Tracking Institutional Performance Using Importance-Satisfaction Analysis

Prof. Ramli Bahroom
Faculty of Business and Management & General Manager
for Corporate Planning and Communications
Open University Malaysia
E-mail: ramli@oum.edu.my

Prof. Dr. Latifah Abdol Latif
Faculty of Science and Technology &
Director of the Centre for Student Management (CSM)
Open University Malaysia
E-mail: latifah@oum.edu.my

Mr. Ng Man San
Consultant to Centre for Student Management
Open University Malaysia
E-mail: mslymy@oum.edu.my

Abstract

Importance-Satisfaction Analysis (ISA) has been widely used for evaluating institutional performance in providing their services that are important to their customers. This paper reports on a study using ISA at Open University Malaysia (OUM) to assess the improvements made in delivering its services to learners from 2005 to 2007.

The study employed the survey method and the instrument used is a set of questionnaires similar to that of Noel-Levitz Students Priority-Satisfaction Inventory. Learners were requested to rate the service items based on their degree of importance as well as the level of satisfaction using a 7-point Likert Scale. An Importance-Satisfaction (I-S) Matrix was developed based on four I-S quadrants which are defined as follows: Quadrant 1: High-Importance-Low-Satisfaction (HILS); Quadrant 2: High-Importance-High-Satisfaction (HIHS); Quadrant 3: Low-Importance-Low-Satisfaction (LILS) and Quadrant 4: Low-Importance-High-Satisfaction (LIHS). Using the I-S quadrant analysis, the movements of service items (measured by their percentages) across quadrants over the 2005-2007 periods were tracked.

The results showed that the percentage of items in the HIHS quadrant increased while that in the HILS quadrant decreased. At the same time, there was a decrease in the percentage of service items in the LILS quadrant. These indicate that OUM learners were generally more satisfied with the quality of services received in 2007 compared to that in 2005. The only concern was that there may have been a slight misallocation of resources as indicated by the presence of one item in the LIHS service items in both years. However, the overall improvement in learner satisfaction is a testimony to the overall improvement in the quality of services provided by OUM to its learners.

Keywords: Importance-satisfaction analysis, open and distance learning, institutional performance, quality of services, learner satisfaction

INTRODUCTION

Just like any other organization, to be successful, a university must perform its role effectively. In this context it has to identify what is important to its learners and then deliver what they expect (Elliot, 2002). This is the essence of performance, which is defined as the "action of accomplishing something." Performance is becoming more critical to a university in this today's highly competitive higher education environment. With globalization and increasing complexity of demands by learners, a university needs to respond to the needs of their learners quickly and efficiently.

In this regard, it is essential that a university makes a genuine effort to measure its performance on a regular basis. There are many measures of performance and one of them, the Importance-Satisfaction (IS) Matrix can been used to assess the performance of an institution. By using two dimensions, that is, the level of satisfaction derived by learners in using the services and the degree of importance they attach to the services, it is possible to determine whether a university has provided the services that fulfill the needs of its learners. In the past, performance is measured only in terms of the quality of the services that satisfies the needs of the learners. However, for a better assessment of performance, it should meet the expectations or level of importance attached to by its learners as well (Noel & Levitz, 2003).

Open University Malaysia (OUM) is the first open and distance learning university in Malaysia. It began operation in August 2001 by with 753 learners enrolling in 4 academic programmes. As at January 2008 Semester, OUM has more than 67,000 learners in 51 academic programmes. This phenomenal growth in enrolment within a relatively short period of time is one indicator of positive performance of the university.

There are many factors that have led to this accomplishment. One of them is that OUM has been able to provide the services that meet the needs of its learners. OUM is able to do this because it continually makes a genuine effort to assess what are the services its learners deem important and then provide them to their satisfaction. In this regard, IS Matrix has been instrumental in assisting OUM to pinpoint which services should be introduced, enhanced, reduced or even terminated. Since 2005, OUM had conducted importance-satisfaction surveys with the objective of identifying what processes and activities are important to our learners and which provide a high level of satisfaction to them. This initiative is part of OUM's continuing effort to improve the quality of services to its learners, with a view to improving the latter's rate of success and persistence.

OBJECTIVE OF PAPER

The objective of the paper is to assess the improvements made by OUM in delivering its services to its learners from 2005 to 2007 using the IS Matrix.

IMPORTANCE-SATISFACTION ANALYSIS (ISA)

It is generally accepted that learners' satisfaction level is a measure of short-term attitude resulting from an evaluation of their educational experience (Elliot, 2002). Traditionally, learners' satisfaction level has been unidimensionally used to measure quality and consequently performance. However, for greater reliability and accuracy, learners' satisfaction should be viewed in the context of the importance of the services to the learners. Combining the two dimensions of importance and satisfaction in a single analysis, called Importance-Satisfaction Analysis (ISA) will provide a better assessment of the performance of an organisation. This has led many researchers and research organizations to develop important-satisfaction instruments to attempt to measure the performance of an organisation. The more notable of these instruments for higher educational institutions is the *Students Priority-Satisfaction Inventory* developed by Noel and Levitz (Noel and Levitz, 1993).

The Importance-Satisfaction Analysis (ISA) or some refer to it as Importance-Performance Analysis (IPA) was first developed as a marketing tool by Martilla & James (1977) to assess consumer acceptance of a marketing programme. They argue that this approach is a low-cost, easily understood technique that could be used to gain important insights into which the marketing strategy a firm should devote more attention as well as identify areas that may be wasting the firm's resources. They go on to assert that the presentation of results on the importance-performance matrix would facilitate management interpretation of data and increased their usefulness in making strategic marketing decisions.

Consequently, ISA was used by leisure professionals to assist in the evaluation of visitors' satisfaction (Guadagnolo, 1985; Sarah, 1987; Hollenhorst, Olson and Fortney, 1992; Hudson & Shephard, 1998). ISA was also used by Alberty and Mihalik (1989) to evaluate the effectiveness of instructors in adult educational settings. Using the approach, they were able to identify the relative importance of factors influencing student preferences (importance component) and also indicate the degree to which a particular educational setting possesses these factors (performance component). Siegenthaler (1994) employed ISA to find out what attributes of programmes for older adults that were important in order to develop and maintain quality program for this segment of the population.

Havitz, Twynam and DeLorenzo (1991) used ISA in staff evaluation to find out some items that attract staff to their jobs and whether they are satisfied with attending training seminars and conferences, conducting training seminars and answering the phones.

ISA or its diagrammatic representation, the Importance-Satisfaction (IS) Matrix enables an analyst to quickly discover the key areas to focus on in terms of an organisation's strengths and weaknesses. The result gives us immediate attention to areas in need of urgent repairs and distinguishes those areas where the organization needs only to maintain its current performance. The IS Matrix analysis works first by determining what attributes or features are important to the consumer. Then information is solicited from the consumers regarding the relative importance of the various attributes and asks how well the organisation under study provides for these attributes. The matrix is divided into four sections providing an easy guide for management's focus. Decision makers are then able to identify attributes where concentration is needed in order to improve services deemed important by the consumer.

METHODOLOGY

The research instrument

The study employed the survey method and the instrument used is a set of questionnaires similar to that of *Noel-Levitz Students Priority-Satisfaction Inventory*. The questionnaires comprise of 3 sections: *Section One* consists of questions on learners' demographic, socio-economic and academic information and *Section Two* consists of a number of service-related items, each expressed as an item of expectation. Learners were requested to rate the service items based on their degree of importance as well as the level of satisfaction using a 7-point Likert Scale with 1 representing the lowest degree of importance or level of satisfaction and 7 representing the highest. This results in three sets of scores for analysis. They are the Importance Score which reflects how high the expectations are (the higher the score, the more important it is to a student, hence the stronger the expectation); the Satisfaction Score which shows how satisfied the learners are (the higher the score, the more satisfied the student); and the I-S (Performance) Gap Score which measures the difference between the importance score and satisfaction scores, which indicates how well the expectations have been met (A large performance gap score for an item (e.g., 1.5) indicates that students' expectations are not being met. A small or zero gap score (e.g., 0.50) indicates that students' expectations are being met. A negative gap score (e.g., -0.25) indicates that students' expectations are being exceeded). Finally, *Section Three* consists of general questions that relate to quality, choice, and pride of institution and learners intention as to whether they will continue their study in OUM.

The Samples

The sample size selected for 2005 and 2007 surveys was 4,000 learners each. Out of these, 2,946 and 2,994 learners responded in 2005 and 2007, respectively. The questionnaires were sent by mail to 36 learning centres and were distributed to learners in the last tutorial session of the May Semester of each year.

The Analysis

An IS Matrix was developed based on four quadrants which are defined as follows (see Figure 1):

- Quadrant 1: *High-Importance-Low-Satisfaction* (HILS) for items with a mean importance score more than 5.68 and a mean satisfaction score of less than 4.92.
- Quadrant 2: *High-Importance-High-Satisfaction* (HIHS) for items with a mean importance score more than 5.68 and a mean satisfaction score of greater than 4.92.
- Quadrant 3: *Low-Importance-Low-Satisfaction* (LILS) for items with a mean importance score less than 5.68 and a mean satisfaction score of less than 4.92.
- Quadrant 4: *Low-Importance-High-Satisfaction* (LIHS) for items with a mean importance score less than 5.68 and a mean satisfaction score of more than 4.92.

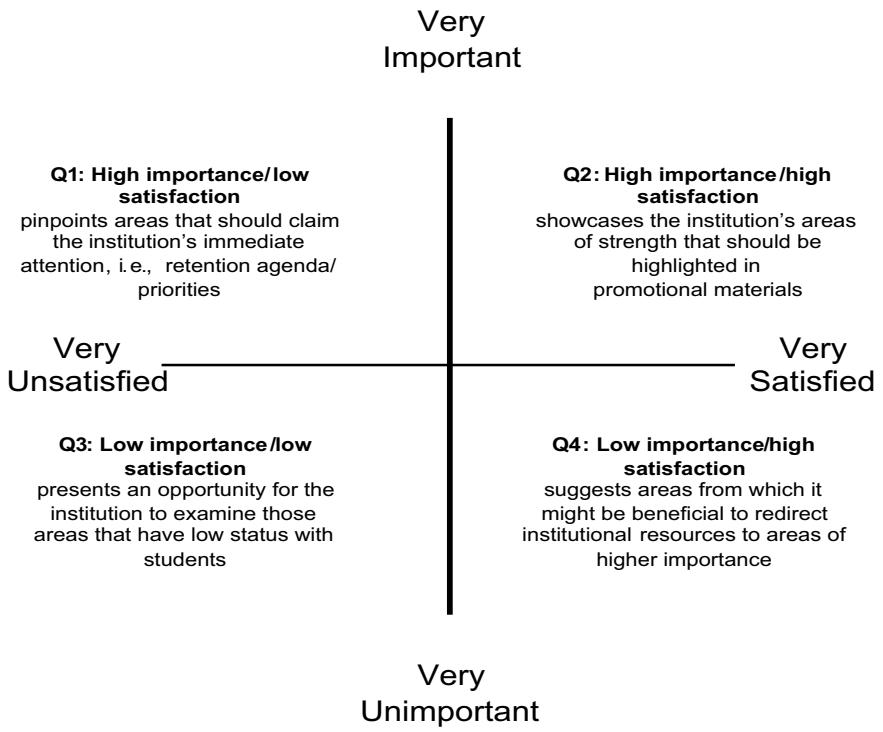
For consistency in the inter-year comparison, the mean importance and satisfaction scores for the 2005 Survey were used in both years.

The service-related items were grouped into 6 service dimensions as follows:

i. *Student Record Management* which evaluates the effectiveness of activities conducted to enhance the efficiency of learners data base management;
ii. *Registration and Orientation* which appraises the effectiveness of activities conducted to assist new learners in to familiarise with OUM's learning environment;

Figure 1

IMPORTANCE-SATISFACTION (I-S) MATRIX



iii. *Learner Centeredness* which measures the effectiveness of OUM's effort towards caring for our learners;
iv. *Student Affairs Management* which assesses the effectiveness of programmes conducted by OUM's Centre for Student Affairs;
v. *Teaching and Learning* which examines the effectiveness services relating to the enhancement of a learner's academic pursuit; and
vi. *Assessment* which determines the effectiveness of services relating to the conduct examinations, tests, and continuous assessments.

The items were then placed in the appropriate quadrants based on their I-S mean scores. For example, items with high mean importance scores (above 5.68) but low mean satisfaction scores (less than 4.92) were placed in Quadrant 1 (HILS) while those with high mean importance scores (more than 5.68) and high mean satisfaction (above 4.92) scores were placed in Quadrant 2 (HIHS), and so on. The analysis is repeated for each item. The result is a distribution of items by quadrant which is also referred to as the Importance-Satisfaction (or Performance) Inventory. To determine whether OUM improved in the provision of its services compared to the previous year, the same procedure was repeated for the service items in the 2005 Survey.

An additional analysis was carried out to examine the distribution of items by dimension and quadrant for each of year 2005 and 2007. This is to enable OUM to have an overall view of the changes that have taken place and whether it is investing in the most appropriate areas.

The last section looks into the percentage of learners who answer YES or NO to questions related to quality of, choice of, pride in and loyalty to the university.

RESULTS

Movement of Items by Dimension and Quadrant

The use of the 4-quadrants (Figure 1) provides a simple but easy to interpret summary of results. Items with scores falling in the upper left quadrant, Q1 are HILS items. This quadrant can be labeled "Concentrate here". Items falling in the upper right quadrant, Q2 are HIHS items. This quadrant can be labeled as "Keep up the good work". Items falling in the lower left quadrant, Q3 are LILS items, and this quadrant is labeled as "Low priority" and finally items in the lower right quadrant are LIHS items, and this quadrant is labeled as "Misallocation of resources" of "Possible overkill" (Martilla & James, 1977).

Table 1 shows the distribution of items by dimension and quadrant. An analysis based on the distribution of items in 2005 and 2007 by the four quadrants points to the following observations:

1) The number of items in Q1, the HILS quadrant, decreased from 9 in 2005 to 7 (-2 items) in 2007, resulting in the percentage reduction from 13.4% to 13.0% (-0.4% point). This indicates that OUM has managed to reduce the percentage of services with low satisfaction level that are of high importance to learners in 2007 compared to 2005.

2) The number of items in Q2, the HIHS quadrant, increased from 30 in 2005 to 43 (+13 items) in 2007, resulting in a percentage gain from 44.8% to 62.3% (+17.5% points). This suggests that OUM has managed to increase the percentage of items with high satisfaction but are of high importance to learners in 2007 compared to 2005.

3) The number of items in Q3, the LILS quadrant, decreased from 27 in 2005 to 16 (-11 items) in 2007, resulting in a percentage reduction from 40.3% to 23.2% (-17.1% points). This shows that OUM has managed to de-emphasise the items of lower importance in favour of the higher ones in 2007 compared to 2005.

4) Finally, there was no change in the number of items in Q4, the LIHS quadrant which remained at 1. This implies that there still exists misallocation resources to those services that are of low importance to learners in 2007 compared to 2005.

The above results can be viewed as positive for OUM. Its learners were generally more satisfied with the quality of services received in 2007 compared to that in 2005.

This performance is reinforced by the favourable response from learners to the last section of the questionnaire. The results reveal that learners' general perceptions on matters related to quality, choice, pride of and loyalty to the university are indeed very favourable (see Table 2). It is most satisfying to note that, except for one statement, more than 80% of learners are loyal to OUM and proud of being its learner.

Table 1: Distribution of Service Items by Dimension and Quadrant in 2005 and 2007

DIMENSION	Q1: HILS		Q2: HIHS		Q3: LILS		Q4: LIHS		Total	
	2005	2007	2005	2007	2005	2007	2005	2007	2005	2007
Student Records Management	0	1	7	7	2	1	0	0	9	10
Registration & Orientation	1	0	4	6	4	1	0	1	9	10
Learner Centeredness	2	3	2	4	11	2	0	0	15	9
Student Affairs Management	1	1	0	1	6	7	1	0	8	9
Assessment	2	0	10	15	0	1	0	0	12	16
Teaching & Learning	3	2	7	10	4	4	0	0	14	16
Total	**9**	**7**	**30**	**43**	**27**	**16**	**1**	**1**	**67**	**70**
Total (%)	***13.4%***	***10.4%***	***44.8%***	***64.2%***	***40.3%***	***23.9%***	***1.5%***	***1.5%***	***100.0%***	***100.0%***

Table 2: Student Responses to Issues on Quality of, Choice of, Pride in and Loyalty to OUM, 2007

No.	Statement	% Yes
1.	OUM is a University that is equivalent to other higher learning institutions in terms of quality	79
2.	If I am given the chance to go through the learning process again, I will choose OUM	84
3.	I will encourage others (eg family members and friends) to study in OUM	85
4.	I am proud as OUM students	88
5.	I will continue my study in OUM, until I graduate, whatever the situation may be	88

Items in the HILS quadrant and their Importance-Satisfaction Gap Scores

The items in Q1, the HILS quadrant, are of importance to OUM in terms of seeking to improve its services to its learners. Efforts must be made to try and move the items in this quadrant ("*Concentrate here*") to the HIHS quadrant ("*Keep up the good work*"). In order to do so, we need to examine each of the items in the quadrant. Table 3 gives a list of the items by dimension and I-S Gap Scores. "Facilities at the learning centres" in the teaching and learning dimension tops the list with an IS Gap score of 1.42. This indicates that OUM needs to improve further the facilities at its learning centres. Five items in the learner-centredness dimension are also in the list indicating that OUM also needs to improve further in several areas of learner-centredness.

Table 3: Importance-Satisfaction Gaps of Service Items in HILS Quadrant: 2007

NO	DIMENSION	ITEM SERVICE	I-S GAP
1	Teaching & Learning	Facilities at Learning Centres	1.42
2	Learner Centeredness	OUM HQ staff are caring	1.22
3	Learner Centeredness	Learning Centre staff are caring	1.16
4	Learner Centeredness	Faculty staff cares about my performance	1.16
5	Learner Centeredness	Problem solving by PPW/T staff	1.08
6	Learner Centeredness	Problem solving by Faculties	1.08

DISCUSSION OF RESULTS

At OUM, internally generated important-satisfaction survey instruments developed along the framework of Noel and Levitz have been used to identify what services are important to OUM learners and what is their evaluation of them. This exercise was carried out with a view to continuously improve its services to its learners. The results of the surveys provide useful indicators to management on the performance of OUM in delivering its services to their learners.

It is very heartening to note that in this study, the results clearly suggest that OUM has performed well in terms of providing services to its learners in the period of study, that is, from 2005 to 2007. OUM has been able to increase the level of satisfaction of its learners in the services that mattered most to them. This is shown by the increase in the number of items in the HIHS quadrant and the decrease in the number of items in the HILS and LILS quadrants. While there appears to be misallocation of resources in that there is an item in the LIHS, this is not a serious concern since it is only one item out of 67 in 2005 and 70 in 2007.

Since the HILS quadrant represents "*Concentrate here*" quadrant, it deserves special attention. An analysis of items in this quadrant reveals that one item was from the Teaching and Learning Dimension and 5 are from the Learner-Centeredness Dimension. The presence of "*Facilities at Learning Centres*" in this quadrant indicates that OUM learners were still not satisfied with the quality of facilities at OUM learning centres and OUM has to improve on this aspect of teaching and learning environment. Table 3 also shows that learner-

centeredness dimension is dominant in this quadrant. Despite very keen efforts on the part of management of OUM to promote learner-centeredness in its operations, the results of the study seem to indicate that it is not doing enough in this area. More specifically, OUM learners expect OUM staff to be more caring and more involved in problem solving for learners. However, these results are not totally unexpected since OUM learners are mainly working adults studying part-time at a distance. The feeling of loneliness and being distanced is natural and the quest for assistance and guidance is more for them compared to that for the regular on-campus full-time learners.

OUM fully recognises this aspect of its learners needs and had instituted several measures to overcome this challenge of their learners. The university's leadership has at all times emphasised the critical importance of adopting "learner centred" approach in all its day-to-day interactions and decision making. OUM takes pride in embracing the five shared values: Caring, Innovative, Dedication, Integrity, and Professionalism. OUM's Human Resource Department continually emphasises capacity building for all staff involved in providing services to learners, particularly the front-liners and has put aside substantial budget allocations each year for Customer Relationship Management (CRM) training. The Learner Services Centre which was established as a one-stop centre caters to learner enquiries and problems via its toll free number. Through OUM's e-learning platform myLMS, learners are free to interact and get connected to peers, tutors and staff, through emails and forums. Learners can channel their problems and inquiries through email, fax or even phones. Each department has a learner charter, which promises that all learner enquiries and problems be attended to within 48 hours. At every end of the month, a Customer Care Meeting is conducted to ensure all matters pertaining to learners are given due attention and action.

Similarly, the teaching and learning aspects have always been given serious attention. To assist learners in going through their studies, numerous initiatives have been put in place. OUM has invested heavily in teaching and learning facilities at both its own and rented learning centres in order to create a conducive learning environment for its learners.

It is particularly interesting to note that the findings of this study parallels that of Elliott and Healy (2001), who examined the aspects of a students' educational experience which are most important in influencing overall student satisfaction. They found that the relevant dimensions include: "student centeredness" (which relates to the universities' effort to convey to students that they are welcome and valued) and "campus climate" (which relates to the extent a university provides a sense of campus pride and belonging).

CONCLUSION

The paper attempts to track OUM's performance in providing support services to its learners using the Importance-Satisfaction Matrix. Overall, the results indicate that OUM has improved in its performance in 2007 compared to 2005. This is evidenced by the shift in a number of service items from the low priority and low satisfaction quadrants to those of high importance and high satisfaction. This is reinforced by the positive response of learners on issues related to quality, choice, pride and loyalty of the university.

However, there are still several items in the low satisfaction quadrants (i.e. HILS and LILS). This indicates that OUM needs to continue to increase the level of satisfaction of these items in the future. In addition, there still exists one item in the LIHS quadrant, suggesting that

there is misallocation of resources. The appearance of 5 items of learner centeredness and 1 item of teaching and learning in the HILS quadrant presents a challenge to OUM to improve further in this aspect. This could be done by showing greater care and concern and resolving learner problems and issues with greater urgency and promptness.

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