

Student Satisfaction with Polytechnic Service Quality: Dimensions Gaps and Antecedents

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Abstract: The purpose of the study was to evaluate the service quality of selected Premier Polytechnic. The statistical population consists of final semester students of premier polytechnic and 222 students were chosen. Self-administered questionnaire was used in this study to collect the related data to establish the relationship between service quality and students satisfaction. The data were collected using the SERVQUAL standardized questionnaire. Data analysis was done using paired samples t-test and Structural Equation Modeling. Data were analyzed using SPSS ver 21 and AMOS 21. The findings of the study showed a significant difference between the students' expectations and perceptions in all five dimensions of service quality and in all dimensions, students' expectations had a higher level than the perceptions. Moreover, the finding also showed that three variables namely tangibility, assurance and empathy contributed significantly toward students' satisfaction. Thus, this finding can be useful to policy makers to improve and create key facilities to satisfy the students in polytechnic.

Key words: dimension gap, antecedent

1. Introduction

Entering to current century, the higher education system of Malaysia is facing with increasing number of challenges with the opening of a number of private universities and colleges. Education is a significant institution given the shift to a knowledge economy. Competition is reckoned to be a driving force for globalization therefore the higher education institutions especially Technical Vocational Education and Training (TVET) must compete with each other to attract higher numbers of students seeking to study in higher educational level (Arambewela & Hall, 2006; Mohd Zuhdi, Mohd Nizam & Ruhizan, 2012; How Meng Git & Shaharin, 2012). The quality of higher education is a crucial factor for the development of a country, because higher institution are the places where professional people are trained (Taraneh Enayati, Yasaman Modanloo, Reza Behnamfar & Abbas Rezaei, 2013; Amran Rasli, Ahmadreza Shekarchizadeh & Muhammad Jawad Iqbal, 2012). While there is competition in outcomes such as research and innovation, higher education are also expected to deliver high service quality (Yousapronpaiboon, 2013). Hence, the study of the service quality in higher education can provide an important contribution and inputs which will be useful for all parties in higher education sector to continue improving the quality of education (Al-Alak & Alnaser, 2012).

The polytechnic as a leading TVET provider must bring about changes in order to optimize the efficiency

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and effectiveness of all internal operations and of all interactions with main stakeholders in order to provide good quality education in a fast changing society. Customer satisfaction is crucial for service organizations and specifically, it is highly related to service quality (Ali Reza Jalali, Md. Aminul Islam & Ku Halim Ku Ariffin, 2011; Jalal et al., 2011; Taraneh et.al., 2013; Navaratnaseelan & Elangkumaran, 2014; Markovic & Jankovic, 2013; Kambiz & Mohammad Ali, 2012). Higher education around the world has experienced significant changes and reforms (Ali Reza et al., 2011; Taraneh et al., 2013; Siti Falindah & Azizul, 2013). In order to sustain, higher learning institutions (TVET) required to strive towards meeting and exceeding students' expectations (Taraneh et al., 2013).

In today's world of intense competition, it is believed that the key to success in competitive market lies in delivering high quality service that will result in satisfied customers. Service quality provided in higher institution usually defined as the basis of student's evaluation on the services they received from their institution (Jalal et al., 2011). However, TVET in Malaysia seems to be the last resort for qualified students for academic option (Afferro & Norhasni, 2014). Therefore it is vital to identify the existing service quality of TVET in polytechnic for the purpose of enhancing the image and attractiveness of TVET (Ratnata, 2013).

There is no doubt that service quality and customer satisfaction are important and need to be set as the ultimate goals of service providers. Quality of services needs to be assessed in an organized procedure and to enable management to promote quality services in such a system, different models have been proposed. The models which are proposed as the most famous model of service quality were; 1) Gronroos model (1990) is based on three basic dimensions of functional quality, technical quality and mental image, 2) Garvin (1987) has proposed eight dimensions for assessing quality which is performance, features, reliability, compatibility (adaptation), permanence, service functionality and aesthetics and received quality and 3) SERVQUAL model, the most common model in service quality literature to measure the quality of services is SERVQUAL, which was put forward by Parasuraman et al. (1988).

Moreover, Table 1 shows the relationship between service quality dimensions and satisfaction according to several researchers. In terms of data analysis, all researchers used regression analysis and none of them use Structural Equation Modeling (SEM) to show the model of relationship between variables.

Table 1 Previous Research on SERVQUAL Dimensions and Satisfaction

Independent variables	Dependent variable	Researchers	Result
Tangibility	Satisfaction	Navaratnaseelan & Elangkumaran (2014); Jalal et al. (2011); Arokiasamy & Abdul Ghani (2012); Rahim Mosahab et al. (2010); Anber Abraheem & Shireen Yaseen (2011); Wang & Shieh (2006).	Significant Correlation
Reliability	Satisfaction	Kambiz & Mohammad Ali (2012); Navaratnaseelan & Elangkumaran (2014); Jalal et al. (2011); Arokiasamy, & Abdul Ghani (2012); Rahim Mosahab et al. (2010); Anber Abraheem & Shireen Yaseen (2011); Wang & Shieh (2006).	Significant Correlation
Responsiveness	Satisfaction	Kambiz & Mohammad Ali (2012); Jalal et al. (2011); Arokiasamy, & Abdul Ghani (2012); Rahim Mosahab et al. (2010); Anber Abraheem & Shireen Yaseen (2011).	Significant Correlation
Assurance	Satisfaction	Jalal et al. (2011); Arokiasamy & Abdul Ghani (2012); Rahim Mosahab et al. (2010); Anber Abraheem & Shireen Yaseen (2011); Wang & Shieh (2006).	Significant Correlation
Empathy	Satisfaction	Jalal et al. (2011); Arokiasamy & Abdul Ghani (2012); Rahim Mosahab et al. (2010); Anber Abraheem & Shireen Yaseen (2011); Wang & Shieh (2006).	Significant Correlation

Previous studies were done in overseas, industry and using different method. As for the time this research

been conducted, none study been done to evaluate service quality from polytechnic student perspective. Therefore, the present study aimed to assess the service quality of Politeknik Ungku Omar from the students' perspective and evaluating the distance between the current situation and desirable status. Due to the fact that the findings of the research will provide the perceptions of the student on the delivered services by polytechnic, the research can offer direction for desirable use of the services. Hence, the objective of this paper was to develop a model of relationship between service quality provided by polytechnic and student's satisfaction.

2. Methodology

The research adopted a descriptive survey in order to evaluate the five dimensions of quality services including tangibility, reliability, assurance, empathy and responsiveness in Premier Polytechnic from the students' standpoint. The population for this study consisted of final semester students which sums up to 851 in 2014. Regarding the given population, 265 students were chosen as the sample of the study according to Krejcie & Morgan (1970) sampling table. SERVQUAL standard questionnaire was used to collect data. This 22-question tool was used to measure two aspects: service expectations, and perceptions of provided services. A total of 300 questionnaires were distributed to three main engineering departments (mechanical, electric and civil) in the selected premier polytechnic. The percentages of questionnaires that can be used were 222 (73%). Samples were adequate based on the recommendations of Hair et al. (2006), in utilizing the Structural Equation Model (SEM) technique, the number of samples must exceed 200. The reliability of instrument was tested through internal consistency. The most popular test of internal consistency reliability is the Cronbach's coefficient alpha (Sekaran, 2003). The Cronbach's alpha value for all constructs ranges between 0.831 and 0.950. All the values are above the value of 0.70, thus demonstrate that the scales are consistent and reliable (Sekaran, 2003).

Factor analysis was performed using varimax rotation to confirm the five constructs of service quality. Results showed that the five factor solution had eigenvalues exceeding 1.0. The value of Kaiser-Meyer-Olkin measure of Sampling Adequacy at 0.962 was greater than 0.5, thus was adequate for intercorrelation while the Barlett test was significant ($p < 0.05$). The Measure of Sampling Adequacy MSA for anti-image correlation matrix was more than the value of 0.50. Based on the values, the acquired instrument was relevant to explain the internal structure of each scale for use to measure service quality.

3. Research Finding

In order to answer if there are significant differences between expectation and perception scores, paired samples t-test were used. As shown in Table 2, the difference between perceptions and expectations in all five SERVQUAL dimensions was meaningfully significant. Regarding the mean differences, it is clear that the highest and lowest gap were observed in empathy and assurance, respectively.

Table 2 Paired Samples T-test for Dimensions of Service Quality

Pair	Paired Differences	t	Sig. (2-tailed)
	Mean		
Tangibility	-.49550	7.179	.000
Reliability	-.48829	6.568	.000
Responsiveness	-.51464	7.137	.000
Assurance	-.38776	6.045	.000
Empathy	-.52177	7.855	.000

Step 1: Measurement Model

This study employs confirmation factor analysis (CFA) to measure the goodness-of-fit of the measurement models. The results indicated that the χ^2/df indice was less than 5 (CMIN/df = 2.047), the RMSEA = 0.037, is less than 0.08 and CFI, TLI, and IFI were all above 0.9 (0.959, 0.949, and 0.960 respectively; thus, the model-fit is admissible. This result means that there is no significant difference between research data and the hypothesised model. The factor loading for all items exceeds the recommended level of 0.5 (Hair et al., 2006).

Step 2: Structured Equation Model

The AMOS statistical estimates results revealed that the χ^2/df indice was less than 5 (CMIN/df = 1.987). The values of CFI, TLI, and IFI (0.974, 0.965, and 0.975 respectively) were all above 0.9 and the RMSEA (0.067) was less than 0.08. These statistical estimates showed that the hypothesised model fulfilled the model fit indicators employed in this study based on the indicators recommended by Arbuckle and Wothke (1999) and Hair et al. (2006). This result indicated that data from the sample fit with the model. Based on the results of SEM, the value of R^2 for the satisfaction approach is 0.91. This indicates that the contribution of all the variables associated with the student satisfaction in the model was 91%. Table 3 shows the estimated path coefficients partially support the argument that service quality is an antecedent and that it positively affects students' satisfaction. While Assurance, Empathy and Tangibles have a positive effect on satisfaction, Responsiveness and Reliability doesn't have a significant effect on students' satisfaction.

Table 3 Path Coefficients and Hypothesis Test

Hypotheses	Variable Relationship			P Value	H null
1	Satisfaction	←-	Tangibility	.032*	Rejected
2	Satisfaction	←-	Assurance	.049*	Rejected
3	Satisfaction	←-	Empathy	.000*	Rejected

Note: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

4. Discussion and Conclusion

This study shows that students from premier polytechnic have negative perceptions of education service quality in their polytechnic, as their expectations were not met in the performance of education services. The negative values indicate dissatisfaction. Having a negative gap shows the fact that polytechnic must try to increase the quality of their services and be more sensitive and aware of the student's requests and questions. Based on the results of this study, several suggestions can be made to increase the relationship between service quality and students' satisfaction in the realm of polytechnic. So, in order to be successful, polytechnic must seek to continuously improve processes and outputs to satisfy their students as customers, the task that requires management to adopt strategies that are comprehensive and more effective. By assuring a high quality of service and providing excellent facilities, polytechnic can attract a lot of students as it comes to be known for its reliability, excellence and the high quality of service it provides. Thus, this finding can be useful to policy makers to improve and create key facilities to satisfy the students in polytechnic. Hence, it has potential for future research. This finding can be useful to the polytechnic authorities towards improving the teaching system and to make lecturers more accountable to students, in formulating strategies to maintain or enhance their competitive benchmarks.

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