SERVICE QUALITY OF POLYTECHNIC USING SERVQUAL MODEL FOR SUSTAINABLE TVET SYSTEM

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ABSTRACT

Background: A great emphasis on improving the quality of service will increase awareness as well as improving the perception of TVET system in polytechnics as well as achieving the transformation plan. It will also leads to the sustainability of TVET system in the country. Therefore, the purpose of this study was to evaluate the service quality of Politeknik Ungku Omar. The statistical population consists of final semester students of Politeknik Ungku Omar (PUO) and 222 students were chosen through random sampling method as the sample of the study. The data were collected using the SERVQUAL standardized questionnaire. Data were analyzed using SPSS version 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 of score than students' perceptions. Moreover, results of multiple regression indicated that the relationship between the four predictor variables and the criterion variable was at significant level $p < 0.05$. This value showed that the 82.6% contribution of the four constructs (tangibility, reliability, assurance, empathy) to student satisfaction were significant. While, one predictors variable namely responsiveness was insignificantly correlated.

INTRODUCTION

In Malaysia, technical and vocational education and training (TVET) was introduced before independence been declared. The first of technical and vocational schools been built was Trades School in Kuala Lumpur in 1926, then in 1930, the school was expanded to Ipoh, Johor Bahru and Penang. This school covers training on carpentry, repairing machinery, electrical wiring and construction building with three years courses offered. When Malaysia got it independence, the government got more serious on TVET agenda, which is articulated from the First Malaysia Plan 1965-1970 to the Tenth Malaysia Plan 2010-2015. During those period, TVET institutions was established drastically such as vocational schools, Industrial Training Institutes (ITI), Polytechnics, MARA Vocational Institutes, National Youth Development Corps (NYDC) and the Center for Instructor and Advanced Skill Training (CIAST). Today, TVET has been proven as an ideal education system and chosen as key factor to achieve a high-income nation by the year 2020. As for Polytechnic Transformation Plan, three indicators has been identified as a success factor whereby first, polytechnics need to become the main TVET institutions at the regional level. Second, at least 85% of polytechnic graduates are employed or continue to further their study within six months after graduation. Third, polytechnic need to be a first choice of 50 percent of school leavers. However, TVET in Malaysia seems to be the last resort for qualified students for academic option

[1]. [1] also emphasized that TVET-based qualifications and careers are still poorly perceived and recognized in the workplace. The issues that quite often been raised are related to curriculum, demand supply-mismatch, accreditation and the quality of TVET providers [1]. Therefore a great emphasis on improving the quality of service will increase awareness as well as improving the perception of TVET system in polytechnics as well as achieving the transformation plan. It will also leads to the sustainability of TVET system in the country.

Due to that, the success of TVET education system such as polytechnic can be defined when it contributed to the government's agenda to make the country a high-income country [2] and produce employable graduates. Education system around the world including TVET has experienced significant changes and reforms [3],[4], [5] due to fierce competition in exploiting the various outcomes of research and innovation [6]. Concurrently, higher institution are expected to provide high quality educational services which are relevant to the industry and recent technology [6]. Quality of services and customer satisfaction of higher institution have been recognized as success factor and survival in today's competitive market because higher education are the places where professional people are trained [7],[4].

In order to sustain, higher learning institutions required to strive towards meeting and exceeding students' expectations [4]. Customer satisfaction is crucial element for organizations and to be precise, customer satisfaction highly related to service quality [8], [3], [9],[10], [4].Customers, in this case the student will be satisfied when their perception on services provided exceeds their expectations [3], [9]. Service quality provided in higher institution usually defined on the basis of student's evaluation on the services they received from their institution [9], [6].The evaluation base on a variety of educational deeds such as lecturer/student interactions, infrastructure provided by institution, peers interaction and classroom activities [9]. It is vital to determine service quality at higher learning institutions from student perspective in order to remain competitive with other private higher education providers [10]. It is also important that the education institution continuously acquire, maintain, build stronger relationships and assess the level of students' satisfaction [10]. It is therefore vital to identify the existing service quality of TVET in polytechnic for the purpose of enhancing the image and attractiveness of TVET [11] so it can plays its role as TVET provider and reach their defined TVET transformation goals.

In order to assess the quality of services in an organized procedure and to enable management to promote quality services in such a system, different models have been proposed. The cases which are proposed below are the most famous models of service quality. [12] model is based on three basic dimensions of functional quality, technical quality and mental image. The model suggests that there is a direct relation between services quality and technical and functional aspects of quality. The five main components of the functional quality from Gronroos ideas are tangibility, reliability, responsibility, assurance and empathy issues. [13] has proposed eight dimensions for assessing quality. He did not differentiate between manufacturing organizations and service providers. He recapitulated the eight dimensions as performance, features, reliability, compatibility (adaptation), permanence, service functionality and aesthetics and received quality. SERVQUAL model, the most common model in service quality literature to measure the quality of services is SERVQUAL, which was put forward by [14]. This model was applied in four service sectors including banks, credit card companies, stock exchange companies and service companies. In 1988, they summarized these ten dimensions into five dimensions of tangibility issues, reliability, assurance, empathy and responsiveness following their research on SERVQUAL model by screening and evaluating the primary dimensions and adopted these dimensions as the basis for establishing a measurement scale to assess services quality [15].

Previous research also deals with service quality issues from different angle and perpective. [16] measuring the perception and expectation of service quality in higher education from the perspectives of Iranian postgraduate students seeks to assess their perceptions of service quality in the new environment based on a modified service quality (SERVQUAL) instrument to measure five constructs: tangibles, reliability, responsiveness, assurance, and empathy. The study uncovered that all of the items and constructs measuring the gaps are significantly negative with empathy representing the construct with the highest gap (-0.681), followed by reliability (-0.673), responsiveness (-0.670), assurance (-0.612) and tangible (-0.601). This study shows that postgraduate students from Iran ranked Malaysian universities have negative perceptions of education service quality in their universities, as their expectations were not met in the performance of education services. The negative values indicate dissatisfaction. Students were dissatisfied with the education service quality on all the five mentioned service quality factors.

[17] investigated how students perceived the service quality offered at public and private Technical Education and Vocational Training (TEVT) institutes in Malaysia and their overall satisfaction. Their findings indicated that the problem of service quality in TEVT sector is due to the elements of non-training aspects. The students in both institutes are moderately satisfied with the aspects training implementation including instructor; curriculum; and training delivery.

[3] attempted to find out factors that affect students' satisfaction in a higher learning Institution from randomly selected degree, masters and PhD programs student to evaluate the level of students' satisfaction. The primary data source was a questionnaire that was distributed to the students. The finding shows that the overall services offered by the university were moderate from students' perspective. Findings showed that the academic-related activities are more important than non academic-related such as the availability of financial advice etc. Universities world-wide are now competing both nationally and internationally. In order to attain new students and retain current students they should aim to enhance student satisfaction and reduce student dissatisfaction [3].

Previous studies were done in overseas, universities and vocational institution. 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. It also aim to develop a model of relationship between service quality and student satisfaction. This model concerning the relationship between service quality and student satisfaction was tested on sample of technical students, using multiple regression. This statistical technique enabled us to estimate the relative contribution of the variables involved and to study the nature of their interactions. 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 hypotheses of the study are developed as below:

i. **H1**: *There is a significant relationship between assurance and student satisfaction.*
ii. **H2**: *There is a significant relationship between empathy and student satisfaction.*
iii. **H3**: *There is a significant relationship between tangibles and student satisfaction.*
iv. **H4**: *There is a significant relationship between reliability and student satisfaction.*
v. **H5**: *There is a significant relationship between responsiveness and student satisfaction.*

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 Politeknik Ungku Omar from the students" standpoint. The population for conducting the study consisted of final semester students which sums up to 851 in 2013. Regarding the given population, 265 were chosen as the sample of the study according to [18] 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. The distribution of the questions among the five aspects of service quality was in a way that for tangibility, assurance and responsiveness, four questions were assigned and reliability and empathy received five questions [14] All these dimensions prepare the ground for the customer to consider quality as:

a) The tangibility or physical dimension which includes working facilities and equipment for communication goods.
b) Reliability dimension which means the ability to perform safe and reliable service in a way that the customer's expectations are met.
c) The responsiveness or accountability dimension which is related to the organization contribution and willingness to help the customers, this service quality dimension put emphasis on the awareness and sensitivity towards the customers' requests, questions and complaints.
d) The assurance (warranty or guarantee) dimension which expresses a sense of competence and ability in the employees" in encouraging and implanting the trust and confidence in the customers towards the organization.
e) Finally, the empathy which means treating people based on their special features and characteristics, so that customers can be satisfied that the organization appreciate them and they are important for the organization.

This questionnaire examines two aspects of service quality. In the first aspect, the students were asked to express their views on the current quality of the provided services. For the second aspect, they were asked about how they expect the quality of services to be. A total of 300 questionnaires were distributed to final year student at Polytechnic of Ungku Omar. The percentages of questionnaires that can be used were 220 (73%). Samples were adequate based on the recommendations of [19] and [20].

Validity is defined as how well an instrument measured the particular concept it is intended to measure. While reliability is define as how consistently a measuring instrument measures whatever concept it is measuring [20]. The reliability of instrument was tested through internal consistency. The most popular test of internal consistency reliability is the Cronbach's coefficient alpha [20]. 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 [21]. Data were analyzed using SPSS 21. The Significant level used was 0.05. Multiple-regression analysis was used to analyze the relationship between the dependent variable (criterion) and several predictor variables (predictor).

FINDING

Table 1 is presented to describe the perceptions and expectations of students of provided services quality in Polytechnic of Ungku Omar. As it is clear from the table, the highest perceptions average is related to assurance and the lowest one is related to empathy. For the expectations aspect, the highest expectations average is for the assurance dimension and the lowest one is associated with empathy.

Table 1 : Description of the students' perceptions and expectations status from the polytechnic services quality

Scale	Expectation		Perception	
	Mean	S.D	Mean	S.D
Tangibility	3.607	.9929	3.111	.9025
Reliability	3.579	.9352	3.091	.9349
Responsiveness	3.610	.9632	3.095	.9549
Assurance	3.647	.9385	3.259	.9087
Empathy	3.578	.9896	3.057	.9567

In order to answer if there are significant differences between ecpectation 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	Std. Deviation	Std. Error Mean		
Tangibility	-.49550	1.02841	.06902	7.179	.000
Reliability	-.48829	1.10766	.07434	6.568	.000
Responsiveness	-.51464	1.07447	.07211	7.137	.000
Assurance	-.38776	.95572	.06414	6.045	.000
Empathy	-.52177	.98968	.06642	7.855	.000

In this study, the multiple regression analysis is used as a statistical technique to analyze the linear relationship between a dependent variable and multiple independent variables (Hair et al., 2006). This is a way to recognize whether there is significant relationship between independent variables and dependent variables or not. The model sufficiently explained the variance or coefficient of determination or the R Squared in the effect of control variables relations. According to Hair et al., (2006), the test will be significant if the p-value is less than 0.05. The beta coefficient is used to determine which independent variables have the most influence on the dependent variable.

Table 3 showed the regression coefficient (b) for the four predictor variables in linear combinations. The value of regression coefficient β represented the standard of the four predictor

variables in the form of linear combinations. Result showed that the correlation between the criterion variable student satisfaction and predictor variables in model 1. The R^2 of 0.826 showed that 82.6% change in the criterion variable is due to changes in the independent variables. Results of $F_{(5, 216)} = 205.35$, $p < 0.05$) indicated that the relationship between the four predictor variables and the criterion variable was at significant level $p < 0.05$. This value showed that the 82.6% contribution of the four constructs (tangibility, reliability, assurance, empathy) to student satisfaction were significant. While, the one predictors namely reponsiveness was insignificantly correlated.

Table 3: Regression Model

Independent variables	Model 1	
	b	Std Beta, β
Tangibility	.125	.116*
Reliability	.254	.244*
Responsiveness	-.124	-.122
Assurance	.310	.289*
Empathy	.445	.437*
R		0.909
R^2		0.826
Adj R^2		0.822
Sig. F Change		0.000
Durbin Watson		1.834

*$p < 0.05$, **$p < 0.01$

DISCUSSION AND CONCLUSION

The study uncovered that all of the items and constructs measuring the gaps are significantly negative with empathy representing the construct with the highest gap empathy (-0.521), responsiveness (-0.514), followed by tangible (-0.495), followed by reliability (-0.488) and assurance (-0.387). This study shows that students from Politeknik Ungku Omar 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. Students were dissatisfied with the education service quality on all the five mentioned service quality factors. 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 and it seems that we cannot manage polytechnic using the traditional approaches. 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.

The study also indicated four predictor variables has a significant correlation student satisfaction The R^2 of 0.826 showed that 82.6% change in the student satisfaction is due to changes in the in this four variables (tangibility, reliability, assurance, empathy). The value of 82.6% mean that the contribution of the four constructs (tangibility, reliability, assurance, empathy) to student satisfaction were very high. While, the one predictors namely reponsiveness was insignificantly correlated. Therefore this four variables can be manipulated in order to increase student satisfaction. All parties that involved in decision making at polytechnic must take part in adapting this four main contributors into polytechnic services quality that going to be given to student as a customer.

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