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SERVICE QUALITY DIMENSIONS (SQDS): A COMPREHENSIVE PROPOSAL FOR APPLICATION IN HIGHER EDUCATION*

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Abstract:

In any quality improvement program, measurement plays a vital role as it provides information for decision making. On the other hand, finding the dimensions of quality is a prerequisite for the measurement process. Despite the diverse resources on the general dimensions of service quality, little work has been conducted on public services and in particular on higher education. It seems that during the past decades, globalization and quality assurance have developed into systematic characteristics of higher education. In spite of their simultaneous evolution, however, actual links between the two phenomena occurred only recently and establishing a comprehensive set of higher education service quality dimensions seems necessary in order to support such linkages.

In this paper, some of the existing sets of Service Quality Dimensions (SQDs), proposed for higher education services have been reviewed. The findings have also been compared and integrated with a general and comprehensive list of SQDs, compiled during an investigation carried out at an international academic research center. The paper presents a new comprehensive set of SQDs for the higher education applications, at national and international levels.

Keywords: Service quality dimensions, Higher education, Customer Satisfaction

1. Introduction:

During the last two decades of the 20th century, globalization and quality assurance have developed into systematic characteristics of higher education. In spite of their simultaneous evolution, however, actual links between the two phenomena occurred only recently. For a long time, globalization and internationalization claimed to contribute to the quality of higher education. At the same time, quality assurance developed structures for international co-operation and information exchange, but without addressing the international dimensions of higher

education service quality. This missing link was also reflected in an almost absent interaction between academic actors and agencies in the field of internationalization of the one hand and in the field of quality assurance on the other [45].

Educational institutes are just beginning to view themselves as part of a service industry, and many are doing so reluctantly [13], often as a result of an enrollment crisis [46]. Canic and McCarthy [7] suggest that for many years, the notions of service quality and higher education seemed about as compatible as oil and water and decades-old institutions were not readily amenable to continuous quality improvement initiatives. Low [28] notes that the provision of quality service to students on campus is a key element in attracting and retaining students and failure to attract or satisfy students would negatively impact student enrollment and retention, funding, job security and viability of a university or educational institute. Finally, service quality can lead to excellence in business education [27].

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In the current economic climate, university departments and course managers are giving serious thought to the issue of service quality. This has come about for two reasons. The first reason is that the expansion phase in higher education has now ended and there is real competition for students. Where there is competition, the quality of the service experience becomes an important factor in buyer decision making [4]. Students report that word-of-mouth recommendation plays a big role in their choice of institution, and course managers are in a key position to influence customer perceptions. The second reason is that higher education founding council (HEFC), higher education quality committee (HEQC) and the university quality assurance systems place emphasis on the student experience as one of the assessment criteria [17].

Although recent literature suggests that meeting customer requirements does not necessarily ensure high customer satisfaction (ISO 9000: 2000; ISO, 2000), quality has been defined as the ability of a service to satisfy customers (ISO 9004-2; ISO, 1991). Satisfied students are likely to attend additional lectures delivered by the lecturer, recommend the course to others and make future financial contributions in support of their institute [1]. It is important to note that while service quality is an enduring long term attitude [2], satisfaction is an emotional reaction to a product or service experience [42], and is experiential, transitory and transaction specific. On the other hand, it has been widely realized that customer satisfaction leads to customer retention and other favorable post consumption behaviour [32]. However, in this study, overall student satisfaction has been used as one of the main purposes for proposing a comprehensive list of higher education service quality dimensions (HESQDs).

Students' views on all aspects of their higher education experiences are now being widely canvassed and regarded as essential to the effective monitoring of quality in universities. Their views will form some of the wide range of data that will be in the public domain so that members of the various higher education stakeholder groups have the information to make

judgements about levels of performance in particular universities [16]; [38]. The classroom teaching/ learning (lecture) process [21] transforms pre-lecture student's skills (input) to post-lecture student's skills (output). The lecturer's skills (knowledge, efficacy, course planning, class management and instruction skills) and other resources (reading materials, etc.) form part of the input that is used in the transformation process. The lecture process consists of lecturer behavior and (consequent) student behavior in the lecture theatre as well as some other variables such as classroom climate, teacher/student relationships and the opportunity for students to engage in leadership roles [21]. Lecturer behavior includes class management and instruction delivery in the lecture theatre. Student behavior includes actions during the academic learning time [43] that the student devotes in the classroom for learning what is intended and/or what will be evaluated. At the conclusion of the lecture, students are left with modified or newly acquired skills (intangible outcomes) and possessions (tangible outcomes like reading materials, etc.), together constituting the output (result) of the service. Once the lecture has been delivered, students may be satisfied or dissatisfied with the outcome. They may reflect on the outcome and tell others about it. This can affect student's interest in the lecture and their subsequent intention to attend future lectures. Although some students might wish to receive high grades without having to attend lectures, submitting assignments or taking examinations [24], a quality conscious institute would require the lecturer to design course lectures in support of students who want to follow them to learn new skills in order to receive good grades and other benefits.

Considering the above explanation of the importance and situation of service quality in higher education, the authors have attempt to provide a comprehensive list of HESQDs to be used as a general pattern in any academic organization, including higher education departments. In the following, after a brief review of the research background, those SQDs from the available resources on higher education are compared with a comprehensive list of SQDs, which has been

compiled recently at the University of Newcastle, UK [40] and has been suggested to be used in any service organization. After modifying the latter list, based on the reviewed literature, a new comprehensive list is derived and proposed for higher education.

2. Background:

Writers like Madu and Kuei [29] and Spanbauer [41] identify the total educational experience as important to students, but do not identify what these factors are, or how they should be managed. Compared to conceptual models developed for products and general services, little published work was found related to quality dimensions in public service and, in particular, higher education. This may be because of the fact that market research has naturally focused on commercial cases. However, the available investigations into the quality of services offered in institutes of higher education and student satisfaction surveys have been appearing in the last decade [5]; [20]; [28].

McElwee and Redman [30] used a model of service quality dimensions (SERVQUAL) developed by Parasuraman *et al.* [36] as a basis for an adapted model for higher education. In view of the framework structure of SERVQUAL, their main emphasis was placed on functional (interactive) aspects of quality. Hill [18] also investigated the implications of service quality theory for higher education. Briefly addressing some quality dimensions, he focused mainly on the application of a perception-expectation model in this context. In another study, Anderson [2] used SERVQUAL to evaluate the quality of an administrative section in a university (office of student services). This appeared to be successful due to the compatibility between the environment in this case and that around which SERVQUAL was developed.

Several universities have used quality management (QM) as a means to gain competitive advantage [33];

[44] or to improve organizational performance [25]; [26]; [34]. In most of these studies, a QM framework was missing and, more specifically, quality of design was not precisely specified [14]. The QM framework is comprised of three dimensions: quality of design (QD), quality of conformance (QC) and quality of performance (QP) [31]; [47]. Quality of design, which is the main focus of this paper has to do with how well the design captures the consumer's requirements. Quality of conformance deals with how well the design requirements are satisfied, including the uniformity, dependability and cost requirements. Quality of performance deals with how well a service and/or product performs in the eyes of the end-user or consumer (both internal and external). Figure 1 suggests that there is a logical flow from QD to QC and QP. However, there are situations when QC may be a design issue and one may be forced to return to the QD phase.

Most of the resources consider the quality of lectures delivered to students in a classroom can be grouped into two quality dimensions: technical (outcome) quality and functional (process) quality. Outcome quality can be expressed primarily as the extent of skills (cognitive, attitudinal, volitional and behavioral) gained during the lecture including notes and reading materials received during the lecture and the feedback on student performance. Functional (process) quality can be divided into tangible and intangible quality. The tangible aspects refer to the condition of the classroom, its illumination and acoustics, the quality of presentations and the appearance of teacher(s). Some of the intangible aspects consist of the ability to deliver the lecture dependably and accurately (reliability); the willingness to help students and provide prompt responses (responsiveness); and the provision of caring, individualized attention to students (empathy). Both tangible and intangible dimensions are expressed widely in this study.

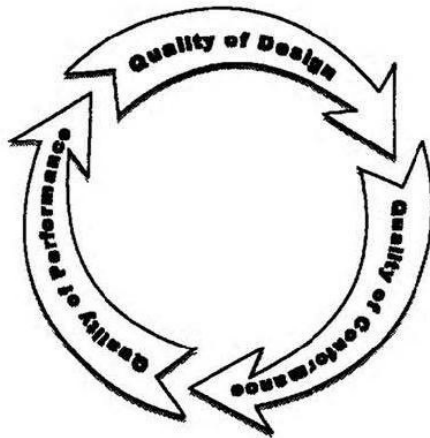


Figure 1. TQM measurement framework
(Widrick *et al.*, 2002)

Following the review of the student learning literature it was concluded that none of the available instruments would provide an appropriate tool for course evaluation by students as part of the system of quality assurance. Also, from a preliminary search of the literature, there appeared to be very little empirical research into student perceptions of quality in higher education (Hill *et al.*, 2003).

3. Proposing a comprehensive list of HESQDs:

One reason why quality management programs such as TQM has not been widely established in higher education, especially in the area of classroom instruction, is the disagreement in accepting teaching/learning as a service process and students as primary customers of the service [12]. Institutions concerned with delivering quality programs and services to students should be concerned with every aspect of the student's experience on campus and attention must be paid to the quality of interactions between a student and the institution's representatives. Together, these

“moments of truth” [35] build or destroy the university's image. The principles of quality customer service apply to all institute personnel, whether in front-line contact with students, in the position to teach students, or serving in a management or administrative role [13]; [28]. Deming (2000) suggested that improvement and management of education require application of the same principles that must be used for the improvement of any process, manufacturing, or service.

The specific characteristics of any service industry necessitates finding its unique dimensions in addition to the common features with other services. More careful generalization is required for the case of higher education regarding its complex characteristics. Recently, an investigation has been done in an international university in the UK and a comprehensive list of SQDs was compiled and proposed to be used as a general pattern in any kind of service organization [40]. In fact, it was represented in three levels. The first two levels included general SQDs and the third one was supposed to involve specific dimensions, with respect to special features, particular service organizations might have. In other words, the third level could differentiate special services of particular service companies/encounters. In this paper, the authors have compared the reviewed literature on HESQDs with the former study and have proposed a new comprehensive list of HESQDs, in which only the third level has been changed to cover almost all the dimensions mentioned in the literature. The proposed list is given in Table I and is an integration of diverse available resources, i.e. Cuthbert [10], Cook [8], Crumbley and Fliedner [9], Widrick *et al.* [47], Hill *et al.* [19], Emery *et al.* [11], Banwet and Datta [3], Shahin [40], and Sahney *et al.* [39].

Table I. A proposition for three-level HESQDs

First level	Second level	Third level
(1) Reliability	(1) Performance	(1) Efficiency of registration (e.g. computerized systems,...) (2) Performing the services at the designated time (3) Preparation and organization (4) Offering courses in proper sequences (5) Appropriate content to course (6) Emphasising on relevance and practicality of subject (7) Adherence to course objectives (8) Fairly and firmly enforced rules and regulations
	(2) Accuracy and dependability	(1) Accuracy in billing (2) Keeping records correctly (3) Accuracy of registrations (4) Listening to complaints (5) Solving problems (6) Appropriateness of assessment procedures and quality of feedback (7) Relevance of assessments to the course material (8) Study timetabled appropriately (9) Class sessions timetabled appropriately (10) Grading fair and reasonably (11) Clear presentation of concepts (12) Clearly specified values/aims (13) Clearly specified policies
	(3) Consistency	(1) Delivering services in the same fashion for every student (2) Standard of the institute at unit and course level
	(4) Completeness	(1) Providing all services in the order (2) The variety of units and courses (3) Coverage and depth of the lecture

Table I. A proposition for three-level HESQDs (Cont.)

First level	Second level	Third level
(2) Responsiveness	(1) Willingness to help students	(1) Listening to complaints (2) Solving problems (3) Tutor enthusiasm and style of delivery
	(2) Readiness, Promptness (Timeliness and speed)	(1) Calling the student back quickly (2) Setting up appointments quickly (3) Keeping students informed of course/timetable changes
	(3) Comfort	(1) Convenience of registration (2) Comfort of service environment and facilities (e.g. classroom and equipments) (3) Giving students free time (4) Easy examinations
(3) Security and confidentiality	(1) Physical security	
	(2) Safety	(1) Louel fire alarms be reliable (2) Security personnel be responsible
(4) Access and approachability	(1) Ease of contact	(1) Convenient location of service facilities (2) Academic/technical staff are approachable and accessible (3) Lecturers available outside the class
	(2) Timely access	(1) Some services are easily accessible by telephone (2) Short waiting time to receive service (3) Convenient hours of official working (4) Readily available library and IT services

Table I. A proposition for three-level HESQDs (Cont.)

First level	Second level	Third level
(5) Communication	(1) Word-of-mouth communication	(1) Explaining context setting and discussion of unit material (2) Explaining how much the courses/units will cost (3) Explaining the trade-offs between services and cost (4) Assuring the student that a problem will be handled (5) Academic and non academic staff speak well (6) Good facilitator of debate and discussion (7) Lecturer's audibility and articulation
	(2) Giving information	(1) Information about the institute services (2) Advanced information about prices (3) Giving information that is easy to understand (4) Institute and departments guide information (5) Giving information to guide students in their studies (6) Provide sample examinations (7) Wide range of information sources (8) Lecturer's feedback on assessed work
(6) Understanding the customer	(1) Comprehension	(1) Learning the students' special needs (2) Adjustment of difficulty, pace and quantity of the workload (3) Willingness to allow and encourage class group interaction (4) Provide advice on how to study (5) Encouragement given by lecturer to think and reason logically
	(2) Individual attention	(1) Recognizing the regular student
(7) Credibility	(1) Trustworthiness and believability	(1) Institute/University name/image
	(2) Honesty	(1) Personal characteristics of the contact personnel (2) Lecturer's sincerity in teaching
	(3) Reputation of service	

Table I. A proposition for three-level HESQDs (cont.)

First level	Second level	Third level
(8) Tangibles	(1) Appearance	(1) Appearance of academic and non-academic staff (2) Exterior appearance of university (3) Interior appearance of university, stylish, atmosphere and furniture (4) Other students in the service facility (5) Size of rooms/classrooms (6) Variety and quality of sports/recreational facilities, ... (7) Flowers/ plants/ Landscaping (8) In room temperature control be of high quality (9) Library facilities (10) Condition and ambience of classroom and equipment (11) Organization and legibility of presentation
	(2) Tools or equipment used to provide the service	(1) Physical representations of the service (plastic card, or books, notes, etc.) (2) Communication materials (3) Orderly environment conducive to learning
	(3) Availability of physical facilities	(1) Parking area available (2) Meeting and discussion room available (3) IDD be available (4) Food and drink store be available (5) Health club be available
(9) Courtesy	(1) Politeness, respect and consideration	(1) Clean and neat appearance of contact staff (e.g. clean uniform of administrators) (2) Cleanliness and tidy appearance of the tangibles (3) Behaviour of staff (4) Consideration for students' property
	(2) Empathy	(1) Friendliness (2) Calling the student by name (3) Avoid embarrassing students (4) Convenience and relevant class time of day (5) Reward structure/ recognition for work done

Table I. A proposition for three-level HESQDs (cont.)

First level	Second level	Third level
(10) Competence	(1) Skills, knowledge and professionalism of academic and non-academic staff	(1) Knowledge and skills of academic staff (2) Knowledge and skills of operational support staff (3) Research capability of the organization (4) Experience of staff (5) Relevance and interest of the material to the student
(11) Flexibility	(1) Specification and Volume flexibility	(1) Provide a variety of teaching methods (2) Grade on a curve (3) Inflating grades (4) Flexible curriculum that took account of the student group experience (5) Allowed students to challenge practice when linking theory to the real world. (6) Part time accepted (7) Flexibility of knowledge being cross disciplinary
	(2) Service delivery speed	
(12) Price	(1) Discountable for money	(1) Student discounts, scholarship, etc.
	(2) Valuable for money	(1) Classroom and equipments be valuable for money (2) Beneficial lab work

Source: Extracted from the Cuthbert (1996), Cook (1997), Crumbley and Flidner (2002), Widrick *et al.* (2002), Hill *et al.* (2003), Emery *et al.* (2003), Banwet and Datta (2003), Shahin (2003), and Sahney *et al.* (2004)

4. Discussion:

In higher education, while keeping promises relates to the whole institution, freedom from mistakes and consistency is mainly concerned with teaching processes. McElwee and Redman [30] related reliability to performing the service (lecture) at a designated time and keeping accurate records of students' performance; though the former seems to be more consistent with a dimension like timeliness. *Timeliness*, as quick response to customers, is one of the quality determinants in general services; it appears less meaningful in the classroom. However, the willingness and readiness of lecturers to solve students' problems and answer their questions remains important. This interacts with two other dimensions – *understanding/knowing the customer* and *access*. Understanding students and their needs, or “diagnosis” according to Haywood-Farmer [15] is a prerequisite for advice and guidance. Access can be seen in two aspects: the degree to which staff are available to respond to students' enquiries and the availability, as well as ease of use, of academic facilities and services; the latter will be considered as “tangibles”. Although courtesy and respect as expected from ordinary services staff appear less appropriate in a higher education environment, a positive and warm attitude from lecturers towards students is obviously favoured. *Competence*, a vital factor in higher education, is essentially related to the knowledge of the academic staff. Moreover, their familiarity with practical applications as well as their expertise in presentation skills should be included. In this respect, the degree of *communication* between students and lecturers is paramount. The *tangibles* dimension of service quality seems to be more important in the case of higher education. The quality and quantity of equipment and facilities such as workshops, laboratories, library, computer and information systems play a key role in the learning as well as the teaching processes. Support facilities like accommodation, sports centres, restaurants, and the general environment should also be included in this dimension.

In higher education, the definition of customer is quite different from that in manufacturing or general services since groups such as students, employers, academic staff, government and families are all customers of the education system with a diversity of requirements. This is further exacerbated when it comes to the choice of quality dimensions. Investigating the framework developed for these reveals that all attributes do not render the same degree of interest and feeling among different groups of customers. For example, all of the proposed dimensions are relevant to students, but their applicability to academic staff and employers may be more tenuous because they do not have the same level of contact with the corresponding processes. However, today, there is a consensus that the student is the primary customer of education services. Wallace [46] suggests that, although using the term “customer” can arouse many emotions, preconceptions and misconceptions in academia, referring to students as customers does not mean that faculty members and administrators cannot or should not drive the educational agenda. Nor does it indicate that meeting students' wishes is always possible or desirable. Like any other service customer, students have responsibilities and do not necessarily know their needs very well. However, these arguments should not be used as a convenient excuse for delivering poor service. In fact, educational institutes must focus on customer service, and regard their students as primary customers in order to truly focus on student-centered education [13]. Failure to view students as customers can lead to attitudes and behavior on the part of the faculty that are inappropriate. Wallace [46] narrated the case of professor at a local university who believed that as a full professor he was entitled to show up in the classroom up to ten minutes late, thereby not having to prepare for five and a half-hours of class time during the semester. This amounted to the students being cheated, as they were paying for all the teaching time that was designed for them.

While students may identify certain factors as desirable, some 'needs' are not educationally desirable nor achievable within the constraints of budget, regulations or other factors. This is important, as service managers have additional and important knowledge in relation to the provision of the service. By using this knowledge, it is possible to explain to students why certain actions cannot be achieved, however, one has to identify the students' needs first.

Diverse involvement of customers in the processes causes problems when taking decisions on quality attributes. Treating the individual characteristics as the basis for quality improvement, the question is which group of customers should be prioritized for satisfaction. Obviously, when only one group (e.g. students) is present in the process, no problem arises since there are no contradictory requirements. If the characteristics are to be combined into a total quality score, another difficulty is that customer groups do not provide a homogeneous data set on the characteristics. A solution to the first case (individual items) is to define a "dominant" customer for each characteristic in a particular dimension and then treat them as the only customer. An alternative which works in both circumstances is to reconcile all the relevant customers by assigning weights when calculating individual or total scores.

5. Conclusions:

A comprehensive set of HESQDs has been proposed in this paper. Many quality management initiatives, especially in service industries, die because in general, determination of such dimensions fails. The proposed framework enables higher education organizations to implement and measure quality initiatives better and consider almost all possible dimensions of service quality in their programs in order to achieve overall student satisfaction, nationally and internationally. The comprehensive set of HESQDs seems to be capable of supporting the linkages between globalization and the quality dimensions of higher education services.

As a service industry, higher education must pay attention to the quality of its 'products' and its relationships with its 'customers'. The students want knowledgeable and enthusiastic individuals who cared about their learning and helped them as individuals to move their knowledge forward. The students also value the institution support networks. These networks must be available and accessible for all students and personnel must be proactive with Lecturers to ensure those in need are supported.

The proposed comprehensive list of HESQDs provides a basis for the measurement and, consequently, improvement of quality in this environment. It is based on a study of possible interpretations of quality dimensions in non-educational contexts as well as reviewing published quality factors suggested for higher education. However, it seems that further investigations are needed to examine the applicability of the proposed list; quantitatively and qualitatively; the work that we are going to continue and develop in the next stage in our research program.

It is important to note that this investigation pertained to overall students' requirements of higher education. The study can be applied in different institutes and universities in order to both verify and generalize the comprehensive proposed set of HESQDs.

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