SERVICE QUALITY: QUALITY MANAGEMENT IN HIGHER EDUCATION USING STAKEHOLDER APPROACH

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Abstract

External quality monitoring approaches (EQM), such as accreditation and assessment have been criticized for leading to the control of quality and not to its improvement (Elton, 1992). Consequently, Higher Education Institutions (HEIs) have been shifting toward quality management approaches that are market-oriented and aim in quality improvements. Approaches which emphasize a stakeholder focus and transfer service quality concepts to the HE area as tools for quality improvements.

This study transfers concepts of service quality to HE and utilizes a stakeholder-approach in order to define and assess the quality of HEIs. Students' expectations for a "quality" university as well as their importance and performance perceptions are addressed; A "quality' HEI, as perceived by students is defined. A "Conceptual Framework of Quality Dimensions", validated by a key stakeholder (students) and the literature, is developed. Furthermore, the use of Importance-Performance Analysis identifies and prioritizes quality efforts, thereby, contributing to the improvement and enhancement of quality of educational provision of a HEI.

Keywords: Service quality, quality in Higher Education, students, quality management

Introduction

Historically, quality management in Higher Education (HE) relied on external quality approaches (Welsh and Dey, 2002). National bodies and governments tend to address quality management issues in HE through external quality monitoring activities (Green, 1994) such as accreditation, audits, assessment and external examination (Harvey, 2002). The objectives of those approaches are institutional and program compliance with a series of regulations and standards, the achievement of stated institutional goals and conformity to given specifications. These external quality approaches, however, have not gone uncontested. Gibbs and Iacovidou (2004) for example, refer to such approaches as 'pedagogy of the confined' where quality is an external measurable form of control that cannot be used to mean good education. Harvey (2002, p. 5) also critiques external quality monitoring as

'bureaucratic…incapable of asking the right questions…leads to directing scarce resources from the improvement of learning, the experience for students and the development of research and scholarship...'

Nowadays, however, in response to various market forces (Sahney et al., 2004) higher education institutions shifted the emphasis from formal (external) assessments of quality to systems of quality management that are internally developed and implemented (Brennan and Shan, 2000).

This study comes to supplement existing studies and contribute to the knowledge on the conceptualization and operationalization of quality in higher education.

Stakeholder Approaches to Quality Management in Higher Education

Despite the extent of research on quality management, there is still no agreement on a single model for quality management in higher education (Becket and Brooks 2006). It may be that there is no universal way of defining and managing quality but there is considerable agreement in the

literature, that for any model of quality to be widely accepted it must represent the views of the stakeholders (Birnbaum, 2000; Srikanthan and Dalrymple, 2007; Houston, 2008). Quality in higher education is owned and determined by the stakeholders (Harvey and Green, 1993) and most attempts to characterize quality adopt a 'customer' or 'stakeholder approach' (Shanahan and Gerber, 2004; Cullen et al., 2003). Srikanthan and Dalrymple (2003) for example, claim that any quality model developed must be sensitive to and represent the expectations of the stakeholders. A 'stakeholder-approach' to quality is also supported by Cullen et al., (2003, p. 6) in their claim that: 'As far as quality is concerned the key issue is the ability of the quality concept to facilitate the perspective of a range of stakeholders'.

Accepting that quality is 'stakeholder defined', then who are the 'stakeholders' of higher education? Srikanthan and Dalrymple (2003) suggest that there are many stakeholders for whom the quality of higher education is vital, such as the government, the funding bodies, students, academic staff, employers and society at large, just to name a few. Lagrosen et al., (2004) also support that there are many 'customers' or 'stakeholders' especially when dealing with service providers such as higher education institutions. Some studies use the term 'customer' and others prefer the term 'stakeholder'. Cheng and Tam (1997) identify both internal and external stakeholders in the quality management process. Current students and academic staff are internal constituents in the quality management process whereas employers, government funding bodies, institutional management, prospective students or professional bodies are external; these stakeholders are likely to have disparate definitions of quality as well as different preferences for how quality is assessed (Cheng and Tam, 1997). This study concentrates on students as the key internal stakeholders. Various authors, such as Lagrosen et al., (2004) suggest the use of the term 'stakeholder' instead of 'customer' when discussing quality in higher education as this term is less controversial. This article adopts that approach.

Further to the above, the literature also suggests that quality is not a unitary concept and as a result it is best defined in terms of criteria or dimensions of quality- as referred to in various studies- such as support services, university reputation, and programs of study (Harvey et al., 1992; Harvey and Green, 1993; Green, 1993; Harvey and Knight, 1996; Lagrosen et al., 2004). Harvey and Green (1993) for example suggest that a practical solution to a complex philosophical question, such as quality, would be to look at the criteria that different interest groups use in judging quality instead of starting with a single definition of quality. Green (1994) supports the above view through her argument that because of the difficulties in defining quality in higher education, it is essential to define the criteria that each stakeholder uses when judging quality and take into account these competing views.

In synopsis, with respect to addressing the issue of quality management in HE, the literature is proposing an approach that determines a set of criteria that are considered to be the determinants of quality, which are stakeholder-determined and are then used for assessing and eventually managing quality.

Methodology

The purpose of this study is to identify the dimensions that define a 'quality' university, as identified by students, and the identification of the quality perceptions of these stakeholders as tools for quality management. The following research questions, reflecting the study's primary purpose and objectives, were formulated:

RQ 1: Which are the dimensions that define a 'quality' higher education institution as identified by university students?

RQ 2: Can a validated conceptual framework of quality be developed based on the findings?

RQ 3: Which are the students' perceptions of the quality of the institution?

RQ 4: What should be the priorities of the university administration with respect to the quality dimensions for quality improvement efforts?

The research was undertaken in three stages. The first explored the determinants/ characteristics of quality and, for that purpose, the views and opinions of students were collected through a series of focus groups and interviews. These qualitative methods were selected for collecting data since they are considered more appropriate for exploration purposes (Saunders et al., 2003). A total of four student focus groups were carried out at the university and participants selected represented all academic schools of the university (schools are the equivalent of faculties). The data collected were analyzed using Miles and Huberman's (1994) framework for qualitative data analysis in order to identify any emerging patterns. The emerging patterns, compared with existing theory from the literature search, led to the development of the questionnaire that was used for conducting this study.

The second phase was the construction and piloting of the questionnaires, based on the outcomes of the qualitative research and the literature. A four-point Likert rating scale, as used in similar studies (Harvey et al., 2002) was utilized. Prior to administration, the questionnaires were pilot-tested for reliability with the utilization of the test/re-test method and for validity with a panel of three experts.

The third phase was the survey of the targeted group. The target population of the study included all students (local and international) pursuing an undergraduate academic degree, at a local private university. The student population of the study was 2,530 and because of the big size of the population a sample was selected. A stratified random sample was used to avoid the danger of over or under-representation of some members of the population. The specific strata selected were the school of enrolment and the student's year of study (first to fourth). A statistical error of 4% was adopted (which is widely considered as acceptable for a research study) leading to a sample size of 480 students. The sample size was however, increased to 680 students to accommodate for expected non-responses. The student questionnaires were administered to the selected participants through group-distributions and were personally delivered to the academic staff members teaching the selected course.

The collected data were analyzed using a statistical package. Descriptive and inferential statistics, namely reliability analysis (Cronbach's Alpha), exploratory factor analysis, independent sample t-test, paired sample t-test and one-way ANOVA with post hoc multiple comparison test (Tukey HSD), were utilized to analyze the collected data, test their reliability and answer the formulated research questions. The Importance-Performance technique (Martilla and James, 1977) enabled the researchers to draw conclusions that assist in identifying and prioritizing areas for quality improvement efforts. The model has been used in many studies and has great applicability in the higher education area (Petruzzellis et al., 2006; Chen et al., 2006; Douglas et al., 2006) because as argued 'the information derived from this technique proves invaluable in terms of the development of strategies for the educational institutions that use it' (Joseph and Joseph, 1997, p. 17).

Research Findings

Overall, there was a very satisfactory response rate (86%) which compares favourably with the response rate of most related studies identified in the literature (61% student response rate in Pariseau and McDaniel (1997); 89% in Catfield (2000)). The demographic data (Table 1) collected indicated that there was a good match between the sample and the population.

TABLE 1: Demographic Characteristics

DEMOGRAPHIC VARIABLE	STUDENTS	Frequency	Valid %
Gender	M	298	56
	F	234	44
	Total	**532**	**100**
Age	17-20	158	29.7
	21-23	240	45.1
	24-26	84	15.8
	27+	50	9.4
	Total	**532**	**100**
Univ. Status	1st Yr	532	100
	2nd Yr	224	42.1
	3rd Yr	161	30.3
	4th Yr	147	27.6
		532	100
	Total	**426**	**80.1**

School	Business	224	42.1
	Humanities	161	30.3
	Science & Engineering	147	27.6
	Total	**532**	**100**
Nationality	National	426	80.1
	International	106	19.9
	Total	**532**	**100**
Enrolment Status	Full Time	472	88.7
	Part Time	60	11.3
	Total	**532**	**100**

Respondents were asked to rate how important the determinants of quality were to them as far as defining the quality of a higher education institution (this is referred to as 'Importance'). Furthermore, they were asked to rate their expectations for quality on each determinant (this is referred to as 'Expectations"). In addition, they were asked to rate how satisfactory they perceived the university's performance on those dimensions, based on their overall experience at the university (this is referred to as 'Performance'). As the use of mean values for ranking and other statistical purposes is quite acceptable (Martilla and James, 1977; Chen et al., 2006), mean values for 'importance', 'performance' and "expectations" were calculated and used.

To reduce the large number of variables investigated (64 items) to a smaller number of factors, researchers conducted an exploratory factor analysis with the use of SPSS principal component analysis with Varimax rotation (Kaiser normalization). The appropriateness of the factor model was indicated by both a Kaiser-Mayer-Olkin (KMO) statistic value of 0.944, which confirmed its high sampling adequacy and the significance (?2 = 14,664.40; p=<.000) of the Barlett's test of sphericity. According to relevant literature, both a KMO value of .6 or higher and a significant Bartlett's test of Sphericity ($p < .05$) suggest a good factor analysis (Tabachnick and Fidell, 2007). Principal components with varimax rotation factor analysis revealed seven factors with an eigenvalue of greater than 1.0 which is the typical value for accepting a factor according to Kaiser's criterion. This seven-factor solution satisfactorily explained 54.68% of the total variance, which is comparable to many similar studies (for example, 52.33% in Catfield, 2000). Factor loadings, indicating the correlation coefficients between the variable and factors, of less then 0.300 are considered low and thus were excluded from the analysis; as a result, two questions were eliminated. All variables included in the factor analysis were tested for reliability with the utilization of Cronbach's Alpha. The overall reliability of the 62 items integrated in the factor analysis, is .903, whereas the reliability of the seven retained factors was within the parameters of the widely acceptable level of reliability of .700 (Nunally and Bernstein, 1994) (Table 2).

TABLE 2: Summary of Factor Analysis (Varimax Rotation with Kaiser Normalization) and Descriptive Analysis

Factor	Eigen value	Percentage of variance explained	Mean Exp	Std. Deviation	Overall Rank
Factor 1: Teaching And Learning Facilities (11 Items)	21,685	33.883	3.43	.615	3
Factor 2: Student Examination And Assessment (15 items)	3.771	5.892	3.38	.514	5
Factor 3: Teaching And Learning Issues (12 Items)	2.607	4.073	3.45	.488	2
Factor 4: Buildings And General Facilities (7 Items)	2.245	3.508	3.34	.615	6
Factor 5 : Programmes And Courses Of Study (6 Items)	1.781	2.782	3.47	.541	1
Factor 6 : Students Support Services (7 Items)	1.521	2.377	3.42	.653	4
Factor 7 : Competencies of Lecturers and Students (4 Items)	1.383	2.160	3.12	.618	7
Total Percentage Of Explained Variance		**54.675**			
Total Scale Reliability Alpha (62 Items) = **.903**					

Note: Kaiser-Mayer-Oklin measure of sampling adequacy = 0.944. Extraction method: Principle Component Analysis. Two questions were excluded because of low factor loading (less than 0.300). Expectations Scale: 1 Not an expectation; 2 weak expectation; 3 strong expectation; 4. extremely strong expectation.

Factor analysis led to the identification of seven dimensions of quality (Table 2). Those seven dimensions are endorsed by the students as priorities for defining a 'quality' higher education institution. The quality dimensions identified were the following: 'Programmes and Courses of Study', 'Teaching and Learning Process', 'Student Support Services', 'Teaching and Learning Facilities' 'Student Examination and Assessment', 'Buildings and General Facilities' and 'Competencies of Lecturers and Students'. Each of the seven dimensions identified addressed several issues as follows:

- 'Teaching and Learning Facilities': Availability and access to: library facilities; study rooms; laboratories; computers; printers; software and the Internet.
- 'Student Examination and Assessment': Rules and policies for examinations; uniformity of application of rules and policies by academic staff; uniformity and fairness in assessment; feedback on course work.
- 'Teaching and Learning Process': Knowledge gained by students; improvement in students' problem solving skills; teaching skills of the academic staff members; punctuality of the staff; attitude and behavior of academic staff towards their students.
- 'Buildings and General Facilities': Appearance of the university campus; appearance of the class rooms; sports facilities available.
- 'Programmes and Courses of Study': Programs and courses offered; extent to which programs and courses of study prepare students for employment; program contribution to personal development of students; development and up-datedness of the programs; overlap among courses.
- 'Student Support Services', program registration; career advice; tutorials; counseling.
- 'Competency of the Lecturers and the Students': Industry experience and research output of the academic staff; student academic performance.

The factor analysis indicated that students expect a quality university to address and be 'good' on these seven dimensions. Identifying the dimensions based on which students define quality is vital for any university as it generates a conceptual framework of quality based on the stakeholders' expectations and thus an agenda for quality efforts and resource allocation.

The expectations of students for a quality university lead to the identification of 64 determinants of quality of an HEI addressing various aspects of overall education provision by a university such as programs of study, teaching, and learning, buildings, library, laboratories, information technology available, and others. Based on the expectation ratings assigned by students and faculty to the determinants of quality through the questionnaires, factor analysis was conducted to reduce the large number of variables investigated (64 items) to a smaller number of factors. Based on this analysis, seven dimensions of quality were developed representing student expectations for a "quality" university. The seven dimensions were named based on the researcher's experience with the

subject, the findings of the interviews and focus groups, as well as the findings of the literature.

To enhance the validity of dimensions of quality identified in this study, the findings were compared with the findings of other similar studies on quality in HE as well as with the publications of international HE quality bodies, such as ENQA (2005) and QAA (2004). This benchmarking exercise identified a strong correlation between the findings of this study and findings of the literature (Harvey et al., 1992; Joseph and Joseph, 1997; Clemes et al., 2001; Lagrossen et al., 2004; Douglas et al., 2006), as the analysis below indicates. The Quality in Higher Education (QHE) project, for example, (Harvey et al., 1992) revealed that based on a survey of 4,000 respondents, the most important criteria for quality HEIs relate to support for teaching and learning, the course and programs of study and student assessment. A study by Clemes et al. (2001) identifies campus facilities and issues relating to the teaching and learning process as the most important criteria of quality. Similarly, a study by Joseph and Joseph (1997) identified issues such as programs and courses of study and physical facilities as significant criteria of quality. More recently, Lagrossen et al. (2004) identified issues such as campus facilities, teaching practices, computer and library facilities (learning facilities) and programs of study as the most important quality dimensions. Finally, a study by Douglas et al. (2006) identified teaching and learning, teaching and learning support facilities and material and ancillary facilities and services as the most important dimensions of quality. The findings of this study, therefore, amount to an amalgamation of the findings of the literature on quality in higher education and are consequently supported and validated by the above-mentioned studies.

To further enhance the legitimacy of the conceptual framework developed, the expectations that students assigned to the dimensions of quality developed through this study were compared to the Importance assigned by them to the same variables, to identify any correlation. This was considered necessary, as the review of the literature revealed that various writers (see Angell et al., 2008; Hill et al., 2003; Joseph & Joseph, 1998) developed the dimensions of quality for HEIs by addressing the Importance that stakeholders, such as students, assign to various determinants of quality. For example, Hill (1995) argued in favor of using importance perceptions instead of expectations for the identification of dimensions of quality. Chen et al., (2006) provide support for the use of importance values instead of expectations when they suggest that: “Several studies replace expectation values with importance values, citing the theory of McDougall and Levesque”, (ibid, p.486).

The statistical analysis conducted, specifically paired sample t-test analysis presented in Table 4 below, revealed that there was no significant difference between the dimensions of quality as identified based on the expectations of students for a quality university and the importance assigned to those dimensions by them

Table 4: Comparison of Expectations with Importance: Paired sample t-test

	QUALITY DIMENSIONS	Variable	Mean	Std. Dev.	t-test t-value	Paired value Sig. (2-tailed)
A	Teaching And Learning Facilities	EXP IMP	3.43 3.43	.615 .644	- 1.681	.930
B	Student Examination And Assessment	EXP IMP	3.38 3.39	.514 .471	.107	.915
C	Teaching And Learning Process	EXP IMP	3.45 3.45	.488 .500	-.505	.613
D	Buildings And General Facilities	EXP IMP	3.34 3.36	.615 .510	-.382	.702
E	Programmes And Courses Of Study	EXP IMP	3.47 3.46	.541 .510	-.554	.580
F	Student Support Services	EXP IMP	3.42 3.44	.653 .680	- 1.483	.139
G	Academic Competency of Lecturers and Students	EXP IMP	3.12 3.13	.618 .583	- .329	.743

Scale: 1 Not an expectation; 2 weak expectation; 3 strong expectation; 4. extremely strong expectation. **Scale:** 1 Not at all important; 2 slightly important; 3 important to some degree; 4 extremely important. Note: p<. 05 statistical difference p<.000 high statistical difference

The congruence identified between the stakeholder-determined dimensions of quality identified by this research study, the findings of other studies, as well as the standards and guidelines on quality in HE by international quality bodies (ENQA, QAA) lead to a further validation of those dimensions.

It is, therefore, the researchers' belief that these dimensions form a "Conceptual Framework of Quality Dimensions", presented in Table 5 below, which may serve as a reference point for managing and continuously monitoring the quality of any HE institution, as it is endorsed by the findings of the literature and many similar empirical studies.

Table 5: Conceptual Framework of Quality Dimensions

A.	Programs and Courses of study
B.	Teaching and Learning process
C.	Student Support Services
D.	Teaching and Learning facilities
E.	Student Examination and Assessment
F.	Buildings and General Facilities
G.	Academic Competency of Lecturers and Students

An institution's management may refer to this framework for quality management and marketing activities, as well as for student and faculty recruitment and retention strategies, as it provides a list of areas that students expect for a quality university and use for evaluating the quality of an HEI. This conceptual framework can also serve, as an instrument for managing quality by any HEI, as it identifies those aspects of the educational provision which an institution needs to address for the continuous monitoring, assessment and improvement of quality as well as for assessing stakeholder satisfaction.

In response to the third and fourth research questions, the findings are the following: To measure the quality perceptions of the students the expectations expressed for each quality dimension by them was compared with their perceptions of the university's performance with that dimension. To evaluate the statistical significance of any differences, inferential statistical analysis was conducted, specifically paired sample which, according to the literature (Saunders et al., 2003; Hussey and Hussey, 1997), is the most widely used method for this type of analysis. At a significance level of 95% (when the p value is less than 0.05) a statistical difference exists. Any difference between expectations and performance indicates either satisfaction and perceptions of 'good' quality or dissatisfaction and perceptions of 'low' quality. To identify whether any statistical difference identified suggests perceptions of 'high' or 'low' quality the 'quality score' (Expectations minus Performance) was determined which serves as an indicator of a stakeholders' perception of quality (Smith et al., 2007; Soutar and McNeil, 1996; Joseph and Joseph, 1998). A negative quality score shows that quality is perceived as 'low' and that stakeholders are dissatisfied (Joseph and Joseph, 1997; Telford and Masson, 2005).

The overall findings from the use of the paired sample analysis indicated a high statistical difference between expectations and perceived performance on all dimensions. Since the quality score was negative (for all dimensions) the conclusion is that the students are dissatisfied and perceive quality of the university to be 'low' on all dimensions. The results for the paired-sample analysis and the quality score are presented in Table 3 below.

TABLE 3: Quality Perceptions – Students (Paired Sample Analysis and Quality Score)

Factor	Quality Dimension	Mean EXPECT.	Mean PERFOR.	Paired Sample T value	Paired Sample P-value	Quality Score
A	Teaching and Learning Facilities	3.43	2.90	15.668	.000	-0.53
B	Student Examination and Assessment	3.38	3.01	16.185	.000	-0.37
C	Teaching and Learning Process	3.45	2.93	19.654	.000	-0.52
D	Buildings and General Facilities	3.34	2.98	11.029	.000	-0.36
E	Programmes and Courses of Study	3.47	2.97	15.722	.000	-0.50
F	Student Support Services	3.42	2.75	18.060	.000	-0.67
G	Competency of Lecturer and Students	3.12	2.69	13.489	.000	-0.43

Note: p< .05 statistical difference, p<.000 high statistical differences, Quality Score < 0: Quality is perceived as 'Low" 1 Not an expectation; 2 weak expectation; 3 strong expectation; 4. extremely strong expectation. Ratings obtained from a four point scale of 'not satisfactory ', 'slightly satisfactory',' very satisfactory' & 'extremely satisfactory'

For all dimensions of quality, there is a gap between students' expectations for quality and the performance of the university on those dimensions. The dimension perceived by students to have the lowest quality is the 'Student Support Services' (highest negative quality score of -0.67). Other dimensions which were also perceived by students to be of low quality are 'Teaching and Learning Facilities' followed by the 'Teaching and Learning Process' and the 'Programs and Courses of Study'. The quality of the three remaining quality dimensions was also perceived by students as "low" but the negative quality score was smaller and below the overall mean, indicating a smaller dissatisfaction. Those dimensions were the 'Student Examination and Assessment, 'Buildings and General Facilities' and 'Competency of Lecturers and Students'.

The gaps between expectations and perceived performance need to be further addressed by the university administration, as managing quality is a matter of managing these gaps (Parasuraman et al., 1985, 1988). Focus groups could be utilized, for example, to investigate the high expectations of students, since unrealistic or unattainable expectations will always lead to dissatisfaction and perceptions of low quality. The expectations of the stakeholders need to be aligned with what the university can offer or perceptions of low quality and dissatisfaction will prolong.

Finally, the findings for the last research question were derived through the use of the Importance-Performance technique, the use of which provides the opportunity for mapping the dimensions in a manner that leads in identifying the dimensions for which performance is good, the dimensions for which quality efforts are needed the most and even identifying where resources, time and efforts are most likely invested while they are not needed. To accomplish the above, quality dimensions are separated into quadrants based on perceived performance and importance ratings.

DIAGRAM 1: Students' Perceptions of Quality

	Quality Dimension	Mean Importance	Mean Performance
A	Teaching and Learning facilities	3.43	2.90
B	Student Exam. and Assissment	3.39	3.01
C	Teaching and Learning Process	3.45	2.93
D	Buildings and Gen. Facilities	3.36	2.98
E	Program. and COurses of study	3.46	2.97
F	Student Support Services	3.44	2.75
G	Competency of Lecturers and Students	3.13	2.69

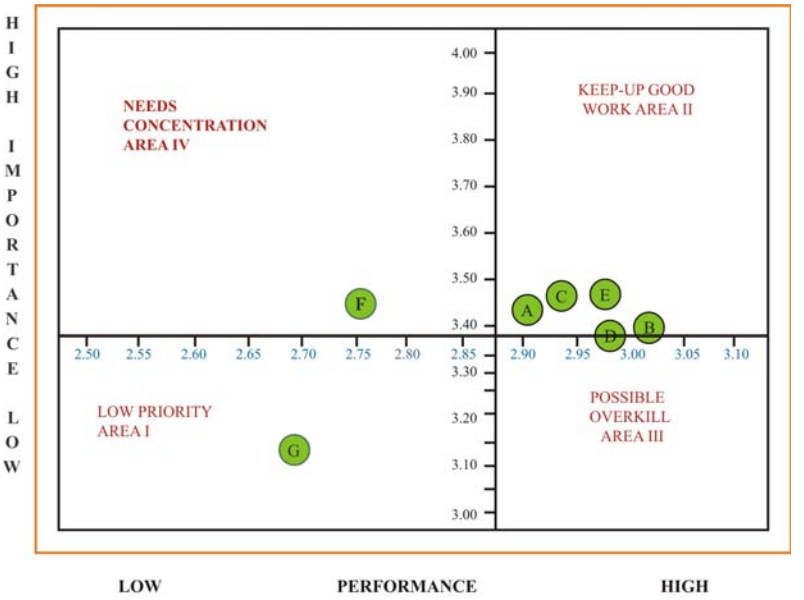

DIAGRAM 1: STUDENT PERCEPTIONS OF QUALITY

Based on the above diagram, the following findings are revealed:

- **Area I:** 'Low priority'. For the dimension of 'Competencies of Lecturers and Students' perceived performance is low but importance is low too. This suggests that for the students of this institution, this dimension ranks low in relative importance, despite what most of us may assume regarding the vitality of this dimension.

- **Area II:** 'Keep-up-the-good-work'. For the quality dimensions of 'Teaching and Learning Facilities', 'Student Examination and Assessments', 'Teaching and Learning Process' and 'Programmes and Courses of Study' both importance and perceived performance is high. The university management must ensure that the good quality of provision with these dimensions is maintained.

- **Area III:** 'Possible overkill' For the dimension of 'Buildings and General Facilities' perceived quality is high but importance is low. This suggests that the university may be allocating resources in an area which, for the students, is not a priority

- **Area IV:** 'Needs Concentration'. For the dimension of 'Student Support Services' importance is high but perceived performance is low. This dimension must become a priority for quality improvement efforts by the university management.

Discussion and Conclusions

A 'quality' university was defined by students with reference to specific quality characteristics, which were identified by them and which are classified (based on factor analysis), into the following seven dimensions: 'Teaching and Learning Facilities', 'Student Examination and Assessment', 'Teaching and Learning Process', 'Buildings and General Facilities', 'Programmes and Courses of Study',

'Student Support Services' and 'Competency of the Lecturers and the Students'. These dimensions indicate what students expect from a 'quality' university and it is thus valuable information for university managers. Since those dimensions have been validated, they can form a conceptual framework of quality and the dimensions identified may be used by university administrators as guidelines for quality improvements, resource allocation, as well as for the development of policies and practices that will lead to quality improvements.

The stakeholders' perceptions of quality were determined based on the comparison of the expectations assigned to a dimension with the perceived performance on those dimensions. The findings revealed dissatisfaction and perceptions of 'low' quality on all dimensions. The dissatisfaction and perception of low quality were probably the result of absolute high expectations assigned to all quality dimensions. This suggests that the university needs to address further the expectations and the importance assigned by the students to the quality dimensions and attempt to manage them, for various reasons: first, a university cannot be 'excellent' in all dimensions, due to limited resources; secondly, unrealistic expectations will always result in dissatisfaction and perceptions of low quality. A university may need to re-assess its advertising, prospectus, and recruitment promises as a tool for managing expectations.

The use of the Performance-Importance Map enabled the researchers to categorize the quality dimensions investigated in a manner that identifies and prioritizes those dimensions according to the need for quality efforts. The results provide valuable information about the strengths and the weaknesses of the educational provision at a university. This information is precious for the development of appropriate quality-related strategies by the university administrators.

In previous studies (Lagrosen et al., 2004; Douglas et al., 2006, Petruzzellis et al., 2006), it was suggested that further research was needed on the subject of quality in higher education. The contribution of this study is that the findings not only support but supplement and enhance other similar studies. It proposes a pragmatic framework for quality, by combining expectations, importance and performance, and suggest a way to map the main areas for policy and decision making which will lead to the enhancement of the quality of the university. This pragmatic quality management framework can serve as a reference for other institutions.

A limitation of this study is that any congruence or gaps in the definition and perception of quality between students of private versus public universities were not investigated. This may be the purpose of a future study.

It is hoped that the study can serve as reference for similar studies by other higher education institution and that the results will be applicable, at least to some extent, to other universities.

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