Expectations Versus Realities Of Higher Education: Gap Analysis And University Service Examination

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ABSTRACT

The university education providers are waking to student recruitment challenges, competition, and the realities of marketing. With these changes, a related and equally important issue has emerged; that is, the student service quality and evaluating of the educational encounter. Using university services as the primary study setting, the study explores the concept of university services quality and its evaluation from both the university provider and student perspectives.

Gap analysis is used as an appropriate approach for examining the similarities and differences in expectations of the university services. The findings, based on a survey of 712 responses, provide special empirical insights on the gaps that can arise from inconsistent perceptions of expectations and experiences between the students and the university. Finally, implications for university administration, marketing and research are presented.

Keywords: Gap Analysis; Service Quality; Perceptions; Expectations; Higher Education

INTRODUCTION

Recently the UK saw a publication of a review of funding higher education (Browne et al., 2010). The report proposes far-reaching changes in perception and how educational institutions should be operated. The report argues that higher education should not be viewed as a public good; it should be seen as a marketplace where student choice in sovereign is determining what is offered. The UK is simply reflecting what is happening in many parts of the world as every institution strives toward a market-orientation to enhance their competitive edge. Others argue that a task-orientation or a market-orientation perspective might cause challenges related to ethical behavior and morality (Mujtaba, Cavico, and Chen, 2010; Mujtaba, Wolf, and Kolacek, 2009; Mujtaba, 2008).

It seems that universities are facing increasingly difficult times as governments are restricting public funds and, at the same time, expecting them to take in more students and improve quality (Cavico and Mujtaba, 2010). Due to limited funding, some educational institutions experience difficulty in recruiting and retaining credentialed faculty (Morse and Mujtaba, 2008). With these financial exigencies, universities must seek alternative means of generating revenues to support their work by attracting more students.

The universities were thought to be an enabling environment for pursuit of knowledge, though now it could be said that the universities have evolved from simply providing education to becoming business enterprises directed at satisfying market demand for educational services. Research shows that many universities are being forced to reevaluate their main purpose and overall strategies (Grigg, 1994, and Kerr, 1987). This is as a result of the increasingly intense competition in the academic market, an ever more turbulent operating environment, and considerable contraction of public funding (Melcher, 1998).
This adoption of marketing by the universities is not without its critics as it can cause more stress among students (Mujtaba, Knapp, Baker, and Ahmed, 2009). The academic culture sees it as merely a tool for fundraising and admissions (Conway et al., 1994). However, Kotler & Fox (1995) suggested that universities should develop long-term relationships with target students, as well as identify other influences on the student decision process, such as employment prospects, parents, peers, employers, and others (Campbell, 1977, and Maguire & Lay, 1981).

Universities have begun to aggressively promote themselves to maintain and/or enhance their competitive position. It is contended that with the uproar, tumult and dynamism in the present environment, the universities cannot rely primarily on student recruitment efforts for success. They will need to be more proactive and innovative and, it is argued, research into what the students expect, how they select their university and their experiences whilst there.

The purpose of this paper is to explore the concept of university services quality and its evaluation from both the university staffs’ and students’ perspectives. It is contended that this study is one of the few empirical examinations of service encounter within the university sectors to consider the perceptions of both parties - the university staffs and the students, in the dyadic exchange. It is suggested that such an approach makes possible the identification and analysis of perceptual gaps between expectations and actual experiences of the two university parties. Given the typically high level of personal interaction in university service encounters, the examination of both parties participating in the exchange is necessary for gaining understanding of the evaluation process and the marketing of the universities. The modern university environment offers students many choices and virtual education is a must in almost all developed economies today (Mujtaba, 2007). As such, university administrators and educators must also understand the needs, wants, and overall perceptions of diverse online students in order to better recruit and serve them. In regards to cross-cultural assessment, some researchers compare the learning achievement of students across different countries to discover best practices in learning habits (Williams and Mujtaba, 2008). The findings can be used for enhancing the curriculum as well as the school’s marketing efforts in a competitive environment.

In normal marketing of universities, an evaluation of a service encounter is seen as resulting in degrees of one of two outcomes - satisfaction or dissatisfaction. Satisfaction and dissatisfaction often are viewed as opposite ends of a continuum, with disposition being determined as a result of a comparison between expectations and outcomes (Oliver, 1979). Satisfaction occurs when outcome meets or exceeds the client's expectations. Dissatisfaction occurs when a negative discrepancy is present between the client's anticipated outcome and the actual outcome. It is argued here that the choice of university is a cognitive act and, as such, we need to look at it in terms of expectation-experience continuum. The prior research in this area of students' choice of universities used a list of factors to undertake an adaptive conjoint analysis (ACA) study in which a number of attributes were examined (Hooley & Lynch, 1981).

The early studies used satisfaction dissatisfaction dichotomy; it is suggested that this is too simplistic. An alternative was used by Woodruff, Cadotte & Jenkins (1983) and Cadotte, Woodruff & Jenkins (1987). Their suggestion was that attitudes based on experience are more appropriate to serve as a benchmark against which service experiences are compared. This suggests that the students compare their experiences with a set of expectations. Not only students have different expectations, but they also come with different abilities and motivations (Teowkul, Seributra, Sangkaworn, Jivasantikarn, Denvilai, and Mujtaba, 2009). These diverse perceptions, motivations, and expectations may be based on many factors. Equally, the university staffs will have some idea of the expectations that the students bring and how these are being fulfilled.

The interactive nature of university services and their often simultaneous production and consumption indicate a need to examine the perceptions of both parties involved in the service encounter. Potential gaps that relate to expected and experienced service and represent both sides of the service exchange should have a significant impact on the service evaluation.

Parasuraman, Zeithaml & Berry (1985) identified ten determinants of service quality that may relate to various services, which they changed to five. Figure 1 presents the basic conceptual model used in this study.
Figure 1: Dimensions of Service Quality Perceptions and Expectations

<table>
<thead>
<tr>
<th>Dimensions of service quality</th>
<th>Expected services</th>
<th>Perceived service quality</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Reliability of administration</td>
<td></td>
<td>1. Expectations exceeded PS &gt; ES (Quality surprise)</td>
</tr>
<tr>
<td>• Responsiveness of staff</td>
<td></td>
<td>2. Expectations met PS = ES (Satisfactory quality)</td>
</tr>
<tr>
<td>• Assurance by university</td>
<td></td>
<td>3. Expectations not met PS &lt; ES (Unacceptable quality)</td>
</tr>
<tr>
<td>• Empathy for students</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Tangibles-social, cultural and sports facilities</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Expected services

Perceived service quality


Figure 2: Quality Gaps and Dimensions

<table>
<thead>
<tr>
<th>Word of mouth communication</th>
<th>Personal needs</th>
<th>Past experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expected service</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Actual service</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perceived service quality</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Determinants of service quality tangibles

- Reliability
- Responsiveness
- Assurance
- Empathy

Figure 2 provides a visual of quality gaps and its dimensions that can exist for the real and perceived experiences of students. In keeping with the study by Parasuraman et al. (1985), we define the quality perceived in a service to be a function of the gap between the students’ expectations of the university service and their actual service experience. This gap is influenced by several other discrepancies or gaps which may occur within the universities. Their research among company executives led to the identification of four key gaps/shortfalls which this research has used:
Gap 1: Staffs’ perceptions of student expectations and students’ experiences relating to the reliability of service are significantly different.

Gap 2: Staffs’ perceptions of student expectations and students’ experiences relating to the responsiveness of service are significantly different.

Gap 3: Staffs’ perceptions of student expectations and students’ experiences relating to assurance of service are significantly different.

Gap 4: Staffs’ perceptions of student expectations and students’ experiences relating to empathy of service are significantly different.

Gap 5: Staffs’ perceptions of student expectations and students’ experiences relating to tangible facilities offered are significantly different.

The gap analysis model has been used in various industries. Mukherjee & Nath (2005) state that the gap model is the most famous measurement approach of service quality. It is extensively used in different service sectors such as hotel, health care and banking. Gap analysis model was created by Parasuraman, Zeithaml and Berry in 1985 (Kotler, 2000). Grönroos (2007) indicated that Berry and his colleagues have developed what they call a gap analysis model, which is intended to be used for analyzing sources of quality problems and for helping managers understand how service quality can be improved.

METHOD

Several distinct disciplines fit within the definition of professional services. Given that this study is the first of its kind, it focused on four universities in Thailand, examining students’ expectations prior to going to the university and actual experiences compared to the senior and other staff’s perceptions of the expectations and actual experiences. Table 1 provides the demographic data about the survey and the responses.

<table>
<thead>
<tr>
<th>University</th>
<th>Distributed</th>
<th>Returned</th>
<th>Invalid</th>
<th>Valid</th>
</tr>
</thead>
<tbody>
<tr>
<td>University 1</td>
<td>Student 120</td>
<td>110</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>Staff 50</td>
<td>31</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>Senior Staff 15</td>
<td>3</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>University 2</td>
<td>Student 120</td>
<td>100</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>Staff 50</td>
<td>31</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>Senior Staff 15</td>
<td>11</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>University 3</td>
<td>Student 120</td>
<td>115</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>Staff 130</td>
<td>120</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>Senior Staff 15</td>
<td>6</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>University 4</td>
<td>Student 120</td>
<td>100</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>Staff 100</td>
<td>82</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>Senior Staff 15</td>
<td>3</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>Total</td>
<td>870</td>
<td>712</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>Percentage/Distributed</td>
<td>100.0%</td>
<td>81.83%</td>
<td>0</td>
<td>100%</td>
</tr>
</tbody>
</table>

Procedure

The participants in this study were Vice Chancellor of senior staff, staff and students from public and private universities throughout Thailand who were registered members of the Commission on Higher Education.
Almost all private and public universities in Thailand are registered members of the CHE.

**RESEARCH QUESTIONS**

Three primary research questions were developed to aid universities in understanding student expectations and perceptions of service quality in universities. 1) What are the expectations that students bring with them about the provisions of universities? 2) What are their actual experiences once they spend time at the university? and 3) What are the perceptions that the staff have of student expectations and actual experiences? These questions give us a better understanding of how the universities should market themselves.

**Measuring Service Quality**

It is difficult to measure service quality, especially in university setting. The university combines the certification of knowledge with pastoral care. The students expect knowledgeable, helpful staff to assist in the learning. The ultimate goal was to measure service quality of universities using the refined SERVQUAL scale (Parasuraman et al., 1991) which indicated five determinants of service quality.

Each sample was given a questionnaire and a cover letter seeking their voluntary cooperation in the survey. The letter assured respondents of their anonymity. Completed questionnaires were returned directly to the researcher.

**Measures**

Statements presented on the questionnaire included statements that corresponded to the determinants of service quality proposed by Parasuraman, Zeithaml and Berry (1985). Following this approach, 65 statements relating to the university services encounters were developed. Items included both student expectation statements and their experience statements. Subjects responded to these items on a 5-point Likert-type scale, with 1 representing "strongly disagree" and 5 "strongly agree." Last, various demographic and classification questions were presented.

**Data Analysis**

To analyze the gap between student expectations and perceptions, the expectations score of each SERVQUAL type statement was subtracted from the perceptions score on the corresponding statement, resulting in 22 multiplied by 3 measurement items. Using the 22 gap scores, a five factor principle-axis analysis followed by oblique rotation was conducted to analyze the a priori factors determined by Parasuraman et al. (1991). Due to low eigenvalues, a second factor analysis using four factors followed by oblique rotation was performed. This resulted in a greater eigenvalue for each variable and diminished the variance by only 3 percent. One way Analysis of Variance was used to determine if there were significant differences among the various categories in regard to the gap scores that measured disparity between expectations and perceptions. The importance of university service in relation to students was determined through additional analysis. By averaging the points allocated to each variable, it was possible to obtain overall scores for each variable.

**RESULTS AND ANALYSIS**

**Factor Analysis**

Before hypothesis testing, the underlying dimensions for the set of expectation statements and the set of actual experience statements were identified through principal components analyses of the patients’ responses. Each group of variables was analyzed by using a varimax rotation, with a factor loading of 0.5 or better. The number of factors to be extracted was determined by evaluating the screen plot and the eigenvalue scores.
Three factors were extracted from the expectation statements, accounting for 39% of the variance. Six factors were extracted from the experience statements, accounting for 51% of the total variance.

Reliability analysis was performed to further refine the factors. Using coefficient alpha, scores of 0.65 to 0.78 were recorded for the expectation factors and 0.93 to 0.64 for the actual experience factors. Individual-item analysis indicated that all statements in each of the factors should remain. The internal consistency of the experience factors is much stronger than that observed for the expectation factors.

Hypothesis Testing

For hypothesis testing, gaps 2 and 3 were computed by taking the difference between each individual student’s score on each item identified through the factor analyses and staffs’ score on the same item. Gap 2 relates to expectations whereas gap 3 corresponds to experiences. For areas where both expectation and experience questions were asked, gap 1 was computed by taking the difference between the student's responses to each item. Gap 1 could be computed for only six items.

Hypothesis 1

There is no significant difference between the expectations and actual experiences of the students. Table 2 reports the mean gap score for each item on which a comparison between a student's expectations and experiences was possible. Each gap 1 score was compared with the overall evaluation score by using Pearson's correlation; a significant negative correlation indicated support for H1. Correlation scores. Table 2 provides support for alternatives; that is, in H1, the greater the negative gap, the lower the level of satisfaction as expectations are not met.

Hypothesis 2

Table 2 gives the mean scores for gap 2 and the corresponding correlations. Though the correlation scores are weak, ranging from 0.16 to -0.08, only two are in the hypothesized direction and significantly different from zero. As a result, H2 is not supported. This lack of support may be a function of the weakness of the measures. As noted before, the reliability of the expectation statements is suspect. Therefore, the relationship hypothesized may not have been truly tested.

Hypothesis 3

Gap 3 mean scores and relating correlations are also provided in Table 2. Strong positive correlations are present for all items but those in factor 3. Closer examination of this factor reveals that all the items are negative in orientation. Hence, for items in factor 3 a positive mean score represents a negative gap and a negative correlation score supports H3. Given these results, H3 is overwhelmingly supported.

Regression Analysis

To explore how the individual gaps measured relate in determining the overall evaluation, we performed a stepwise regression analysis using the expectation and experience factors' summed gap scores (gaps 2 and gap 3), as well as the individual difference scores representing gap 1.

A significant regression equation was achieved with an adjusted R² of 0.60. After adjusting for multicollinearity, we recomputed the regression model using the remaining factors. The second regression model was very similar to the first (adjusted R² = 0.55), with the exception of the absence of the highly correlated variables. The beta weights and other summary statistics from both regression analyses are reported in Table 3.
### Table 2: Summary Data on Gaps 1, 2, and 3

<table>
<thead>
<tr>
<th>Gaps- reliability</th>
<th>Gaps 1 Student Expectations-Student Experiences</th>
<th>Gaps 2 Student Expectations-Staff Perception of Student Expectations</th>
<th>Gaps 3 Students’ Experiences-Staffs’ Perceptions of Students’ Experiences</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean gap score IS DI</td>
<td>Correlation with sates faction 1 sig 1</td>
<td>Factor loading</td>
</tr>
<tr>
<td>Teachers are reliable</td>
<td>53 (1.131)</td>
<td>26 (1.001)</td>
<td>Teachers approachable</td>
</tr>
<tr>
<td>Teachers are available</td>
<td>-0.001 (1.818)</td>
<td>-32 (0.001)</td>
<td>Senior Staff available</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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The most significant independent regression variable is interactions. Examination of the beta weights reveals that gaps found in the experience statements related to the interaction factor (gap 3) had the greatest single impact on the overall service evaluation. This finding suggests that interactions with the university service provider are the most important in assessing service quality. However, the inclusion of other variables in the regression model, such as staff interactions and information, supports the multidimensionality of service evaluation.

**Hypothesis 4**

There is no significant difference between what the staff perceives what the students expect from their universities and the actual expectations of the students.

### Table 3: Differences in Perceptions of Staff and Students

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>S.D.</th>
<th>F-test</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>The staff perceives what the students expect from their Universities and the actual expectations of the students</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>University 1</td>
<td>4.511</td>
<td>0.572</td>
<td></td>
<td></td>
</tr>
<tr>
<td>University 2</td>
<td>3.775</td>
<td>0.748</td>
<td>35.960</td>
<td>0.000</td>
</tr>
<tr>
<td>University 3</td>
<td>3.668</td>
<td>0.701</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

This hypothesis was tested using ANOVA. The results show that the staff had no idea of what their students expected. A number of other hypotheses were also tested around a range of student expectations and experience, staff’s expectations of students’ expectations and actual experience. All these hypotheses demonstrated gaps between student expectations and experience on a number of dimensions and equally between the students’ expectations and experience and the staffs’ perception of their students’ expectations and actual experiences.

**DISCUSSION**

The results suggest a significant relationship between perceptual gaps (among students and staff) and the evaluation of university services. Insight into this relationship can be gained by examining both the type (e.g., gap 1) and content (e.g., 2-4).

First, all three gap types are demonstrated to influence the evaluation outcome. This finding suggests that university marketers can gain information by looking beyond the traditional satisfaction/dissatisfaction paradigm when assessing their service offerings. Though student assessments are important, the staff's view, when combined with the student's perspective, can provide additional insight into areas where change is needed.

Also of interest is the content or topics measured by the gap variables in the regression model. As might be expected, several of these areas relate directly to the staff and their behavior. However, other dimensions also are relevant (e.g., staff interaction and communication), indicating that the entire staff-student encounter is evaluated, not just the academic. These findings suggest that the universities should adopt a broad perspective when defining and examining their service offerings and assessing their students' satisfaction.

### Table 4: Stepwise Regression Results

<table>
<thead>
<tr>
<th>Variable</th>
<th>Beta</th>
<th>Significant</th>
<th>Beta</th>
<th>Significant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interactions</td>
<td>6155</td>
<td>0.000</td>
<td>.6259</td>
<td>.000</td>
</tr>
<tr>
<td>Staff interested</td>
<td>1616</td>
<td>0.000</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Professionalism</td>
<td>1096</td>
<td>0.000</td>
<td>-.1273</td>
<td>.000</td>
</tr>
<tr>
<td>Reasonableness</td>
<td>1104</td>
<td>0.000</td>
<td>.0682</td>
<td>.009</td>
</tr>
<tr>
<td>Professional conduct</td>
<td>1122</td>
<td>0.000</td>
<td>-.0995</td>
<td>.000</td>
</tr>
<tr>
<td>t competence</td>
<td>2044</td>
<td>0.000</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Latest technologies</td>
<td>1443</td>
<td>0.000</td>
<td>-.0677</td>
<td>.012</td>
</tr>
<tr>
<td>Empathy</td>
<td>0866</td>
<td>0.007</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Reliability</td>
<td>0757</td>
<td>0.011</td>
<td>-.0700</td>
<td>.017</td>
</tr>
<tr>
<td>Information available</td>
<td>0688</td>
<td>0.017</td>
<td>-.1065</td>
<td>.000</td>
</tr>
</tbody>
</table>

Regression 1: F = 94.55, Significance 0.000, Adjusted R² = 0.60
Regression 2: F = 125.97, Significance 0.000, Adjusted R² = 0.55
Past research demonstrates the consumer's reluctance to complain when a negative service encounter occurs (Gronhaug & Arndt, 1980, and Quelch & Ash, 1981); the students tend to be even less inclined to complain. The universities need to take a proactive approach in monitoring service quality. Our research suggests that one such approach could involve gap analysis.

As illustrated in the regression analysis (see Table 4), inconsistencies in expectations and experiences affect the service evaluation. Clearly, the magnitude and direction of the inconsistencies will determine whether the students are pleasantly surprised with greater satisfaction, or bitterly disappointed, leading to dissatisfaction and possibly even dropping out, or mildly pleased or displeased.

While the SERVQUAL scale has proven a reliable scale for studies assessing pure service firms, this study demonstrates how well the scale performs with universities. The five determinants did not factor out as fully expected; however, the results demonstrate that this is a better way of looking at satisfaction/dissatisfaction.

The results of this study suggest that refinement of the SERVQUAL scale is needed before it can be accepted as a fully valid measurement scale applied at a university setting. Magnitude and direction of students' disparity also warrant future research. In addition, it would be interesting to see if students in other areas of the country similarly assess service quality. Another project would involve the segmentation of students by course type based on their expectations and experiences.

From the factor analysis, personal reliability and responsiveness factors held the greatest gap scores, indicating disparity between what students expected and their perceived experiences. Some of the items that factored together forming reliability and responsiveness may actually be antecedents of other items. The factor analysis also revealed that the tangibles dimension (sports, cultural and social facilities) are important for universities. These facilities are visible cues to students that they use to form perceptions of university image. Because tangibles often form students' first impressions, it is important for the universities to create an image for them that they wish to project and then survey students as to their perception of the university. While the empathy and awareness factors represent slightly lower gap scores for students in this study, it is important not to diminish their importance.

SUMMARY

It should be acknowledged that the sample was selected from four provincial universities and therefore does not represent all the universities in Thailand, and certainly not in other countries. The normal SERQUAL questions were elaborated from the normal 22 to 65 items. The study used gap analysis to examine the similarities and differences in expectations of students and staff regarding the university services. Significant differences were found in the perceptions of students and university employees. The findings provide empirical insights on the gaps that can arise from inconsistent perceptions of expectations and experiences between the students and the university. Implications for university administration, marketing and research were offered.

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