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A comparison between ISO-Certified and Non ISO-Certified Colleges on Service Quality in Higher Education: Students' Perception

Suhaiza Zailani, Junaimah Jauhar & Rosly Othman
School of Management,
University of Science Malaysia
11800, Minden
Penang, Malaysia
Tel no: 604 6533777 ext 3952
Fax no: 604 6577448
Email: shmz@usm.my

Ng Lee Yen
Faculty of Education
University of Science Malaysia
11800, Minden
Penang, Malaysia
Tel no: 604 6533777
Fax no: 604 6577448

ABSTRACT

Higher education is characterized by a higher degree of interpersonal contact, complexity, divergence, and customizations than other service businesses. In 1996, therefore, the Ministry of Education recommended that Total Quality Managen nt (TQM) should be adopted by education institutions at every level. This measur is to ensure that Malaysian institutions are able to deliver quality education and the country can be transformed into a center of excellence in higher education. In response to the government's call, many private colleges have implemented TQM. However, very little is known about the perceptions of consumers, in this case, students towards the quality of education provided. This study explored the perceptions of students towards the quality of services provided by their colleges. The sample consisted of 242 students, from four private colleges in Malacca. Out of this number, 118 students were taken from ISO-certified colleges and the remaining 124 students were sampled from non ISO-certified colleges. The Perceived College Quality Scale was used to measure students' perception towards the quality of their respective learning institutions. Descriptive analyses seem to suggest that students from certified colleges may have more positive perceptions towards the service quality provided by their colleges. However, inferential statistics show that the perceptions of students from the two categories of colleges did not differ significantly in four aspects of service quality; the teaching staff, learning processes, support system, and resources. They only demonstrated significant difference in perceptions towards college operation management. Such findings indicate that the implementation of TQM in colleges have to be assessed, reviewed and improved.

Key words: *Education, Service Quality, Private Colleges, Students Perceptions, Malaysia*

Corresponding Author - Suhaiza Zailani

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Higher education is characterized by a higher degree of interpersonal contact, complexity, divergence, and customizations than other service businesses. In 1996, therefore, the Ministry of Education recommended that Total Quality Management (TQM) should be adopted by education institutions at every level. This measure is to ensure that Malaysian institutions are able to deliver quality education and the country can be transformed into a center of excellence in higher education. In response to the government's call, many private colleges have implemented TQM. However, very little is known about the perceptions of consumers, in this case, students towards the quality of education provided. This study explored the perceptions of students towards the quality of services provided by their colleges. The sample consisted of 242 students, from four private colleges in Malacca. Out of this number, 118 students were taken from ISO-certified colleges and the remaining 124 students were sampled from non ISO-certified colleges. The Perceived College Quality Scale was used to measure students' perception towards the quality of their respective learning institutions. Descriptive analyses seem to suggest that students from certified colleges may have more positive perceptions towards the service quality provided by their colleges. However, inferential statistics show that the perceptions of students from the two categories of colleges did not differ significantly in four aspects of service quality; the teaching staff, learning processes, support system, and resources. They only demonstrated significant difference in perceptions towards college operation management. Such findings indicate that the implementation of TQM in colleges have to be assessed, reviewed and improved.

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1.1 Introduction

Higher education is a professional service that differs in many respects from other services. In regards with this, the Ministry of Education aims to turn Malaysia into an educational hub in the region. As such, several bold steps were taken by the government, such as approved the formation of private colleges in the country and allowed collaborative academic programmers among the local colleges with foreign institution. In addition, new laws and regulatory body such as the National Accreditation Board were also formulated to supervise the quality of private colleges (Abdul Malek & Gopal Kanji, 2000). Due to the support and encouragement of the government, the educational industry in the country has growth rapidly in recent years. These institutions are expected to take ownership and responsibilities for the courses and services that they offered to the public. Therefore, it is not surprising that many colleges already have some form of quality assurance in place.

Issues of quality in higher learning institutions have been widely discussed in the early nineties. The most controversial highlights were regarding the delivery of quality in education (Elmuti, Kathawala, & Manippallil, 1996). Movement in

developing suitable standards for the educational industry has started in 1992, when the International Organization for Standardization (ISO) issued a standard known as ISO 9004-2. A more prevailing effort was signified by the establishment of the ISO 9000 quality management systems within the higher learning institutions. The latest version of ISO series, which is the ISO 9000: 2000, places greater emphasis on measurement of customer satisfaction and strong consideration on conformity of relevant statutory as well as legal requirements with regard to educational environment. All these constitute important aspects of service quality provided by any colleges (Peters, 1999; Johnson & Golomski, 1999). There are seven clear advantages to ISO registration:

- It builds a quality system and provides a foundation for a management system
- Facilitates trade through assurances of contract performance
- Provides international recognition and engenders global uniformity
- Meets European Community business requirements
- Eliminates or diminishes customer audits or surveys
- Enhances credibility and improves documentation and traceability activities
- Leads to an organized, written collection of fundamental practices

The adoption of ISO-certification by higher learning institution hopes to attract not only local students but also international students, particularly those from the Asian region. Generally, the implementation of quality assurance in learning institution is intuitively customer-oriented and market driven (Peters, 1999). This is because the ISO-certification may create customers' expectation, provide them with confidence and recognition towards the services provided and ultimately fulfill their satisfaction (Singels, Ruël, Van de Water, 2000; Ömer Faruk Ünal, 1996). Since, the product in higher education is not visible and tangible as in the case of manufactured goods, its quality must be gauged by the customers. Based on the Customer Satisfaction Theory, the customers' perceptions towards the services and goods provided can be used as a yard stick to measure their satisfactions (Hassan & Kerr, 2003; Klaus, 1985). In other wards, students' satisfactions towards the services quality of their colleges can be determined by their perception towards the quality of the teaching staff, learning processes, support system, resources, and its operation management (Hill, Lomas, & MacGregor, 2003; Peters, 1999).

From the perspective of teaching staff, Hill, Lomas, and MacGregor (2003) found that students appreciate lectures who are able to deliver their lectures effectively, qualified in their respective fields, show enthusiasm in teaching, provide appropriate feedbacks in assignments, easy to be with and help them to learn. They also prefer learning processes which are flexible, autonomous, informative, and relevant to the 'real world'. In addition, students perceive that colleges support systems, such as orientation, counseling, co-curriculum activities, and professional academic consultation as vital factor in services quality. Adequate and state-off-the-art library resources and IT-facilities may also determine students' perceptions and satisfactions towards a particular college. On the other hand, students also place emphasis on colleges' efficiency, accuracy, and response rate in operation management (Peters, 1999). For these reasons, ISO-certified colleges will try to fulfill their customers' satisfaction by placing emphasis on the abovementioned aspects. This implies that students in colleges which are complied with the ISO-standards may

have more positive perceptions towards the services quality of their colleges compared to students in non-ISO certified colleges.

1.2 Research Problem

Literature reviews show that not many research have been conducted on students' perceptions of quality in education (Hill, Lomas, & MacGregor, 2003), particularly in the local context. Thus, there is no ample evidence to conclude that colleges which have obtained ISO-certification can achieve higher services quality. There are needs to investigate this matter. To fulfill the above mentioned needs, two research objectives were formulated. The findings may contribute to the understanding of quality services in private higher learning institutions. Objectives of the study are as follows:

1. Determine what are the perceptions of students in ISO-certified and non ISO-certified colleges towards the services quality provided by their respective institution.
2. Compare the perceptions of students in ISO-certified and non ISO-certified colleges towards:
   i.   Quality of Teaching Staff
   ii.   Quality of Learning Processes
   iii. Quality of Support System
   iv.   Quality of Resources
   v.   Quality of Operation Management

1.3 Literature Review

Although tangible elements, such as academic facilities and equipment, may help potential students assess the quality of higher education, most of the quality attributes in higher education cannot be seen, felt, or touched in advance, which makes evaluation difficult (Harvey and Busher 1996; Patterson et al. 1998). In addition, the quality of higher education may vary markedly in different circumstances (from time to time, class to class, students to students, lecturer to lecturer, and so on) (Owlia and Aspinwall 1996; Patterson et at. 1998). The experiences of prospective students may be totally different from the experiences of current students and alumni. What is more, the prospective students may have expectations, which might not match reality in a host country and its university life (Patterson, Romm, and Hill 1998). Considering the aforementioned characteristics of higher education, the literature was investigated in order to develop additional quality dimensions exclusively for higher education.

Owlia and Aspinwall (1996) proposed six quality dimensions in higher education. The dimensions were developed by grouping 30 attributes that are associated with education quality, based on the literature (for example, Harvey, Burrows; and Green 1992; Logothetis 1993; Meshkati 1991; and Spanbauer 1992). The six quality dimensions in higher education proposed are:

1. Tangibles: Sufficient equipment/facilities, modern equipment or facilities, ease of access, visually appealing environment, support services
2. Competence: Sufficient (academic) staff, theoretical knowledge and qualifications, practical knowledge, up to date, teaching expertise, and communication

3. Attitude: Understanding students' needs, willingness to help, availability for guidance and advice, giving personal attention, emotion and courtesy
4. Content: Relevance of curriculum to the future jobs of students, effectiveness, containing primary knowledge or skills, completeness and use of computer, communication skills, and teamwork
5. Delivery: Effective presentation, sequencing and timeliness, consistency, fairness of examinations, feedback from students, encouraging students
6. Reliability: Trustworthiness, giving valid award, keeping promises and matching to the goals, handling complaints, and solving problems

However, Owlia and Aspinwall's (1996) six dimensions based on an empirical study are needed to examine the validity. Moreover, it may be inappropriate to apply the attitude dimension to international tertiary education because of the variability of higher education, as discussed previously. Furthermore, the content dimension seems unlikely to be appropriate for examining students' perceptions or prepurchase evaluations of international tertiary education. A study conducted by Joseph and Joseph (1997) examining New Zealand business students' perceptions of service quality in education identified seven determinants of service quality. The seven determinants and their criteria are:

1. Physical aspects: Accommodation facilities, academic facilities, campus layout and appearance, sports, and recreational facilities
2. Cost/time: Length of degree, cost of accommodation, cost of education
3. Academic issues: Reputable degree, excellent instructors
4. Program issues: Specialist programs, flexible structure and content, practical component, options available, flexibility to move within school of study, flexible entry requirements
5. Career opportunities: Employable graduates, information on career opportunities
6. Location: Ideal location
7. Other: Word of mouth, family and peers influencing university choice

The alternative quality dimensions proposed by Joseph and Joseph (1997) are based on students' perceptions of an excellent or ideal university. It could be argued that students' perceptions of the ideal university may not match reality. In addition, in the real world, there is not the option of having more of every characteristic that is desirable and less of every characteristic that is undesirable. In other words, the ideal option does not exist. Furthermore, institutions of higher education have many stakeholders and service providers who, to varying degrees, are concerned with processes other than those immediately associated with the creation of higher education services (Rowley 1997). These may include residential businesses involved in foundation courses, accommodation, or even entertainment. Also, international students may be concerned with different attributes when choosing their place of education. For example, local students are concerned with the learning process and graduation, whereas overseas students may also be concerned with entiy requirements and language skills, as well as environmental conditions, both physical and political, such as safety, urbanity, or even racism. In addition, Lawley (1998) theorized about a cost construct that includes comparative cost, climate, distance from home, and the presence of other home-country students. The results, however, demonstrated that the cost construct is not important to prospective overseas students' evaluation of

destinations or their intentions. Meanwhile, criteria such as academic issues, program issues, and location were identified as important factors related to the quality of higher education (for example, Hampton (1993) and Owlia and Aspinwall (1996)). These criteria were therefore taken into account for developing the quality dimensions in this study.

1.4 Methodology

Data for this study was obtained through survey method. The sample consisted of 242 students, from four private colleges in Malacca. These colleges were randomly chosen from a list provided by the Private Education Department, the Ministry of Education. The researchers paid a preliminary visit to the four chosen colleges to explain about the details of the study and also to attain official approval for conducting a survey. The colleges agreed to participate in the research on condition of anonyminity. In the second visit, the researchers have randomly chosen two classes from each of the college involved. One hundred and eighteen students were sampled from the ISO-certified colleges and the remaining 124 students were sampled from non ISO-certified colleges.

The administration of the questionnaire was conducted by the researchers. Before it was begun, the researchers introduced themselves to the students. The purpose of the study was explained. Students were assured that their answers are confidential and can only be seen by the researchers. The outcome of the analysis will reveal only the average score and not the individual score.

1.5 Instruments

The Perceived College Quality Scale

The Perceived College Quality Scale, developed by the researchers was used to gauge students' perceptions towards services quality of their respective learning institutions. Due to the scarcity of research in this area (Hill, Lomas, & MacGregor, 2003), the researchers could not identify any suitable instrument to be used in the local context, thus, the abovementioned scale was developed. It is a six point-Likert scale, whereby the responses may range from 'Strongly Disagree' (1) to 'Strongly Agree' (6). There are 40 items in the Perceived College Quality Scale, which measure the different dimensions of service quality in higher learning institutions.

Items in the scale were written by the researchers in both English and Malay Languages. This was to ensure that the respondents have a clearer understanding of the items. All items were also checked by two language experts, competent in both languages. The scores for the whole scale are determined by summing all the 40 items and taking the average. Therefore, the maximum possible score that a respondent could obtained is 6 (Point-6 X 40 ⁒ 40), whilst the minimum possible score is 1(Point-1 X 40 ⁒ 40). The score for each dimension, on the other hand, was obtained by totaling the items in each subscale and taking the average. The scores may also range from 1 to 6.

Founded on literature reviews, quality services in college consists of quality in teaching staff, learning processes, support system, resources, and operation management. Table 1 shows the content specification of the scale. Experts in Education and Total Quality Management have verified its items. These running

Cronbach's alpha analysis, the adapted scale was confirmed to be a reliable instrument, with an alpha coefficient of .72.

Table 1: Content Specification for the Perceived College Quality Scale

Perceived College Services Quality	Number of Items
Perceived Quality of Teaching Staff	
i. Lecturing	4
ii. Feedbacks Provided	2
iii. Interactions	4
Perceived Quality of Learning	
i. Flexibility	2
ii. Content Relevance	2
iii. Autonomy	2
Perceived Quality of Support System	
i. Orientation	1
ii. Counseling	2
iii. Co-curriculum activities	1
iv. Academic Consultation	2
Perceived Quality of Resources	
i. Library	2
ii. IT-Facilities	2
iii. Recreations	2
Perceived Quality of Operation Management	
i. Response Rate	4
ii. Accuracy	4
iii. Efficiency	4
Total Items	40

1.6 Results and Interpretations

After the Perceived College Quality Scale was scored, the data was entered into a computer with Statistical Package for Social Sciences (SPSS), version 11.5. The data was screened thoroughly. The screening processes involved checking for scores that were out-of-range or mistakenly entered. When checking for errors, the researchers primarily looked for values that felt outside the range of possible values. All the errors found were corrected and double-checked. During data screening, five missing data was also discovered and replaced with mean using the Replace with Mean function in SPSS (George & Mallery, 2003; Coakes & Steed, 2000). Prior to analysis, scores on items with negative statements were reversed. After these tedious processes, the researchers are confident that the data set is clean and ready to be analyzed.

Results of this analysis are discussed according to the research objectives stated earlier. The first objective was to determine the perceptions of students in ISO-certified and non ISO-certified colleges towards the services quality provided by their respective institution. Descriptive statistics were employed to summarize the data. It is the first step in data analysis. Given that the data is an interval in nature, means and

standard deviations were used as the indices of central tendency and variability respectively (Gay & Airasian, 2000). The results are showed in Table 2.

Table 2: Mean and Standards Deviation of Perceived College Quality

	ISO-Certified (n = 118)		Non ISO-Certified (n = 124)	
	M	SD	M	SD
Overall Perceived Quality	3.70.	.55	3.64	.63
Perceived Quality of Teaching Staff	3.54	1.36	3.26	1.36
Perceived Quality of Learning	3.35	1.60	3.73	1.50
Perceived Quality of Support System	3.64	1.13	3.58	1.34
Perceived Quality of Resources	3.69	1.36	3.82	1.31
Perceived Quality of Operation Management	4.29	1.01	3.82	1.12

Table 2 shows that the respondents in ISO-certified colleges ($\underline{M}$ = 3.70, $\underline{SD}$ = .63) have higher mean score on perceived quality compared to their counterparts in non ISO-certified colleges ($\underline{M}$ = 3.64, $\underline{SD}$ = .63). The result seems to suggest that students from certified colleges may have more positive perceptions towards the services quality provided by their colleges.

As for the five dimensions of perceived quality, the results were mixed. The respondents in ISO-certified colleges have recorded higher mean scores in perceived quality of teaching staff ($\underline{M}$ = 3.54, $\underline{SD}$ = 1.36), perceived quality of support system ($\underline{M}$ = 3.64, $\underline{SD}$ = 1.13) and perceived quality of operation management ($\underline{M}$ = 4.29, $\underline{SD}$ = 1.01). The respondents in non ISO-certified colleges, on the other hand, have higher mean scores in perceived quality of learning ($\underline{M}$ = 3.73, $\underline{SD}$ = 1.50), and perceived quality of resources ($\underline{M}$ = 3.82, $\underline{SD}$ = 1.31).

Inferential analyses have to be carried out to determine whether the differences are statistical significant or not. Since there are two comparison groups, Independent-Samples t-test was run to analyze the data. Prior to this analysis, the researchers have to ascertain that the assumptions underlies it has not been violated.

Assumptions of Independent-Samples t-test

There are three generic assumptions underlying all types of t-test; scale of measurement, random sampling and normality. In order to carry out the independent-samples t-test, the data should be interval or ratio in nature. Since the perceived college quality scores were interval data, the first assumption was fulfilled. The second assumption of independent-samples t-test requires the cases to represent a random sample from the population of interest (Green, Salkind, & Akey, 2000). This assumption was not violated as students from the ISO-certified colleges and non ISO-certified colleges were selected randomly. Another assumption for independent-

samples t-test is that the data has to be normally distributed. This prerequisite was explored graphically using boxplots. The boxplots, illustrated in Figure 1 summarizes information about the distribution of perceived college quality scores.

Figure 1: Boxplot of Perceived College Quality Scores
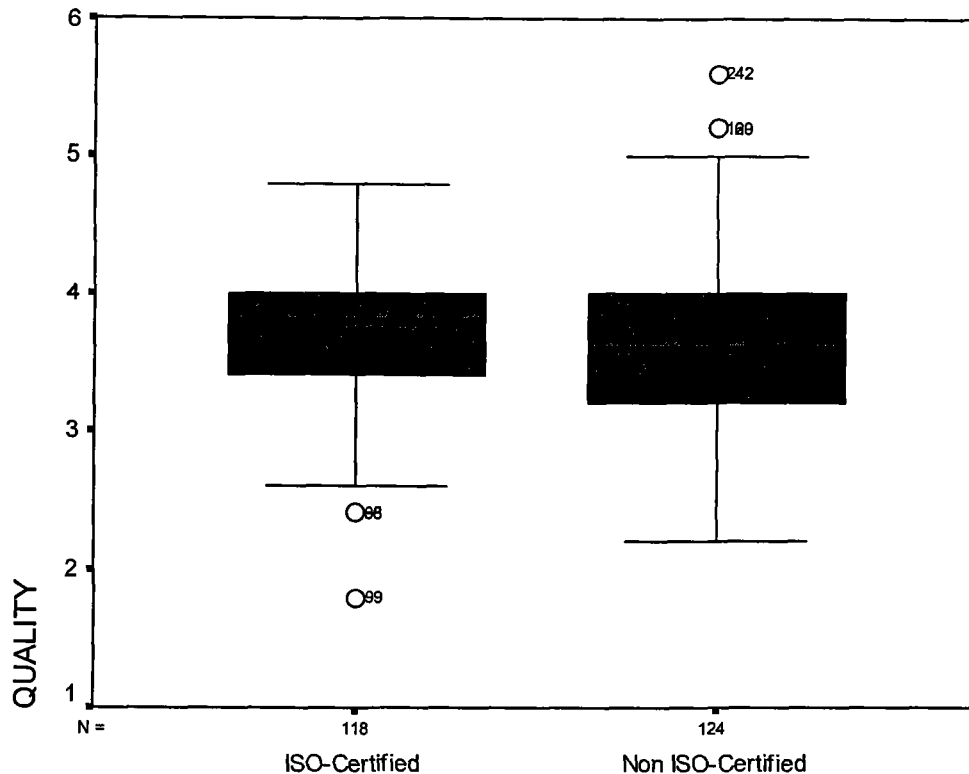
The boxplot is able to plot summary statistics such as the median, 25th and 75th percentile. The median is presented by a horizontal line through the center of the box. The smallest and largest observed values within the distribution are represented by the horizontal lines at either end of the box, commonly referred to as whiskers (Coakes & Steed, 2000). The horizontal line for the non ISO-certified colleges was at the center of the box and the whiskers were about the same length, the distribution was very symmetrical. The horizontal line for ISO-certified colleges, however, was slightly closer to the upper-end of the box, indicating that the median value was higher. According to Pallant (2001), data in social sciences studies rarely conform to a classic normal distribution. Thus, the distribution of scores for the two categories of colleges can be considered as normally distributed.

The boxplots in Figure 1 also reveal two outliers in each set of the scores. These extreme scores fell within three box lengths from the lower edge of the box and were designated by a circle. All the values were not too extreme. This is because if a score is too extreme, it will be represented by an asterisk (*). The researchers, thus, decided to maintain the original scores. After the assumptions on Independent-Samples t-test were tested, and fulfilled. The analysis was begun with the alpha level set at .05.

Table 3 shows the results of Independent-Samples t-test on perceived college quality. Comparisons were also carried out to determine whether the students in ISO-certified and not ISO-certified are significantly differ in their perceptions on quality of teaching staff, learning, support system, resources, and operation management of their respective learning institutions.

Table 3: The Differences in Students' Perceived College Quality

	ISO-Certified (n = 118)		Non ISO-Certified (n = 124)			
	Mean	S.D.	Mean	S.D.	t	Sig.
Overall Perceived Quality	3.70	.55	3.46	.63	.76	.45
Perceived Quality of Teaching Staff	3.54	1.36	3.26	1.36	1.63	.10
Perceived Quality of Learning	3.35	1.60	3.73	1.50	1.90	.06
Perceived Quality of Support System	3.64	1.13	3.58	1.34	.40	.74
Perceived Quality of Resources	3.69	1.36	3.82	1.31	.80	.43
Perceived Quality of Operation Management	4.29	1.01	3.82	1.12	3.4	.01

Table 3 shows that students in ISO-certified and non ISO-certified colleges only have significant difference in perceived quality of operation management, t (240) = 3.4, p < .01. The magnitude of the differences or the eta squired value was calculated as follows:

$$\text{Eta squared} = \frac{t^2}{t^2 + (N1 + N2 - 2)}$$

$$= \frac{3.4^2}{3.4^2 + (118 + 124 - 2)}$$

$$= \frac{11.56}{11.56 + 240}$$

$$\rceil = \underline{.05} \qquad \text{iitude of the}$$

differen̶c̶ ̶.̶.̶.̶ ̶.̶.̶.̶ ̶.̶.̶.̶ ̶(̶.̶.̶.̶.̶.̶.̶,̶ ̶.̶.̶.̶.̶)̶.̶ ̶.̶.̶.̶.̶.̶ ̶.̶.̶.̶.̶.̶ ̶.̶.̶.̶ ̶.̶.̶ perceptions of students in ISO-certified and non ISO-certified colleges did not differed vastly in terms of operation management.

Even though the descriptive statistics seem to suggest that students' in ISO-certified colleges may have more positive perceptions towards the quality of their colleges. The Independent-Samples t-test did not provide evidence to support it. There was no significant difference in the overall perceived quality between the two groups of students, $t(240) = .76$, $p > .01$.

The perceptions of students in certified and non certified colleges about the quality of teaching staff [$t(240)= 1.63$, $p > .01$], learning processes [$t(240) = 1.90$, $p > .01$], support systems [$t(240) = .40$, $p > .01$] as well as the resources [$t(240) = .80$, $p > .01$] of their colleges were also not significantly differed.

1.7   Implications of the Study

This study has provided some insights into the perceptions of costumers, in this case, students towards the quality of services that they received in private learning institutions. Initially, the researchers hypothesized that students in ISO-certified colleges may have more positive perceptions towards their colleges, compared to those in non ISO-certified colleges. This postulation was obviously not supported.

A few implications can be drawn from the findings. First of all, the implementation of the ISO standardization in colleges may be questionable. Private colleges are largely profit-oriented. They may be driven to adopt the ISO-certification as a marketing strategy to 'sell their courses', in other words, to stay competitive in the industry. This is because no matter what types of organizations discussed, competition and profit are always the main topics of interest. In the recent decades, quality has been widely used as a tool to compete in the market (Bank, 1992). Thus, organizations will easily be eliminated if they lack competitiveness. If standards adoption is viewed only as a marketing strategy, colleges may not be sincere and serious enough to comply with the standards that they claim to uphold. This study found that students from ISO-certified and non ISO-certified colleges have no significant difference in their perceptions towards the services quality provided their colleges. This may imply that there are no differences in terms of services quality between ISO-certified and non ISO-certified colleges. Future research will have to be conducted to look into the causes behind the obtained results. Given that this study only sampled four colleges from the state of Malacca, the generalization of its findings may be limited. Perhaps a national study, which covers larger sample, should be carried out. In addition, the National Accreditation Board must supervise the implication of ISO-standardization in private higher learning institutions more closely.

This study has also uncovers intriguing findings concerns the various dimensions of services quality. Inferential statistics show that the perceptions of students from the two categories of colleges did not differ significantly in the quality of teaching staff, learning processes, support system, and resources. They only demonstrated significant difference in perceptions towards college operation management. This may indicate that ISO-certified colleges only focused on the improvement of operation management and have neglected other aspects of educational services. Such findings show that it is necessary to create awareness among the colleges regarding costumers' multidimensional needs and expectation of a quality education.

1.8   Conclusion

This study aimed to investigate the services quality in our local colleges, a topic which has not been widely research both in educational studies as well as quality management research. The findings have shed some lights on students' perception towards the quality of the teaching staff, learning processes, support system, resources and operation management in their learning institutions. As a whole, the results have highlighted the needs to research, assess, and improve the implementation of TQM in Malaysian private colleges. Efforts towards this direction may help Malaysian government to realize its aim to turn the country into an educational hub in the region.

Bibliography

ABDUL MALEK & GOPAL KANJI (2000). TQM *in Malaysian Higher Education Institutions*. Retrieved May 4, 2004   from the World Wide Web: http://www. blweb.it/esoe/tqmhe2/25.pdf

COAKES, S. J., & STEED, L. G. (2000). *S.P.S.S.   Analysis Without Anguish-Version 10.0 for Windows*. Australia: John Wiley & Sons Australia Ltd.

COHEN, J. (1988). Statistical Power Analysis for the Behavioural Sciences. Hillsdale, NJ: Erlbaum.

ELMUTI, D., KATHAWALA, Y. & MANIPALLIL, M. (1996). Are Total Quality Management Programs in Higher Education Worth the Efforts. *International Journal of Quality and Reliability Management*, 13(6), 30.

GAY, L., & AIRASIAN, P. (2000). Educational Research: Competencies for Analysis and Application. (6th ed.). Ohio: Merrill.

GEORGE, D., & MALLERY, P. (2003). *SPSS for Windows Step by Step: A Simple Guide and Reference, 11.0 update*. (4th ed.). United States of America: Pearson Education.

GREEN, S. B., SALKIND, N. J., & AKEY, T. M. (2000). *Using SPSS for Windows: Analyzing and Understanding Data*. New Jersey: Prentice Hall.

HAMPTON, G. M. (1993). Gap analysis of college student satisfaction as a measure of professional service quality. Journal of Professional Service Marketing 9, no. 1: 115-128.

HARVEY, J. A., & H. BUSHER. (1996). Marketing schools and consumer choice. International Journal of Educational Management 10, no. 4: 26-32.

HARVEY, L., A. BURROWS, & D. GREEN. (1992). Criteria of quality: Summary. Birmingham: The University of Central England.

HASSAN, M., & KERR, R. M. (2003). The Relationship Between Total Quality Management Practices and Organizational Performance in Service Organization. *The TQM Magazines*, 15, 4, 286-291.

HILL, Y., LOMAS, L., & MACGREGOR, J. (2003). Students' Perceptions of Quality in Higher Education. *Quality Assurance in Education*, 11, 1, 15-20.

JOHNSON, C.F. & GOLOMSKI, W. A. J. (1999). Quality concepts in education. *The TQM Magazine*, 11(6), 467-473.

JOSEPH, M., & B. JOSEPH. (1997). Service quality in education: A student perspective. Quality Assurance in Education 5, no. 1: 15-21.

JOSEPH, M., & B. JOSEPH. (2000). Indonesian students' perceptions of choice criteria in the selection of a tertiary institution: Strategic implications. International journal of Educational Management 14, no. 1: 40-44.

KLAUS, P. (1985). Quality Epiphenmenon: The Conceptual Understanding of Quality in Facte-to-Face Servie Encounters in Czepiel, J., Solomon, M. R., and Surpernant, C. F. (Eds). *The Service Encounter,* Lexington Books: Lexington.

LAWLEY, M. (1998). Choice of destination in international education: A cross national model. Ph.D. diss., University of Southern Queensland.

LOGOTHETIS, N. (1993). Towards a quality management of education. EEC-Seminar in Total Quality in Education, Denmark.

LUCE, R. D. (1959). Individual choice behavior. New York:

MESHKATI, N. (1991). Industrial sector panel summary. In second Annual Symposium on the Role of Academia in National Competitiveness and Total Quality Management.

ÖMER FARUK ÜNAL (1996). *Application of Total Quality Management in Higher Educational Institution.* Retrieved Mac 5, 2004, from the World Wide Web: http://www.qafqaz.edu.az/journal/Application%20%20%Total 20%Quality.pdf

OWLIA, M. S., & E. M. ASPINWALL. (1996). A framework for the dimensions of quality in higher education. Quality Assurance in Education 4, no. 2: 12-20.

PALLANT, J. (2001). *SPSS Survival Manual: A Step By Step Guide to Data Analysis Using SPSS for Windows (Version10).* Victoria: McPherson's Printing Group.

PATTERSON, P., T. ROMM, & C. HILL. (1998). Consumer satisfaction as a process: A qualitative, retrospective longitudinal study of overseas students in Australia. Journal of Professional Services Marketing 16, no. 1:135-157.

PETER, J. (1999). Educational Accreditation through ISO9000. *Quality Assurance in Education*, 7, 2, 85-89.

ROWLEY, J. (1997). Beyond service quality dimensions in higher education and towards a service contract. Quality Assurance in Education 5, no. 1: 7-14.

SINGLES, J., RUËL, G., & VAN DE WATER, H. (2000). ISO9000 Series Certification and Performance. *International Journal of Quality & Reliability Management,* 18, 1, 62-74.

SPANBAUER, S. J. (1992). A quality system for education. Milwaukee: ASQ Quality Press.