.40	1.11
6	Equipment's are modern	3.34	1.07
7	Services provided in the college are miscellaneous (Cantina, photocopying, Internet services, computer services)	3.25	1.26

N	Item	Mean	Std. Deviation
8	General internal environment and the available furniture provide friendly education climate	3.16	1.22
	Infrastructure Dimension	**3.43**	**0.78**

3.2 T-Test and ANOVA Results

To answer question no.2, which is "What are the differences in opinions of students on the different dimensions on the basis of gender, area of specialization and level of students?" The T-test and ANOVA have been utilized to get the answer for the research questions.

3.2.1 T-Test for Quality Services

a) T-test for Quality Services per Gender

Table 10 presents the results for T-Test for the difference among male and female on the level of the quality for each dimension. The results of test showed that there are differences among male and female respondents on the level of quality services in regard library services while there is agreement on the remaining dimension of quality services. The difference might in library service because that FoE are not accommodating the special needs for each gender type and being serve in the same manner. The agreement may interpreted that the level of quality of these dimensions of SQ are adequate both type of gender which showing no differences in their opinions.

Table 10. T-Test Results for Level of Quality per Dimension per Gender

group Statistics	Gender	N	Mean	Std. Deviation	t	Sig. (2-tailed)	Decision
Curricula	Male	69.00	3.45	0.63	1.74	0.08	Rejected
	Female	34.00	3.23	0.57			
Education aid	Male	69.00	3.38	0.64	–0.14	0.89	Rejected
	Female	34.00	3.40	0.55			
Library Services	Male	69.00	3.48	0.69	3.12	0.00	Accepted
	Female	34.00	3.05	0.56			
Academic Staff	Male	69.00	3.29	0.68	–1.17	0.25	Rejected
	Female	34.00	3.46	0.68			
Administrators	Male	69.00	3.12	0.83	0.03	0.97	Rejected
	Female	34.00	3.12	0.72			
Infrastructure	Male	69.00	3.32	0.83	–1.94	0.06	Rejected
	Female	34.00	3.64	0.63			
Level of Quality of services	Male	69.00	3.34	0.52	0.25	0.80	Rejected
	Female	34.00	3.31	0.45			

*Level of significance is at ≤ 0.05

b) T-test of Quality Services According to the Level of Students

For the purpose of investigation, the differences among students' points of views in regard to curricula, education aids, library services, academic staff, administrators and infrastructure according to the level of students, T-Test was run on the data and Table 11 portrays the result of testing per each dimension.

The results of the test presented that there are no differences among respondents per the level of student in the program on the level of quality services in regard to curricula, education aids, library services and administrators. This agreement of respondents may result from the feeling that the services in FoE are at acceptable in these areas, while there is difference in the remaining dimensions which reflect disagreement among respondent on them as the SQ as total. On other hand, the differences appear on infrastructure and Academic cadre. It seems those areas needs some attention for FoE because student are not coming to an agreement on them due to the level of SQ is not at their satisfaction.

Table 11. T-Test Results for Level of Quality per Dimension According to the Level of Students

Section	Level	N	Mean	Std. Deviation	t	Sig. (2-tailed)	Decision
Curricula	Three	63.00	3.33	0.69	−0.93	0.32	Rejected
	Four	40.00	3.45	0.48			
Education Aid	Three	63.00	3.32	0.65	−1.41	0.16	Rejected
	Four	40.00	3.49	0.54			
Library Services	Three	63.00	3.28	0.71	−1.02	0.31	Rejected
	Four	40.00	3.42	0.61			
Academic Staff	Three	63.00	3.21	0.72	−2.66	0.01	Accepted
	Four	40.00	3.56	0.55			
Administrators	Three	63.00	3.06	0.73	−0.99	0.32	Rejected
	Four	40.00	3.22	0.89			
Infrastructure	Three	63.00	3.26	0.81	−2.90	0.00	Accepted
	Four	40.00	3.70	0.64			
Level of Quality services	Three	63.00	3.24	0.50	−2.34	0.02	Accepted
	Four	40.00	3.47	0.47			

"*Level of significance is at ≤ 0.05"

3.2.2 ANOVA of Services Quality Services according to the Area of Specialization

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For the purpose of investigation, the difference among students points of views in regard to curricula, education aids, library services, academic staff, administrators and infrastructure according to the Level of Students, One-way Analysis of Variance (ANOVA) was run on the data because the independent variable has more than two levels. There are five area of specialization in the faculty of administrative sciences.

Table 12 presents the results of testing using the ANOVA. The result showed that there are no differences on students' opinion in regard to the level of quality services in curricula and administrators' dimensions because the calculated probabilities are greater than 0.05. However, there is a difference among respondents on library service, academic staff, and infrastructure dimensions. In these dimensions, the calculated probability for each dimension is equal or less than 0.05 level of significance. In addition, there are differences among respondents on the general level of quality services that included all dimensions. The result might interpret that the requirement of different specialization led to these difference on those dimensions and SQ in general.

Table 12. One-Way Analysis of Variance (ANOVA) for Quality Dimension and Area of Specialization

		Sum of Squares	Df	Mean Square	F	Sig.	Decision
Curricula	Between Groups	2.84	4.00	0.71			
	Within Groups	35.65	98.00	0.36	1.95	0.11	Rejected
	Total	38.49	102.00				
Education Aids	Between Groups	4.41	4.00	1.10			
	Within Groups	33.98	98.00	0.35	3.18	0.02	Accepted
	Total	38.39	102.00				
Library Services	Between Groups	4.72	4.00	1.18			
	Within Groups	41.96	98.00	0.43	2.75	0.03	Accepted
	Total	46.68	102.00				
Academic Staff	Between Groups	5.01	4.00	1.25			
	Within Groups	42.15	98.00	0.43	2.91	0.03	Accepted
	Total	47.17	102.00				
Administrators	Between Groups	1.83	4.00	0.46			
	Within Groups	62.41	98.00	0.64	0.72	0.58	Rejected
	Total	64.23	102.00				

		Sum of Squares	Df	Mean Square	F	Sig.	Decision
Infrastructure	Between Groups	6.01	4.00	1.50			
	Within Groups	55.72	98.00	0.57	2.64	0.04	Accepted
	Total	61.74	102.00				
Quality Services	Between Groups	3.00	4.00	0.75			
	Within Groups	22.29	98.00	0.23	3.30	0.01	Accepted
	Total	25.29	102.00				

"*Level of significance is at ≤ 0.05"

3.2.3 Correlation Analysis for Quality Services

For the purpose of investigation, Person Correlation was run on to examine correlation among quality dimensions and overall quality services. The results are shown in table 13. The relationship between each dimension and SQ is described as strong because it is ranged with a correlation coefficient ranging between (0.65) to (0.78) (Zikmund, et al, 2013). Table 13 shows that the detailed results for the correlation factors among the dimensions and with the SQ in FoE. The correlation coefficients for the quality dimensions and the quality of services in the collage at the level of significance of ≤ 0.05 are between (0.65) and (0.78) which is highest coefficients were for academic cader (0.78) and infrastructure (0.74) which can be interpreted that more attention is needed on them because of its higher correlation with SQ.

Table 13. Pearson's Correlation among the Dimensions and Quality Services

Dimension		Curric.	Ed.Aids	Lib. Services	Teach. Cadre	Admin. Cadre	Infrastructure	Quality of Services
Curricula	Pearson Correlation	1.00	0.62	0.41	0.42	0.38	0.31	0.70
	Sig. (2-tailed)	.	0.00	0.00	0.00	0.00	0.00	0.00
	N	103.00	103.00	103.00	103.00	103.00	103.00	103.00
Education Aids	Pearson Correlation	0.62	1.00	0.42	0.53	0.28	0.38	0.72
	Sig. (2-tailed)	0.00	.	0.00	0.00	0.00	0.00	0.00

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Dimension		Curric.	Ed.Aids	Lib. Services	Teach. Cadre	Admin. Cadre	Infrastructure	Quality of Services
	N	103.00	103.00	103.00	103.00	103.00	103.00	103.00
Library Services	Pearson Correlation	0.41	0.42	1.00	0.37	0.31	0.33	0.65
	Sig. (2-tailed)	0.00	0.00	.	0.00	0.00	0.00	0.00
	N	103.00	103.00	103.00	103.00	103.00	103.00	103.00
Academic Staff	Pearson Correlation	0.42	0.53	0.37	1.00	0.50	0.54	0.78
	Sig. (2-tailed)	0.00	0.00	0.00	.	0.00	0.00	0.00
	N	103.00	103.00	103.00	103.00	103.00	103.00	103.00
Administrators	Pearson Correlation	0.38	0.28	0.31	0.50	1.00	0.52	0.72
	Sig. (2-tailed)	0.00	0.00	0.00	0.00	.	0.00	0.00
	N	103.00	103.00	103.00	103.00	103.00	103.00	103.00
Infrastructure	Pearson Correlation	0.31	0.38	0.33	0.54	0.52	1.00	0.74
	Sig. (2-tailed)	0.00	0.00	0.00	0.00	0.00	.	0.00
	N	103.00	103.00	103.00	103.00	103.00	103.00	103.00
Level of Quality of Service	Pearson Correlation	0.70	0.72	0.65	0.78	0.72	0.74	1.00
	Sig. (2-tailed)	0.00	0.00	0.00	0.00	0.00	0.00	.
	N	103.00	103.00	103.00	103.00	103.00	103.00	103.00

"*Level of significance is at ≤ 0.05"

4. Conclusion and Recommendations

The main purpose of this study was to assess the quality services in the FoE at UST. The assessment was based on six dimensions. They are curricula, education aids, library services, academic staff, administrators and infrastructure. Quantitative and test hypotheses approaches were utilized. In conclusion, the study has shown that the students have agreed that there is acceptable level of quality of services at the FoE at UST. The most acceptable quality dimension by students was infrastructure with a mean of (3.43) and standard deviation of (0.78). The students have good experience with other dimensions of qualities. The most needed work is in the dimensions related to administrators. There is a need to work on this item to enable FoE to response to needs of student.

The finding indicates that there is substantial level of SQ in the FoE at UST with a mean of (3.33) and standard deviation of (0.50). Also, the result shown strong relationship between the different dimension and SQ. it ranges with correlation coefficient between (0.65) for curricula to (0.78) for

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academic cadre. For FoE, it is recommended to emphasize the area of strength and work on other areas of moderate and weak performance. Also, UST can use the results of the study to support the faculty to continue in exceling in area of strength and providing required assistant in areas where the faculty preformatting well. It is recommended that conducting further study for each all colleges to enable understanding their specific need to improve SQ. Also, a comparison study for SQ among these colleges will help to utilize for one college to another. Also, it is an advantage for other universities to conduct similar studies as each one can have their environment to excel in SQ.

REFERENCES

Ada, S., Baysal N. and Erkan, S. (2017). An Evaluation of Service Quality in Higher Education: Marmara and Nigde Omer Halisdemir Universities' Department of Education Students. *Universal Journal of Education Research, 5(11), pp. 2056-2056.*

Al-Assry, M. (2015). *The Impact of Perceived Service Quality on Postgraduate Students' Satisfaction: Case Study of University of Science and Technology-Yemen*, (Master Thesis).Open University of Malaysia.

Al-Haddad, S., Abu Taleb, R. and Badran, S. (2018). The Impact of Educational Services Quality on Students Satisfaction: An Empirical Study at the Business Schools in Jordan. *International Journal of Business Excellence,14 (3), pp. 393-413.* DOI:10.1504/IJBEX.2018.10010423.

Al-Naser, N. B. (2020). The effect of applying quality assurance and accreditation standard in developing the performance of Saudi Universities. *The Journal of Educational and Psychological Sciences, 1(6), pp. 31-59.*

Ebrahim, E.A. (2016). Assessment of Information Communication Technology (ICT) Usage in Sciences Education At Debre Tabor University, Ethiopia. *Journal of Multidisciplinary Engineering Science Studies (JMESS), 2 (4), pp. 413-416.*

Alsharjabi, A.M., Daraan, K.A. and Alsaroril, H. (2017). The Quality of Educational Services Provided by the Arab Academy-Faculty of Finance and Banking from Graduate Students' Perspective Sana'a. *The Arab Journal for Quality Assurance in Higher Education, 10 (31).*

Alsharjabi, A.M., Alsharjabi, S.A. and Alsaroril, H. (2020). Assessment of Quality Level in the Faculty of Administrative Sciences at University OF Science and Technology (UST) in Yemen. *Alandalus Journal for Humanities and Social Sciences, 7 (30).*

Besterfield, D. H., Besterfield-Michina, C., Besterfield, H. B. and Besterfield-SACRE, M. (2007). Total Quality Management, 3rd Edition. New Delhi: Prentice' Hall of India Private Limited.

Deoskar, A. A. (2009). A Study of Mobile Services from Customer's Perspective (Doctoral thesis). University of Pune. Retrieved from: http://shodhganga.inflibnet.ac.in/bitstream/10603/1997/6/06_abstract.pdf

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Glass, V. and Hopkins, K. (1996). *Statistical Methods in Education and Psychology*. 3rd edition. Person. USA.

Goetsch,, D. L. and Davis, S. B. (2013). *Quality Management*. 8th edition. New Jersey: Person Education Inc.

Gryna, F. M., Chua, R. C., and DeFeo, J. A. (2016). Juran's Quality Planning and Analysis. 7th edition. Boston: Mc Graw Hill.

Hassan, A. S. & Bakkar, B.S (2019). The extent to which academic accreditation standard implemented in College of Education in Sultan Qaboos University as perceived by faculty members and postgraduate students. *Association of Arab Universities Journal Psychology,17(2), pp.121-144*.

Kotler, P. & Keller, K. (2015). *Framework for Marketing Management*. 6th Edition. England: Person Education Inc.

Manning-Chapman, Maria (2017, December 14). What is the education Services. What is the education services in Tech. https://www.tsia.com/blog/what-is-education-services

Merriam Webster Dictionary (2021). *Infrastructure*. Retrieved July 8, 2021 from **https://www.merriam-webster.com/dictionary/infrastructure**

UST (2021). University of Science & Technology website. *Organization Structure.* Retrieved July 2021 from **https://www.ust.edu/usty/about-us/organizational-structure**

Webometric (2021). Ranking Web of Universities. Retrieved July 30, 2021 from http://www.webometrics.info/en/search/Rankings/Yemen

Darem, F. (2014). *The Unregulated Boom of Private University*. Retrieved August 4, 2021 from **http://www.al-fanarmedia.org/2014/01/yemens-fast-growing-private-universities-stir-debate/**

Papanthymou, A. and Darra, M. (2018). Assessment of the Quality of Electronic Administrative Services in Greek Higher Education Institution: A Case Study. *International Journal of Higher Education, 7(2).*

Proomprow, A. (2003). *Customer Satisfaction with Internet Banking of Sims* (Doctoral Thesis). Srinakharinwirot University, Bangkok.

UNESCO (1996). Learning: The Treasure Within (Report of the International Commission on Education to UNESCO for the Twenty First Century), Paris: UNESCO.

Zikmund, WG., Babin, B. Carr, JC. and Griffen, M. (2013) Business Research Methods. 9th edition. Nelson Education, Ltd. Canada.

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