Improving Student Satisfaction through Total Quality Management

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Introduction

In the Higher Education Blueprint 2013-2025, the Malaysian government outlines a vision for transforming the country's higher education sector by focusing on system improvements on access, equity and quality of education. The overall arching goal is to produce graduates with 21st century skills through a sustainable education system that meets high international quality standards.

From a quality management viewpoint, quality of education is very often hard to measure and standardise due to the intangible characteristics of a service (Jabbarifar, 2009; Kwan, 1996; Sallis, 2002). However, by adopting certain established frameworks in the manufacturing sector, education service providers can to a certain extent overcome this constraint. One of the more well-known frameworks in product quality management which has been successfully applied in service industries is total quality management (TQM), a concept mooted by Joseph Juran in the 1950s (Juran, 1988) and later popularised by Ishikawa (1986) and Deming (1986).

In this study, attempt was made to examine the effect of selected constructs of TQM on student satisfaction with Malaysian universities. Specifically, local and international students were compared in terms of their perception of quality management and satisfaction with their place of study. The research involved postgraduate students at three public universities in the Klang Valley, and adopted a quantitative approach to facilitate analysis of a larger sample of respondents. Findings of the study are expected to contribute to greater understanding of student perceptions and expectations of quality management in Malaysian public universities, as well as aid in the formulation of better policies and action plans for the country's higher education sector.

Literature Review

Total Quality Management

Ishikawa (1986) broadly defined quality as an organisation's ability to satisfy customers through its products and services, employers, work processes and systems, information, et cetera. This broad conceptualisation of quality was echoed by latter scholars (Harris, 1994; Porter & Parker, 1993), which reflects a focus on customer satisfaction and continuous improvement. Others (Fotopoulos & Psomas, 2010) have refined the definition of quality to further include dimensions such as enhancing value to the customer through new and improved products and services; reducing errors, defects, waste and related costs; increasing productivity and efficiency in the use of resources; as well as improving responsiveness and cycle-time performance.

Essentially, total quality management (TQM) is an approach adopted by organisations that strive to make quality assurance as the corporate culture throughout their whole business operations to bring products and services to customers (Oakland, 1989). The TQM theory rests on two tenets (Weaver, 1992). First, customers are the central stakeholder for a business; hence, the primary role of a business is to satisfy customer needs. Second, to obtain accurate information about customer expectations, non-traditional sources such as employers, suppliers and competitors are valuable.

Most experts on quality agree that it can be measured, although it is harder to do for service industries where the outputs can be subjective (Crosby, 1994; Juran, 1988; Smith, 1987). For an education provider, quality is defined differently by different stakeholders (Srikanthan & Dalrymple, 2007); it includes student learning experience, staff expectations on organisational practices, industry perception of graduates, and value for money for investors and funding institutions. However, from the perspective of customers, key constructs of TQM in higher education are student needs focus and process quality, as elaborated below.

Student needs focus

In normal sales transactions, customers are the primary judges of quality. Perceptions of value and satisfaction are influenced by many factors throughout the customer's overall purchase, ownership and service experience. To satisfy customers, an organisation needs to extend well beyond merely meeting specifications, reducing defects and errors, or resolving complaints. It must also develop new ways of enhancing customer relationship, identifying specific customer needs, and investing resources to distinguish itself from other players in the industry (Fotopoulos & Psomas, 2010). Adapting this to higher education, some of the dimensions of student needs focus include scholarship opportunities, career development and networking activities which help enhance long-term benefits for the students (Owlia & Aspinwall, 1997; Rhee, 2004).

Process quality

In the education sector, processes refer to specific aspects of operations involved in the delivery of students' learning experience (Owlia & Aspinwall, 1997). The effects of process quality to student satisfaction can be direct (e.g., student application and examination procedures) or indirect (e.g., internal communication

and staff training). Since the ultimate outputs of an education institution - namely knowledge and human capital - are highly intangible in nature, process quality is especially important to education providers because it may be a much better measure of quality than the "product" itself. Processes are also good criteria of quality because they can be learnt and adopted across institutions (Srikanthan & Dalrymple, 2007).

Research Methodology

In view of the above, student needs focus and process quality were selected as the independent variables for the study. Items measuring these variables were self-developed based on literature review, and are shown in Table 1. Student satisfaction was adopted as the single dependent variable. Responses were ranked using a 5-point Likert scale (1 = totally agree; 2 = agree; 3 = neutral; 4 = disagree; 5 = totally disagree). The last two columns of Table 1 display the mean scores for the measuring items, and their ranks from 1 = most agreed to 10 = least agreed.

A quantitative survey was conducted among postgraduate students at three public universities in the Klang Valley. From the questionnaires returned, data were compiled and analysed using SPSS to determine the following:

1. Relative effects of needs focus and process quality on student satisfaction.
2. Differences between local and international students in terms of their perception of needs focus and process quality, as well as satisfaction.
3. Overall strengths and weaknesses of Malaysian universities based on the dimensions of needs focus and process quality.

Findings and Discussion

Profile of respondents

Out of the total 174 returned questionnaires, only 138 were usable. Male and female respondents were almost equal in numbers (male 49.2%, female 50.8%). A great majority were below 40 years in age, with 54.5% of them being 20-29 years old, followed by 38.6% in the 30-39 years group. Correspondingly, most of the respondents were still single (58%) or married but without children (17.8%), while 22.1% were married and had children, and the rest either widowed or divorced. Since the study focused on postgraduate programs, there was quite a high number of international students involved (43.1%), although local students made up a bigger group (56.9%). 67.8% of the respondents were full-time students, while around 20% were professionals/managers/entrepreneurs and the rest salaried

TABLE 1 Items Measuring Student Needs Focus and Service Quality

Variable	Items	Mean Score	Rank
Student needs focus	1. Opens new career opportunities.	1.382	2
	2. Improves personal development and education experience.	2.795	4
	3. Enhances opportunities for future salary increase.	1.279	1
	4. Potential to network with industry players.	3.256	5
	5. Willing to recognise previous qualifications.	1.834	3
	6. Has a reputation for being responsive to students' requests.	3.997	8
	7. Offers flexible entry throughout the year.	3.757	6
	8. Provides support and assistance to international students.	4.053	9
	9. Offers scholarships for needy students.	3.892	7
	10. Provides medical, accommodation and other student facilities.	4.361	10
Process quality	1. Has a reputation for knowledge culture.	1.766	1
	2. Has a reputation for quality and expertise of staff.	2.833	5
	3. Offers qualifications that are recognised by industry players.	2.159	3
	4. Offers a broad range of courses and programs.	3.035	6
	5. Makes use of the latest information technology.	4.189	8
	6. Is well-known for innovations in research and teaching.	3. 751	7
	7. Has a good library facility.	2.263	4
	8. Is noted for effective communication with all stakeholders.	4.573	10
	9. Offers adequate tutorials and personal consultation.	4.295	9
	10. Offers courses which are relevant to industry needs.	1.852	2

employees. In terms of income, 28.7% earned less than RM2,000.00 per month, followed by 35.3% earning more than RM5,000.00, and the remaining in the RM2,000.00 – 4,999.00 bracket.

Relative effects of student needs focus and process quality
Results of correlation tests indicate that both student needs focus and process quality have significant positive relationships with student satisfaction. Although each factor shows a considerable influence on satisfaction, needs focus ($r = 0.413$, $p<0.05$) has a stronger effect than process quality ($r = 0.257$, $p < 0.05$). This suggests that a university's ability to identify exactly the needs and wants of its customers, and commit adequate resources to meet them, will help it go further towards improving student satisfaction. In other words, while process quality is important, it is needs focus that helps a university distinguish itself better from its competitors and create a stronger market position.

Differences between local and international students
T-test results show that local students have a significantly ($p < 0.05$) more positive perception of needs focus and process quality than international students. The mean scores for needs focus are local = 28.51, and international = 31.74, while the means for process quality are local = 30.62, international = 33.89. Accordingly, the level of satisfaction is also higher among local students (means = 1.574) than international ones (means = 2.539).

" ...a university's ability to identify the needs and wants of its customers, and commit adequate resources to meet them, are the primary contributors to student satisfaction. "

These findings imply that Malaysian public universities still have a considerable distance to go before they can compete effectively at the international level to attract foreign students and develop the country into an international education hub. The lower level of satisfaction among international students suggests two possible scenarios: one, international students receive a lower quality of service than local students; and two, the standards of quality are higher among international students than the locals. To identify these potential areas of weaknesses, an analysis of mean scores for all statements measuring each independent variable is conducted. This is discussed as follows.

Strengths and weaknesses of Malaysian universities
The means for all statements measuring student needs focus and process quality are shown in Table 1. Based on the scores, the strengths and weaknesses of Malaysian public universities can be identified

" ...quality is defined differently by different stakeholders; it includes student learning experience, staff expectations on organisational practices, industry perception of graduates and value for money for investors and funding institutions."

(strengths = lowest scores; weaknesses = highest scores). In terms of needs focus, public universities in Malaysia are generally strongest in opening new career opportunities (Statement 1), as well as increasing opportunities for future salary increments (Statement 3). On the other hand, their major weaknesses are poor support and assistance to international students (Statement 8) and a lack of scholarships (Statement 9). For process quality, the organisations are best known for having a good reputation for knowledge culture (Statement 1) and offering courses which are relevant to industry needs (Statement 10). However, they score worst for communication effectiveness (Statement 8) and tutorials and personal consultation (Statement 9).
The above explains in greater detail the perception of current postgraduate students in Malaysian public universities toward their place of study. Specifically, it offers a possible reason for why international students are less satisfied than local students. The results suggest that support for international students, scholarship opportunities, effective communication and personal guidance are very lacking at Malaysian public universities, and that these are possibly the more important features sought by foreigners. Hence to improve the level of student satisfaction, particularly among the international segment, Malaysian public universities are advised to invest more time, effort and financial resources to address the four said areas.

Conclusion

The study measured the general perception of postgraduate students on TQM in Malaysian public universities and its effect on student satisfaction. Findings of the study indicate that both student needs focus and process quality significantly improve student satisfaction. However, student needs focus has a higher correlation with satisfaction than process quality. This implies that a university's ability to identify the needs and wants of its customers, and commit adequate resources to meet them, are the primary contributors to student satisfaction.

In addition, the study also reveals that Malaysian public universities are perceived well in the areas of knowledge culture and career opportunities. However, they also suffer from four major weaknesses, namely weak support for international students, lack of

scholarship opportunities, ineffective communication and poor personal guidance. Such findings may help explain why the level of satisfaction among international students is lower than that of local students. Evidently, without investing adequate resources to address these weaknesses, the country's potential of becoming an international education hub will be hard to realise.

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