# A Study on Measuring Service Quality and Student Satisfaction in Higher Learning Institutions Empirical Evidence from Arab Open University/Jordan Branch

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 **Abstract:** *The aim of this study was to apply SERVQUAL model in the Jordan branch of Arab Open University in order to describe how students perceive service quality and whether they are satisfied with services offered, and to explore the effect of demographic factors on students' satisfaction. A structured questionnaire was developed and distributed to all university students, and the respondents is quoted around 62% of popualtion. The results of this study indicated that there was a positive and significant impact of the factors of empathy, assurance, responsiveness, reliability, curriculum on student satisfaction. In term of demographic factors, the result showed that there was a positive and significant impact for some demographic factors (age, academic program, GPA) on student satisfaction.*

## 1. Introduction

Due to globalization and fast ongoing technological changes create new facets and arena of competition; markets are becoming more and more sophisticated and unpredictable. This accelerating competition made companies increase their interests in quality, and competition-related issues that have not been taken into account in the past [1]. Currently, the notion of quality regarded as one of the most important concepts in educational institutions throughout the world. Realization of these institutions to the importance of quality leads to improve and develop their performances, which is critical to successful coping with external and internal challenges.

In Jordan, about 5% of the Jordanians enrolled as students in 25 private and public universities. Lately, the World Bank reported and remarked that the higher education systems of Jordan is comparatively more successful in providing equitable access to, and high quality of education to its students than a number of countries in the region [10]. The number of universities in Jordan is growing and the various universities are ever rivalling to attract more students.

The quality of service has been illustrated in many industries, and emerged from the importance of modern educational theory implementation, which supports learner participation in educational settings [6]. The values added to the services consider as an important step toward competitive excellence for service-oriented organizations, since overlooking these

features of quality will locate these organizations at a competitive disadvantage relative to counterparts.

The main objective of this study is to identify the relation between service quality and student's satisfaction in Arab Open University (AOU)-Jordan. Numerous factors related to service quality will be analysed and discussed; these are empathy, responsiveness, reliability, assurance, tangible, informatics, Finance Assistance and Curriculum. The second objective of this study is to examine the effect of demographic factors on students' satisfaction; these factors are age, gender, academic programs, study level and GPA.

## 2. About the Arab Open University

The aim of Arab Open University (AOU) is to make education available for all. AOU until now has eight branches in different Arab countries: Jordan, Lebanon, Kingdom of Saudi Arabia (KSA), Bahrain, Oman, Sudan, Egypt and the Headquarters in Kuwait. And recently an agreement was signed to open ninth branch in Palestine.

AOU enjoys is its ability to offer high quality learning at reasonable fees compared to its competitors in Jordan. Moreover, the blended learning concept is becoming more accepted because the increased need for education and rapidly changing in environment. AOU is consider as a non-profit organization in the education field that is funded and supported by the Arab Gulf Program for Development (AGFUND). It

adopts a pattern of integrating traditional education with distance remote learning, supported with modern technical tools to facilitate the transfer and delivery the information to students in the university. Since its founding in 2002, AOU has provided blended higher learning programs in partnership with the Open University in the United Kingdom. It provides various undergraduate and graduate programs that accommodate the needs and requests of its target segment.

# 3. Litrrature Review

## 3.1. Students Satisfaction

Wiers et al, (2002) defined students' satisfaction as student's assessments of the services provided by colleges and universities. Student satisfaction is a continually changing construct in the Higher Education environment due to repeated interactions [11]. It is a dynamic process that requires clear and effective action as a result of an institution listening to its students. Also, student satisfaction is a complex construct influenced by a variety of characteristics of students and institutions [26].

The previous literatures show that satisfaction considered as an important concept in consumer behavior due to its connectedness to customer evaluations and expectations of a product or a service quality. Customers' satisfaction, which is based on a positive perceived quality and expectations of such product or service, plays a significant role in measuring market sentiment, where the increase in satisfaction among consumers would increase profit and market performance and return on investment, customer retention and loyalty [3, 24].

The design of service settings may have a powerful effect on customer feelings and perceptions. Simply showing courtesy and a sincere interest toward a customer will gain their satisfaction [26].

When service quality increases, the satisfaction with the service and intentions to reuse the service is also increased. DeLone and McLean (1992) outline user satisfaction as the most appropriate dimension to measure the success of the support organization, and Galletta and Lederer (1989) explain the importance of selecting user satisfaction as the independent variable for system success.

## 3.2. Service Quality

Service quality defined as the better and standardized output delivered by a service [9]. According to Zammuto et al, (1996), service quality defined as the ones' justification about the excellence of service. The service quality in the educational sector is the main aspect of educational excellence. Alridge and Rowley (2001) argue that when students perceive the

institution's quality and the appropriate facilities of learning, their interest in their organization will be increase.

Over the past few decades, the services sector is increasingly becoming a key contributor to national economies, particularly in industrialized regions [16]. The ever-growing competition necessitates upgrading quality of the service offered by this sector. Accordingly, it recognized as a substantial strategic value for organizations, both in the services and the manufacturing sectors [19]. As will, service quality regarded as crucial determinant of competitiveness [18]. Cultural and social factors, technological advances, and growing competition are the principal drivers of service quality initiatives beyond the 1990s [21]. It is now well recognized that high service quality brings about high customer's satisfaction, and vice versa [2].

In recent decades, many models have been developed for measuring service quality and the first attempt was by Grönroos (1984); He believes in distinguish between technical quality as an outcome for performance of service and functional quality as a subjective perception of service delivered. Rust and Oliver (1994) expand Grönroos model by adding service environment as a new dimension.

Parasuraman et al, (1985) suggested the most used and famous model named SERVQUAL. At first, they suggest ten dimensions for service quality but later in 1988, they reduce to five dimensions for service quality model (empathy, assurance, responsiveness, reliability, tangibility). The SERVQUAL model is based on difference between perception and expectation of quality of service through five dimensions. Some researchers believe measuring the gap between expectation and perception, psychometrically cannot obtain superior assessment of service quality.

## 3.3. Prior Studies

A variety of studies have discussed quality of services and its relationship with students' satisfaction. However, there are very limited studies on Jordan related to this topic.

Al Khatab and Fraij (2011) conducted a study on Al-Hussein Bin Talal University in Jordan. The objective of this study was to determine the relationship between students' satisfaction and quality of e-services for a sample of 260 students. The study found that there was a significant positive relationship between student's satisfaction and quality of the services offered to the students in this university. In addition, the study concluded that the university should focus on the role of service quality in increasing overall student satisfaction.

Zoubi (2011) conducted a study in the mobile companies in Jordan (Zain, Orange, Umniah) to

measure university students' perceptions and expectations of the quality of services provided by the mobile companies in Jordan. The study found that there was a significant positive relationship between student's satisfaction and quality of the services offered to students from mobile companies. Also, University students were positive in their perceptions and expectations of mobile services, and no significant differences in perceptions and expectations of services quality between students were found in terms of demographic variables, except in age which was found to be a significant factor in the variations of perceptions.

Nasseef (2014) conducted a study in Abdul-Aziz university- Jeddah to examine the impact of quality of service on the satisfaction level of students. It considers six dimensions of service (assurance, empathy, reliability, tangibility, responsiveness and informatics) with a sample of 166 students. The study found that there is a significant positive relation between student's satisfaction and quality of the services offered to the students.

Ilias et al, (2008) conducted a study on Private Higher Education institutions in Malaysia to determine the relationship between service quality dimensions and student's satisfaction on a sample of 200 students from two private higher education institutions. The results showed that the service quality had significant positive relationship with student satisfaction, and two dimensions in service quality (empathy and assurance) were the most critical factor in explaining students' satisfaction.

Khodayari (2000) conducted a study in Islamic Azad University to determine the relationship between service quality dimensions and student's satisfaction on a sample of 384 students. The results indicated that there was a gap between students' expectations and perceptions and the dimensions of SERVQUAL model (empathy, assurance, responsiveness, tangibility, and reliability) and proved that the all dimensions are important to students.

Khan et al, (2011) conducted a study in Hailey College of Commerce University in Pakistan, he discussed the impact of quality of service on the satisfaction level of students and willingness to put more efforts. Five dimensions of service quality (SERVQUAL model) were considered given by Parasuraman et al, (1988) on a sample of 600 students. The results indicated that service quality had a significant impact on the satisfaction of students, which infers that if educational institutions wanted to satisfy their students, better provision of services would be a good tool to do so. However, physical appearance was the dimension that was not associated with the students' satisfaction. Farahmandia et al, (2013) conducted a study on University Technology in Malaysia to investigate the levels of student satisfaction and the relationship between student satisfaction and the quality of service on a sample 225 postgraduate students. The results showed that almost the majority of students were satisfied with the quality of services offered at this university. In addition, the results indicated that, the factors of facilities, advisory services, curriculum, and financial assistance and tuition costs had positive and significant impact on student satisfaction.

## 3.4. Study Contribution

The results of this study could guide management dealing with activities to take corrective actions that lead to growth in the university. Also, this study has several advantages and different from other studies in:

- Adding new dimension (informatics, finance assistance and curriculum) to measure the service quality, which make servqual model more customized to study subject.
- The population of the study was all students of Jordan's campus of the AOU and number of participants had responded greater than all previous studies, it quoted around 62% of population. An invitation was sent to all students on Web site (LMS), which made it easier for students to fill in the questionnaire at any time and any place.
- This study attempted to examine the differences of selected demographic factors (Age, gender, Academic program, study level and GPA ). Previously, a few number of research done to test demographic factors that contribute towards satisfaction and service quality.

## 4. Methodology

### 4.1. Sample and Data

The population of the current study was all students of Jordan's campus of the AOU. The survey instrument was distributed through a secure Web site (LMS) and invitation was sent to all students in AOU. More than 1700 participants had responded, which quoted around 62% of population.

### 4.2. Study Model

The study model (Figure 1) explains the underlying process, which applied to guide this study. The study presumed that there was an impact of service quality dimensions on student's satisfaction, and the demographic factors could make difference on student satisfaction.
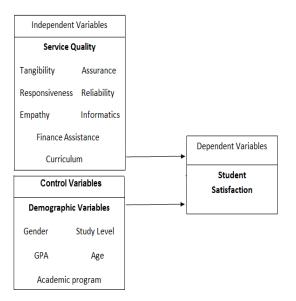
Figure 1. Study model.

From the above model, two equations are established as follows

$$SS = b0 + b1TAN + b2RELI + b3RESP + b4ASSUR + b5EMP + b6INFO + b7FIN + b8CUR + e \quad (1)$$

$$SS = b0 + b1TAN + b2RELI + b3RESP + b4ASSUR + b5EMP + b6INFO + b7FIN + b8CUR + b9GEN + b10AGE + b11AP + b12GPA + b13SL + e \quad (2)$$

Where,
SS: The dependent variable (Student Satisfaction),
TAN: Tangibility,
RELI: Reliability,
RESP: Responsiveness,
ASSUR: Assurance,
EMP: Empathy,
NFO: Informatics,
FIN: Finance Assistance,
CUR: Curriculum,
GEN: Gender,
AGE: Age,
AP: Academic program,
GPA: student's grade point average,
SL: Student level,
e: error

## 4.3. Study Variables

The study varibles (service quality dimentions, student satisfaction, and demographic variables) measured by a survey instrument that was distributed through a secure Web site, the customized SERVQUAL model of Parasuraman et al, (1988) is used (the survay is available upon request).

The following main variables hypothetically that have been postulated a significant effect on student satisfaction:

- Tangibles (TAN), representing the appearance of physical facilities, equipment, staff appearance, and communication materials that used to provide the service.
- Reliability (REL), the ability to perform the promised service dependably and accurately, means that the organization delivers on its promises regarding delivery, service provision, and problem resolution (i.e. a firm performs the service right the first time).
- Responsiveness (RESP), the willingness or readiness of employees to help customers and to provide prompt service. This dimension emphasises attentiveness and promptness in dealing with customer requests, questions, complaints, and problems.
- Assurance (ASSUR), the employees' knowledge, courtesy, and the ability of the firm and its employees to inspire trust and confidence. The university seeks to build trust and loyalty between its employees and individual students.
- Empathy (EMP), the caring and individualized attention that the firm provides to its customers. The customers need to feel understood by, and important to, firms that provide service for them.
- Informatics (INFO), this Service related to technological aspects such as university website and tools provide to efficient interaction between students and tutors.
- Financial Assistance (FIN), the accessibility of financial assistance such as scholarships, loans, and tuition costs.
- Curriculum (CUR), the curriculum considered as the academic program given to students, the extent of coverage of the curriculum, and the basic objectives of the courses.

## 4.4. Study Hypotheses

According to the study model and relationship between variables there were two types of hypothesis; the first between service quality dimensions and student satisfaction, and the second between demographic variables and student satisfaction. Accordingly, there were two main hypotheses as follows:

**H01:** There is no significant impact for service quality on students' satisfaction.

This hypothesis divides into the following eight sub hypotheses:

- H01-1: There is no significant impact for Tangibility on students' satisfaction.
- H01-2: There is no significant impact for Reliability on students' satisfaction.
- H01-3: There is no significant impact for Responsiveness on students' satisfaction.
- H01-4: There is no significant impact for assurance on students' satisfaction.

- H01-5: There is no significant impact for Empathy on students' satisfaction.
- H01-6: There is no significant impact for Informatics on students' satisfaction.
- H01-7: There is no significant impact for Finance Assistance on students' satisfaction.
- H01-8: There is no significant impact for Curriculum on students' satisfaction.

**H02:** There is no significant difference between the demographic and students' satisfaction.

This hypothesis divided into the following five-sub hypothesis:

- H02-1: There is no significant difference between the age and students' satisfaction.
- H02-2: There is no significant difference between the GPA and students' satisfaction.
- H02-3: There is no significant difference between the study level and students' satisfaction.
- H02-4: There is no significant difference between the academic program and students' satisfaction.

- H02-5: There is no significant difference between the gender and students' satisfaction.

## 5. Study Resuts

### 5.1. Descriptive Result

Tabel (1) shows the descriptive results of service quality dimentions and student satisfaction variable. The results indicates that perceptions of the majority of respondents agree to some extent on the availability of these services at the university. The arithmetic mean of all the dimentions are close to each other (3.21 – 3.43) and are all above average with standard deviation withen range (.95 - 1.05). Similare results are found for all dimentions of Service Quality compined together and student satisfaction variables.

This study used Spearman's test to determine the correlation relationship between the variables. This type of correlation used when independent variables is interval data and independent variable is ordinal data. The correlation matrix between dependent variable and independent variables presented in Table (2).

Table 1. Descriptive statistics of students' perception of service quality dimentions and student satisfaction provided by the university.

| Descriptive Statistics | | | | | | Skewness | | Kurtosis | |
|---|---|---|---|---|---|---|---|---|---|
| Dimension | N | Min | Max | Mean | Std. Dev. | Statistic | Std. Error | Statistic | Std. Error |
| Tangibility | 1715 | 1 | 5 | 3.43 | 0.95 | -0.83 | 0.059 | 0.479 | 0.118 |
| Reliability | 1715 | 1 | 5 | 3.36 | 0.98 | -0.73 | 0.059 | 0.237 | 0.118 |
| Responsiveness | 1715 | 1 | 5 | 3.42 | 1 | -0.8 | 0.059 | 0.282 | 0.118 |
| Assurance | 1715 | 1 | 5 | 3.39 | 1.01 | -0.76 | 0.059 | 0.148 | 0.118 |
| Empathy | 1715 | 1 | 5 | 3.21 | 1.05 | -0.52 | 0.059 | -0.339 | 0.118 |
| Informatics | 1715 | 1 | 5 | 3.43 | 0.95 | -0.85 | 0.059 | 0.53 | 0.118 |
| Finance Assistance | 1715 | 1 | 5 | 3.28 | 1 | -0.66 | 0.059 | 0.01 | 0.118 |
| Curriculum | 1715 | 1 | 5 | 3.32 | 1.02 | -0.67 | 0.059 | -0.059 | 0.118 |
| All Dimensions | 1715 | 1 | 5 | 3.36 | 0.897 | -0.85 | 0.059 | 0.786 | 0.118 |
| Student Satisfaction | 1715 | 1 | 5 | 3.57 | 1.1 | -0.79 | 0.059 | 0.04 | 0.118 |

Table 2. Spearman's rho Correlations matrix between service quality dimensions and student satisfaction.

| | All SQ | TAN | RELI | RESP | ASSUR | EMP | INFO | FIN | CUR | SS |
|---|---|---|---|---|---|---|---|---|---|---|
| All SQ | 1 | .875** | .895** | .860** | .877** | .862** | .875** | .831** | .865** | .675** |
| TAN | | 1 | .791** | .744** | .758** | .702** | .754** | .668** | .705** | .572** |
| RELI | | | 1 | .802** | .797** | .759** | .741** | .720** | .719** | .600** |
| RESP | | | | 1 | .849** | .694** | .730** | .683** | .696** | .556** |
| ASSUR | | | | | 1 | .739** | .737** | .690** | .709** | .593** |
| EMP | | | | | | 1 | .720** | .731** | .746** | .617** |
| INFO | | | | | | | 1 | .722** | .763** | .579** |
| FIN | | | | | | | | 1 | .763** | .560** |
| CUR | | | | | | | | | 1 | .629** |
| SS | | | | | | | | | | 1 |
| **. Correlation is significant at the 0.01 level (2-tailed). | | | | | | | | | | |

It can be seen from Table (2) that the correlation between some servqual dimensions is high (e.g. Assurance and Responsiveness), the reasons for this can be summarized as follow:

Type of data is interval (Likert scale ranged between 1 to 5), which means that the answers observations will be close to each other and no high range of variation.

The results of descriptive analysis showed that the average score of all dimensions are very close (between 3.21 to 3.43) which indicate that students answers generally is similar.

Because of high correlation between same variable and to be sure that multiple regression results will not be affected, VIF and tolerance statistical indicators will be examine to test multicollinearity problem. Also, different iteration of multiple regression will be applyed to examine if the results will be effected by adding or removing dimensions that have high correlate.

Also it can be seen from the results in Table (2) that the values of correlation coefficients between dimensions of the quality of services and student satisfaction variable ranged between (0.675 -0.895) and there are a positive and significant relationship between service quality dimensions and student satisfaction. These results provide first indication that there were a significant and positive relationship at 1% between student satisfaction and all service quality dimensions.

## 5.2. Testing the Hypotheses

Multiple regression analysis used to determine the effect of Service quality on Students satisfaction. This test will be used to test the first main and sub hypotheses.

The multiple regression results presented in Table (3), from this table the calculated (R square) showed that the independent variables can interpret 47.2% of the dependant variable. This table determines that the model is accepted as (F) is greater than 2 (192.4) and Durbin-Watson index (D-W) was 2.07, which falls within the range of 0 to 4, meaning that there is no autocorrelation problem. This table also checked for multicollinearity in our multiple linear regression models. Tolerance should be > 0.1 (or VIF < 10) for all variables, which, means it is within the accepted range. The casewise diagnostics is 15 observations, it is less than 5% of sample size (1715 X 5% = 86 observation). To test linearity assumption of using multiple regression analysis, Table (1) shows skewness (should be ranged 1 to -1) and kurtosis (should be ranged 3 to -3) [14] All these measure within accepted range.

Table 3. Multiple Regression Analysis results.

| | Beta | T | Sig. | Collinearity Statistics | |
| --- | --- | --- | --- | --- | --- |
| | | | | Tolerance | VIF |
| (Constant) | | 12.161 | 0 | | |
| Tangibility | 0.016 | 0.445 | 0.656 | 0.225 | 4.448 |
| Reliability | 0.103 | 2.431 | 0.015 | 0.172 | 5.798 |
| Responsiveness | -0.116 | -2.736 | 0.006 | 0.172 | 5.801 |
| Assurance | 0.212 | 4.853 | 0 | 0.161 | 6.192 |
| Empathy | 0.256 | 7.497 | 0 | 0.265 | 3.772 |
| Informatics | -0.011 | -0.301 | 0.764 | 0.211 | 4.746 |
| Finance Assistance | 0.037 | 1.082 | 0.28 | 0.26 | 3.849 |
| Curriculum | 0.248 | 6.999 | 0 | 0.246 | 4.069 |
| R$^2$ | 0.472 | | | | |
| F statistical | 192.4 | | | | |
| Model Sig. | 0 | | | | |
| D-W | 2.07 | | | | |
| Casewise Diagnostics | 15 observations | | | | |

It should be mentioned that multiple regression test are applied in different iteration to be sure that correlation in some dimensions (e.g. assurance and responsiveness) is not affecting the results also the results of VIF and tolerance indicators reassure this result and indicate that no multicollinearity between independent variables.

To test the first and second sub-hypotheses (Age and GPA) in the second main hypothesis, kendal tau or/and spearman rhu correlation tests is used because the independent variable is interval data and the dependent variable is ordinal data. Table (4) shows that Sig has a value less than 0.05, which present strong significant relationship between student satisfaction and Student age (H02-1).

Table 4. Results of kendal tau and spearman rhu correlation tests of Age and student satisfaction.

| Correlations | | | | |
| --- | --- | --- | --- | --- |
| | | | Student Satisfaction | Age |
| Kendall's tau_b | Student Satisfaction | Correlation Coefficient | 1 | .112$^{**}$ |
| | | Sig. (2-tailed) | | 0 |
| | Age | Correlation Coefficient | | 1 |
| | | Sig. (2-tailed) | | |
| Spearman's rho | Student Satisfaction | Correlation Coefficient | 1 | .156$^{**}$ |
| | | Sig. (2-tailed) | | 0 |
| | Age | Correlation Coefficient | | 1 |
| | | Sig. (2-tailed) | | |
| **. Correlation is significant at the 0.01 level (2-tailed). | | | | |

Table (5) shows that Sig value less than 0.05, which imply strong significant relationship between student satisfaction and Student GPA (H02-2).

Table 5. Results of kendal tau and spearman rhu correlation tests of GPA and student satisfaction.

| Correlations | | | Student Satisfaction | GPA |
|---|---|---|---|---|
| Kendall's tau_b | Student Satisfaction | Correlation Coefficient | 1 | .095** |
| | | Sig. (2-tailed) | | 0 |
| | GPA | Correlation Coefficient | | 1 |
| | | Sig. (2-tailed) | | |
| Spearman's rho | Student Satisfaction | Correlation Coefficient | 1 | .134** |
| | | Sig. (2-tailed) | | 0 |
| | GPA | Correlation Coefficient | | 1 |
| | | Sig. (2-tailed) | | |

To test the third and fourth sub-hypothesis (student level and academic program), Kruskal-Wallis test is used; this test is suitable when dependent variable ordinal and independent variable is categorical data and more than two groups.

The result of student level presented in table (6). Since P value (Asymp. Sig.) More than 5%; Kruskal-Wallis test implied that no significant difference between different student levels, or because the Sig. value is 9% the statistical significant difference is weak (H03-3).

Table 6. Kruskal-Wallis test correlation tests.

| Ranks | | N | Mean Rank |
|---|---|---|---|
| Level in year | | | |
| Student Satisfaction | First Year | 603 | 893.87 |
| | Second Year | 411 | 853.28 |
| | Third Year | 324 | 811.34 |
| | Fourth Year | 377 | 845.88 |
| | Total | 1715 | |
| **Test Statistics** | | | |
| Chi-Square | 6.493 | | |
| Df | 3 | | |
| Asymp. Sig. | 0.09 | | |

The result of academic program (H02-4) presented in Table (7), Kruskal-Wallis test showed that there is a statistically significant difference in Academic program between the different programs in the universities (the Asymp. Sig. is less than 5%,). In addition, the results shows that education program students are more satisfied (Mean rank=909.08) while

IT program students are the least satisfied students (Mean rank= 775.22).

Table 7. Kruskal-Wallis test correlation tests.

| Ranks | | N | Mean Rank |
|---|---|---|---|
| Academic program | | | |
| Student Satisfaction | English | 294 | 823.53 |
| | Business | 408 | 879.43 |
| | IT | 234 | 775.22 |
| | Education | 627 | 909.08 |
| | Accounting | 152 | 783.89 |
| | Total | 1715 | |
| **Test Statistics** | | | |
| Chi-Square | 19.372 | | |
| Df | 4 | | |
| Asymp. Sig. | 0.001 | | |

To test the fifth sub-hypothesis (H02-5), Mann-Whitney test used, this test is suitable when the dependent variable is ordinal and independent variable is classified into two groups.

According to Table (8), Z statistics are not significant (P value greater than 5%); Mann-Whitney test showed that there is no difference between Male and Female in the mean ranking of student satisfaction.

Table 8. Mann-Whitney test.

| Ranks | | N | Mean Rank | Sum of Ranks |
|---|---|---|---|---|
| Gender | | | | |
| Student Satisfaction | Female | 1090 | 849.84 | 926324.5 |
| | Male | 625 | 872.23 | 545145.5 |
| | Total | 1715 | | |
| **Test Statistics** | | | | |
| Mann-Whitney U | 331729.5 | | | |
| Wilcoxon W | 926324.5 | | | |
| Z | -0.915 | | | |
| Asymp. Sig. (2-tailed) | 0.36 | | | |

The summary of all hypnosis's results presented in Table (9), the next section will discuss these results.

Table 9. Summary of hypothesis testing.

| Hypothesis | Sig. Value | Accept / Reject |
|---|---|---|
| H01-1: There is no significant impact for Tangibility on students' satisfaction | 0.656 | Accept |
| H01-2: There is no significant impact for Reliability on students' satisfaction | 0.015 | Reject |
| H01-3: There is no significant impact for Responsiveness on students' satisfaction | 0.006 | Reject |
| H01-4: There is no significant impact for Assurance on students' satisfaction | 0 | Reject |
| H01-5: There is no significant impact for Empathy on students' satisfaction | 0 | Reject |
| H01-6: There is no significant impact for Informatics on students' satisfaction | 0.764 | Accept |
| H01-7: There is no significant impact for Finance Assistance on students' satisfaction | 0.28 | Accept |
| H01-8: There is no significant impact for Curriculum on students' satisfaction | 0 | Reject |
| H02-1: There is no significant difference between the age and students' satisfaction | 0 | Reject |
| H02-2: There is no significant difference between the GPA and students' satisfaction | 0 | Reject |
| H03-3: There is no significant difference between the level and students' satisfaction | 0.09 | Accept |
| H02-4: There is no significant difference between the academic program and students' satisfaction. | 0.001 | Reject |
| H02-5: There is no significant difference between the gender and students' satisfaction. | 0.36 | Accept |

## 6. Discussion

The aim of this study was to investigate the impact of the factors of perceived service quality on student satisfaction, and to examine the relationship between student satisfaction with demographics factors. Based on the findings of mean analysis, almost the majority of students are satisfied with service quality being offered (mean score= 3.37).

The correlation findings of this study showed that there were positive and significant correlation between all factors of service quality and student satisfaction. While the regression analysis shows that all these factors except tangibility, informatics and finance assistance have positive and significant impact on satisfaction of students. Also the output of this study shows that, all demographic factors except gender have significant impact on student satisfaction.

The outcomes of this study showed that tangibility factor have no significant impact on student satisfaction. This result agrees with some literature as Khan (2011), and contrarys with the most results in

literature (e. g. Husain, 2009; Ilias, 2008; Al Khatab, 2011). The reasons for these differences might be as a result of differnt factors such as: the country and the company culture in which the study occurred, the selected population, and/or the samples, since each population has its own characteristics. In addtion AOU based on blended learning system in which most of the students come to the university campus times less than other university. Thus most of the students did not care about the tangible services such as buildings and appearances.

Also, the results of informatics and finance assistance factors contradicts with other studies(e.g.,Gamage and Suwanabroma, 2008; Tessema and Ready, 2012; Letcher and Neves, 2010; Elliott and Healy, 2001; Helgesen and Nesset, 2007) that expressed significant impact of informatics and finance assistance on student satisfaction. The reasons for these differences may as a result of information technology has become cheaper and available for all, and a lot of students become look at informatic as basic service and should be avaliable. In addition most of students have smart phones and can access to web sites easily. While The reasons of differences in finance assistance service, because AOU is a non-profit organisation and the cost of study is low compared with the other universities in the area.

The findings of this study provided support for many previous literaure (e.g., Gamage, Suwanabroma et al., 2008; Tessema and Ready, 2012; Letcher and Neves, 2010; Elliott and Healy, 2001; Helgesen and Nesset, 2007) that express similar findings about curriculum factor and its impact on student satisfaction. Also this study agreed with Husain (2009) , Ilias (2008) and Al Khatab(2011) that factors of empathy, assurance, responsiveness and reliability had significant impact on student satisfaction. These results comply with the fact that most of students in the university are worker students and the flexibility in times of lectures and reducing number of attendece to the university is very important for them, which make receiving sufficient and confidence information from university staff as an important issue

The gender factor has no significant impact on student satisfaction in this study. Even though it found that male had a higher satisfaction compared to female, but the result was not significant. This result was consistent with the finding from Corts et al. (2000), Rosenthal et al. (2000) and Carey et al. (2002), which found no significant difference, based on gender toward satisfaction. But it is rejecting findings of Renzi et al. (1993) and Umbach and Porter (2002), which stated that male had higher satisfactions than female. The outcomes of this study also showed that Age factor had significant impact on student satisfaction. This result is contrary with the finding of Carey, et al. (2002) who found that no any significant relationship between age and satisfaction. Such result was linked

with the fact that most of AOU students are mature, their age range between 18 and 59 with average 30 years, so this age would be reflect more tolerant, patience and understandability.

The GPA factor result shows significant impact on student satisfaction, that is mean the satisfaction increased by increasing GPA. This result was consistent with Grayson (2004). Such result was linked with the fact that student has high GPA mostly more satisfied than students has low GPA.

The Academic program factor has significant impact on student satisfaction, since the education program students was more satisfied than other students, this result may justified because education program is more affordable and the curriculum in this program in arabic language and not follow Open University in the United Kingdom as the rest of programs. While study level factor had no significant impact on student satisfaction, this result was consistent to the result in literature by Alaa Al-deen and nasar (2008). Such results give implication that student perception and expectation toward their university not changed during study period.

## 7. Conclusion

Based on the study outcomes, increasing the quality of servieces can result increasing in the levels of student satisfaction. Therefore, to increase students' satisfaction, it is important for operators of higher education to increase the quality of services being offered to their students.

The outcomes of the present research will assist the management of universities in Jordan to be able to find out the weak points and strong points of their institution in providing quality services to their students and apply improvements wherever it is necessary in order to increase the students' satisfaction. In addition, it is very important to measure service quality continuously, since service quality and student satisfaction are important factors in student retention and reducing student dropout.

This study provided a good understanding of the variables that appear to be the most influential in structuring student perceptions service quality in AOU/ jordan. It is hoped that this study will provide policy makers with greater insight concerning potential benefits of service quality strategies in AOU.

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