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QUALITY IN HIGHER EDUCATION: AN EMPIRICAL INVESTIGATION

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ABSTRACT

Most of the quality models that are commonly practiced in the business world have been adapted and used in the education sector. In this paper, it is proposed to look at the quality issue in higher education from the marketing perspective; that is, to first understand the customers' needs via their perception of quality. The aim of the paper is to assess the quality attributes of higher education from various perspectives; namely from parents, students, faculty members and employers. It is then classified these quality attributes using the Input–Process–Output framework. With the information obtained from the study, an integrated approach that will encompass a variety of quality practices to manage quality issues in higher education is being suggested. The bottom line is to improve quality in education.

INTRODUCTION

Managing quality in the education context should be handled differently from that of manufacturing or service industries (Madu & Kuei, 1993). The quality management models practiced by the business world have been adapted and applied to the education sector. In fact, quality in education should begin at the school level (Koch & Fisher, 1998). For example, the Total Quality Management (TQM) philosophy has been applied to schools and colleges in the UK, USA, and in Asian countries such as Malaysia (Kanji & Tambi, 1998; Kanji & Tambi,

1999; Barnard, 1999). However, the education sector is not entirely comfortable with the TQM approach (Barnard, 1999). One of the fundamental principles of TQM is customer satisfaction. The colleges felt that a TQM approach was not appropriate simply because they are not out to delight students who are their primary customers (Barnard, 1999). Alternatively, colleges can use the quality practices such as to improve performance. Even the most popular service quality methodology, SERVQUAL (Parasuraman, Zeithaml & Berry, 1985; 1988), is also used to measure the quality in the education context. The models and concepts, such as EFQM, Singapore Quality Award (SQA), School Excellence Model (SEM) and Malcolm Baldrige National Quality Award (MBNQA), are widely applied to educational institutions. These models embrace the philosophy of TQM which has been modified for the education environment. Many schools and universities are realizing the benefits of these quality models, and extensive research has been done in this area to investigate the school performances in relation to the quality management philosophy.

Applying the consumer behavior theory in education, the students are regarded as consumers purchasing the services provided by education; therefore, the students have the right to obtain the best quality education. How do the institutions meet the needs of the customers? In education, different groups of customers are dealt. The university views the students as their primary customers who receive the educational services, parents as customers who pay for their children's education, corporations as customers who hire the students, and faculty members as customers who teach students the knowledge needed to perform the job (Madu & Kuei, 1993). To improve quality services to these customers, we must first of all understand their needs. In order to understand their needs, it is necessary to understand the quality attributes embraced by the customers. People perceive quality differently. Some see it as quality in teaching, the caliber of students and the students' performances on the job. Owlia and Aspinwall (1996) pointed out that in order to measure quality, and consequently improve quality, it is necessary to find out the characteristics of quality. It is important to define the characteristics of quality for the measurement of the education process (Cheng & Tam, 1997). The purpose of this research is to assess how quality is perceived by different groups of customers, namely the students, parents, faculty members and employers, regarding the quality of education, and then to classify these

perceived qualities into an Input–Process–Output (IPO) framework. The information gained from the study will form the basis from which an appropriate quality model can be adopted to develop quality initiatives with regard to the education market.

CLASSIFICATION OF QUALITY IN EDUCATION CONTEXT

Owlia and Aspinwall (1996) interpreted the quality for higher education in terms of the quality dimension by using Garvin's quality framework (Garvin, 1987), service quality dimension (Parasuraman, Zeithaml & Berry, 1985; 1988), and software quality dimension (Watts, 1987). However, the dimension identification frameworks focuses mainly on defining the quality aspect of the product features (Garvin, 1987) and service features (Parasuraman, Zeithaml & Berry, 1985; 1988). However, a more comprehensive approach to classify the quality attributes of education has been adopted in the present study. The framework proposed is derived from West, Noden and Gosling (2000)'s viewpoint of quality in higher education which is called as the Input–Process–Output (IPO) framework. In this, framework, 'Input' refers to the entry requirements, 'Process' refers to the teaching and learning process, and 'Output' refers to the employability and academic standings (as shown in Figure 1 below). This classification of quality attributes is in accordance with the organization's operation system of converting the inputs (e.g. raw materials) into outputs (e.g. products and services) via the process (e.g. procedures). In this way, one can associate the quality improvements with the operating system of any organization, including those from the education sector. Some of the quality dimensions identified in Owlia and Aspinwall's (1996) study are partially covered in the IPO framework.

Figure 1
The Input–Process–Output framework of quality classification

EDUCATION SYSTEM

Input	**Process**	**Output**
• **Selection of students** • Entry requirements	• Teaching and learning	Financially rewarding job
	• Content and delivery of course units	Placement
	• Professor's knowledgeability	Academic performance
	• Accuracy of curriculum content	
	• Concern for students	
	• Instruction medium	
	• Social activities	
	• Assessments	

SAMPLE PROCEEDURE

A pre tested questionnaire was designed in which the respondents were asked for their opinions on quality in higher education. The respondents were also asked to give suggestions for improvement. Based on the literature, 22 items of expectation and perception statements were identified. These 22 items reflect the five service dimensions of tangibles, reliability, responsiveness, assurance and empathy (Parasuraman, Zeithaml & Berry, 1985; 1988). The definition for the dimensions of SERVQUAL was adopted from Galloway (1998). In the study, the students, parents, faculty members and employers were considered as the customers of higher education. The questionnaire was given to 35 third-year students of a college located in the heart of the city of Coimbatore, Tamilnadu. The survey was conducted on the first day of class commencement. The same survey form was given to the parents of the students who enrolled in the same course. Out of the 35, only 27 parents returned the questionnaires. Ten faculty members completed the same questionnaire. In addition, we mailed the same questionnaire to 60 firms: it

was routed to the human resource managers. Only 12 questionnaires were sent back.

INTERPRETATION OF RESULTS

The results of the survey are summarized in Table 1. We classified the responses of the customers into input, process and output. All the respondents provided more than one quality attribute. The number of quality attributes and row percentages are presented in Table 1 below.

Table 1
Classification of quality attributes

Customers	**Input**	**Process**	**Output**	
Student n=35	21	142	142	305
Row percent	6.89%	46.56%	46.56%	
Parents n=27	87	13	87	187
Row percent	46.52%	6.95%	46.52%	
Faculty n=10	85	85	66	236
Row percent	36.02%	36.02%	27.97%	
Employer n=12	0	26	37	63
Row percent	0.00%	41.27%	58.73%	

Source: Computed from Primary Data.

The students' perspective of quality falls into mainly the process (46.56%) and output (46.56%) categories; however, the parents seemed to think that quality should be in terms of input (46.52%) and output (46.52%) quality. The data suggested that the faculty's perspective of quality is wider in view than the other customers. They believed that the education system should focus on all aspects of their activities (i.e. input, process and output). On the other hand, the employers considered quality in terms of process (41.27%) and output (58.73%) quality only. The finding supports the fact that different groups of customer have different perspectives of quality. In light of this finding, we suggest that an integrated quality model would be a better model for addressing the quality issue. It would then address the needs of the four groups of customers: students, parents, faculty and employers.

The students gave most of the suggestions of improvement pertaining to the process of the education system to achieve quality output. Some of the suggestions mentioned were caring professor, provision for various support services for students, provision for a variety of advising services, participation in curriculum design, and encouragement for lifelong learning. They also noted that there is a large variation in terms of quality teaching—such as contents, feedback, assessments—to inspire learning. Parents would like to have open communication. Employers suggested better relevancy of knowledge and more soft skills integrated into the courses. The university should solicit feedback from employers. This feedback into the system can indirectly prepare students for entry into the workforce; thus the notion of quality extends beyond the confines of the classroom. The attributes of a 'quality' education encompass the processes at each and every stage of the learning cycle, from commencement of studies right up to the student's exit from the system. This perception of quality suggests that it is a dynamic process rather than just a static process measured at any particular point in time.

The results of Table 2 show that, for most dimensions, students, parents and employers expect more than what they perceive the school would provide. By using the paired t-test we found that all dimensions except reliability are significant. In general, the faculty members are satisfied in all the dimensions except for tangibles and assurance.

Table 2
Customers' expectation, perception and gap means of service quality in the school

SERVQUAL Dimensions		Students	Parents	Employers	Faculty
Tangibles	Expectation	5.94	6.06	6.07	5.93
	Perception	4.92 -	5.06 -	5.90 -	5.25 -
	Gap (Per-	1.02 -	1.00 -	0.17 -	0.68 -
	Exp) t-value	5.33**	4.24**	1.68	2.83*
Reliability	Expectation	6.06	6.04	6.00	5.62
	Perception	5.98 -	6.02 -	5.90 -	5.60 -
	Gap (Per-	0.08 -	0.03 -	0.10 -	0.02 -
	Exp) t-value	2.40*	0.78	1.58	0.23
Responsiveness	Expectation	6.05	6.17	6.33	6.18
	Perception	4.99 -	5.25 -	5.08 -	5.50 -
	Gap (Per-	1.06**	0.92**	1.25**	0.68 -
	Exp) t-value	-5.53	-3.51	-6.97	1.66
Assurance	Expectation	5.98	5.81	6.11	6.00
	Perception	4.20 -	4.46 -	4.56 -	4.87 -
	Gap (Per-	1.78 -	1.36 -	1.56 -	1.13 -
	Exp) t-value	8.29**	5.36**	5.34**	2.39*
Empathy	Expectation	5.21	5.55	5.25	5.60
	Perception	4.33 -	4.53 -	4.63 -	5.65
	Gap (Per-	0.89 -	1.02 -	0.63 -	0.05
	Exp) t-value	3.84**	3.78**	2.34*	0.13

* significant < 0.05,
** significant < 0.01; a negative gap indicates that expectation exceeded perception; a positive gap indicates that perception exceeded expectation.

Source: Computed from Primary Data

We tried to relate the SERVQUAL dimensions to our IPO framework and found that all the quality dimensions are primarily related to the educational process (see Table 3).

Table 3
RELATIONSHIP OF SERVQUAL DIMENSIONS TO IPO FRAMEWORK

SERVQUAL Dimensions	IPO Framework
Tangibles	Process
Reliability	Process
Responsiveness	Process
Assurance	Process
Empathy	Process

A high-quality university education is not mainly focused on the quality of the educational process in and by itself. It requires an explicit framework that links all the requisite stages in the system. The SERVQUAL dimensions can be revised in such a way that its measurements of quality can be incorporated into the framework already established by the IPO model.

CONCLUSION

It is not surprising that parents, students, faculty members and employers understands the concept of quality with regards to higher education in different ways. Parents view quality as relating to input (e.g. ranking of the schools, reputations) and output (e.g. employability, academic placement). On the other hand, students saw quality as relating to the educational process (e.g. courses and teaching) and outputs. Faculty members perceived quality as relating to the whole education system (i.e. input, process and output). Employers saw quality as primarily related to the output (e.g. the skill set that the student brings to the workplace).

The distributions of the quality attributes in terms of input, process and output differ among the recipients of the service provided. The result seemed to suggest that, in order to meet the needs of each group, the university has to focus on all aspects of the education system. The quality models such as EFQM, SQA, SEM and MBNQA all strive to adopt a comprehensive approach to quality improvement. In fact, most universities engage in a variety of practices in order to

achieve a high level of quality in education. The integrated approach of using several techniques in the measurement process is commonly practiced by successful firms (Ahmed & Rafiq, 1998). The measurement and study of 'dynamic' quality management will be a challenge for researchers in the service-oriented industries like the retail trades, and education in particular. Our Input–Process–Output framework of quality classification serves as an entry point into such a future system of quality assessment. One important issue that we have not addressed is: how do we evaluate the differences in perceived quality among parents, students, faculty members and employers? Further investigation into this topic will provide a basis for policy and quality improvement plans undertaken by education institutions. It would also be interesting to look at students, parents, faculty members and employers' perceptions in terms of education quality attributes and how these differences affect the types of policy and planning choices selected.

REFERENCES

1) Ahmed, P. K., & Rafiq, M. (1998). Integrated benchmarking: A holistic examination of select techniques for benchmarking analysis. *Benchmarking: An International Journal*, *5*(3), 225–242.

2) Barnard, J. (1999). Using total quality principles in business courses: The effect on student evaluations. *Business Communication Quarterly*, *62*(2), 61–73.

3) Cheng, Y. C., & Tam, W. M. (1997). Multi-models of quality in education, (available at http://lysander.emeraldinsight.com/vl= 20247265/cl =26/nw=1/ rpsv/ ~1203/v5n1/s3/p22). *Quality Assurance in Education, 5*(1), 22–31.

4) Galloway, L. (1998). Quality perceptions of internal and external customers: A case study in educational administration. *The TQM Magazine, 10*(1), 20–26.

5) Garvin, D. A. (1987). Competing on eight dimensions of quality. *Harvard Business*

Review, 65(6), 101– 109.

6) Kanji G. K., & A. Tambi, A. M. (1998). Total quality management and higher education in Malaysia. *Total Quality Management, 9*(4/5), 130–132.

7) Kanji G. K., & A. Tambi, A. M. (1999). Total Quality Management in UK higher education institutions. *Total Quality Management, 10*(1), 129–153.

8) Koch, J. V., & Fisher, J. L. (1998). Higher education and total quality management. *Total Quality Management, 9*(8), 659–668.

9) Madu, C. N., & Kuei, Chu-Hua, (1993). Dimensions of quality teaching in higher institutions. *Total Quality Management, 4*(3), 325–338.

10) Owlia, M. S., & Aspinwall, E. M. (1996). A framework for the dimensions of quality in higher education. *Quality Assurance in Education, 4*(2), 12–20.

11) Parasuraman, A., Zeithaml, V.A., & Berry, L.L., (1985). A conceptual model of service quality and its implications for future research. *Journal of Marketing, 49*, 41–50.

12) Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1988). SERVQUAL: A multiple-item scale for measuring consumer perceptions of service quality. *Journal of Retailing, 64*(1), 12–37.

13) Watts, R. A. (1987). *Measuring software quality.* The National Computer Centre, Oxford.

14) West, A., Noden, P., & Gosling, R. (2000). *Quality in higher education: An international perspective. The views of transnational corporations.* Market Papers no. 17, London School of Economics and Political Science.

APPENDIX

SERVQUAL Dimensions	Definition	SERVQUAL Statements
Tangibles	The appearance of the school physical facilities, equipment, personnel, and communication materials.	T1: The school office is equipped with modern technology. T2: The school office has a professional appearance. T3: The school office staff/faculty dress smartly. T4: School office/faculty communication with me is clear and helpful.
Reliability	The school's ability to perform the promised services dependably and accurately.	RE5: I can depend on the school office's promises. RE6: The school office shows a sincere interest in helping me. RE7: The school office gets my requests right first time. RE8: The school office fulfils commitments it makes to me. RE9: School office information is error free.
Responsiveness	The school's willingness to help students and provide prompt service.	RS10: School office staff/faculty tell me exactly when they are able to attend to my request. RS11: School office staff/faculty give me prompt service. RS12: School office staff/faculty are always willing to help me. RS13: The school office is never too busy to help me.
Assurance	The knowledge and courtesy of school office staff/faculty and their ability to convey trust and confidence.	A14: The behavior of school office staff/faculty instills confidence in me. A15: I feel safe in my transactions with school office staff. A16: School office staff/faculty are always polite.
Empathy	The school office staff's ability to provide a caring and individualized attention to students.	E17: School office staff/faculty are knowledgeable when answering my questions. E18: School office and facilities (e.g. library) opening hours are personally convenient. E19: School office staff acknowledge my arrival at the reception desk. E20: School office staff/faculty take care to understand my request.