

IDENTIFYING BEST PRACTICES FOR SATISFYING STUDENTS BY BENCHMARKING WORLD CLASS HIGHER EDUCATION

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ABSTRACT

Achieving "World Class" status is an aspiration of any organisation including education providers such as Universities. Excellence in education requires an outstanding faculty, high quality teaching, the provision of strong student support facilities, and a comfortable professional environment, as well as highly prepared and motivated students. Benchmarking, which involves searching for practices that lead to superior performance should also be important. This research seeks to explore areas for best practices in higher education by benchmarking student satisfaction using importance-performance (quadrant) analysis to identify areas where resources could be more efficiently allocated. More specifically, we evaluate the satisfaction level of students, measure their perceptions of the factors that are important when receiving education services and identify areas of service priority. A total of 832 responses were received from a survey of 1200 undergraduate business students at four private educational institutions in Malaysia. Using factor analysis we identify 12 factors from an original set of 53 satisfaction drivers. The 12 factors are professional comfortable environment; student assessments and learning experiences; classroom environment; lecture and tutorial facilitating goods; textbook and tuition fees; student support facilities; business procedures; relationship with teaching staff; knowledgeable and responsive faculty; staff helpfulness; feedback; and class sizes. Service priority areas are also identified which could help educational institutions to more effectively and efficiently achieve and sustain a "World Class" status.

Keywords: World Class, best practices, benchmarking, student satisfaction, managing resources

Introduction

Benchmarking as a tool is widely used by many organisations including educational institutions. It has proved to be an effective method for identifying best practices as well as enhancing quality and processes in organisations. The term benchmarking has been linked to an early application by Xerox in 1979 and interest in its adoption has increased since then (Camp, 1989). Benchmarking has been defined as a continuous, systematic process of evaluating organisations recognised as industry leaders or “World Class.” The objective is to determine business and work processes that represent best practices and establish rational performance objectives (Zairi, 1996).

As the current educational environment is very dynamic, competitive and challenging, searching for practices that could lead to superior performance would appear to be important. Benchmarking student satisfaction seems to be critical as theories of student satisfaction indicate that students have different levels of satisfaction with regards to their educational experiences (Cotton et al., 2002; Hatcher et al., 1992). In an attempt to identify best practices and benchmark world class higher education, this research intends to:

- i) Evaluate the satisfaction level of students and measure perceptions of the factors that are important to the students;
- ii) Identify the underlying dimensions that drive student satisfaction; and
- iii) Categorise the service priority areas that will result in an efficient and effective allocation of resources.

The literature that reviews benchmarking, student satisfaction issues and importance-performance (quadrant) analysis are discussed in the next section. This is followed by a methodology section, a presentation of the results, a conclusion and a discussion of the implications.

Literature Review

Benchmarking

Benchmarking is a systematic and continuous process of searching, learning, adapting, and implementing the best practices from within an

organisation or from other organisations (Hurreeram, 2007). Vermeulen (2003) suggests that benchmarking is the process of identifying, understanding, and adapting outstanding practices from within an organisation or from other businesses to enhance performance. A similar definition by Deros et al., (2006) indicates that benchmarking encourages an organisation to improve its effectiveness, efficiency, and performance. The Consortium for Excellence in Higher Education (2003) states that benchmarking could assist an institution to derive an objective assessment of strengths and weaknesses; to identify methods and ideas to stimulate the thinking of internal groups; to overcome internal resistance to changes; and to justify methods, operations or resources. Alstete (1995) and Schuh and Bender (2002) explain that benchmarking is more suitable for use in the higher education sector than other business sectors due to the collegial environment, which encourages collaboration and cooperation. Despite the importance of identifying best practices and understanding and enhancing customer or student satisfaction, there have are very few published academic studies that have focused on benchmarking in the higher education sector. In this paper, we attempt to address this gap in the literature. Although in general business, benchmarking can be used to assess lots of different key performance indicators such as profit, market share, sales and quality, in this paper we focus on satisfaction.

Student Satisfaction

Student satisfaction is a short-term attitude that results from the evaluation of a student's experience with regards to the education services they rendered (Elliot and Healy, 2001). Due to current competitive pressures in the sector, higher educational institutions are putting a lot of emphasis on understanding the factors that influence student satisfaction. They are also attempting to improve student satisfaction. Recent research on student satisfaction has developed models for examining student satisfaction in the higher education sector, assessed student learning outcomes and satisfaction, and attempted to deconstruct the concept of student satisfaction (Duque and Weeks, 2010; Gruber et al., 2010; Wiers-Jenssen et al, 2002). Researchers such as Rowley, (2003) and Tapp et al., (2004) believe that higher educational institutions will benefit from developing relationships with their students as this will provide an edge over competitors. Alves and Raposo (2009) add that understanding the formation process of student satisfaction, as well as valid and reliable ways

to measure it, should be the task of educational institutions. Reliable measurements of student satisfaction will enable educational institutions to have a clear view of their existing situation, make comparisons with other educational institutions and continuously analyse the evolution of student satisfaction. These studies provide valuable insights into understanding student satisfaction, the factors that will make students satisfied and how to improve students' learning outcomes. In this paper we expand upon such studies by identifying the underlying dimensions or drivers of student satisfaction, and exploring areas for best practices by benchmarking student satisfaction using quadrant analysis.

Importance-Performance (Quadrant) Analysis

Quadrant analysis is a tool that academic institutions could potentially use in order to benchmark and improve their performance as well as to allocate their resources in a more efficient manner. Developed by Martilla and James (1997) to analyse elements of a marketing programme, quadrant analysis involves graphically presenting ratings on an importance-performance quadrant. As such, it is also referred to as importance-performance (IP) analysis. As a form of benchmarking, quadrant analysis can be used to identify areas of service priority by developing satisfaction-importance grids (Dillon et al., 1993). A graphical representation of quadrant analysis is presented in Figure 1. Presentation of the results of benchmarking analysis on such a grid can help managers to interpret the data and to identify areas that need attention. Figure 1 presents four quadrants labelled as Quadrant A (concentrate here); Quadrant B (keep up the good work); Quadrant C (low priority); and Quadrant D (possible overkill). Due to its usefulness in identifying areas for better allocation of resources, quadrant analysis has been used in many sectors.

Table 1 summarises the findings from some of the studies that have utilised IP (quadrant) analysis. In addition to the education industry, other industries such as automotive, food, housing, and healthcare have utilised IP analysis (Hawes and Rao, 1985). Joseph and Joseph (1997) use quadrant analysis to study a sample of final year business students at a New Zealand University. The authors identify seven factors as the determinants of service quality in education: academic reputation; career opportunities; programme issues; cost/time; physical aspects; location; and others. The result show that six factors fall in the "keep up the good work" quadrant and only one

factor (other) is in the “concentrate here” quadrant. The authors state that even though the majority of the factors fall into the “keep up the good work” quadrant, performance is not what it could be because the favourable position in the grid should be the top right hand corner of the quadrant.

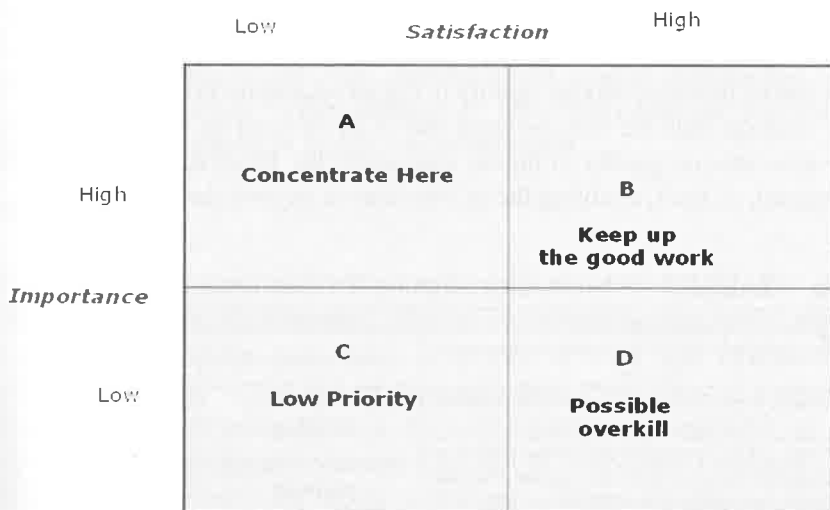


FIGURE 1: Quadrant Analysis Template

Ford et al., (1999) assess and compare the perceptions of undergraduate business students in major urban universities in New Zealand and the USA. Using the six similar factors to Joseph and Joseph (1997), their IP analysis of the New Zealand sample produces four factors in the “keep up the good work” quadrant (career opportunities, physical aspects, programme issues, and academic reputation), two factors in the “low priority” quadrant (cost/time, other); and another factor in the “possible overkill” quadrant. The US student sample on the other hand, produces one factor in the “concentrate here” quadrant (cost/time), two in “keep up the good work quadrant” (programme issues, academic reputation), two in the “low priority” quadrant (choice influences, other) and one in the “possible overkill” quadrant (physical aspects).

O’Neil and Palmer (2004) focus on students at a large state university at Western Australia in their IP analysis. They use only three factors (process, empathy, and tangibles) and conclude that process falls in

the “concentrate here” quadrant; empathy in the “low priority” quadrant; and tangibles in the “possible overkill” quadrant. Angell et al., (2008) study service quality in postgraduate education at a UK university using four factors in their IP analysis (academic, leisure, industry links, and cost/value for money). Their results show that the “industry links” factor falls into the “concentrate here” quadrant; academic factors in the “keep up the good work” quadrant; and both leisure and cost/ value in the “possible overkill” quadrant. IP analysis is also used by Mostafa (2006) to identify the factors that can be linked to service quality in higher education in the Arab context. His findings indicate that the more that is discovered on how the students perceive service quality in higher education, the faster the quality can be enhanced, as such; enabling the universities to expand further globally.

TABLE 1: Other studies adopting IP (Quadrant) Analysis

Author/ Year/Title	Journal	Sector
Martilla and James (1977) “Importance-Performance Analysis”	Journal of Marketing	Automobile industry
Joseph and Joseph (1997) “Service quality in education: a student perspective”	Quality Assurance in Education	Education industry
Ford <i>et al.</i> , (1999) “Importance-performance analysis as a strategic tool for service marketers: the case of service quality perceptions in New Zealand and USA”	The Journal of Services Marketing	Education industry
O’Neil and Palmer (2004) “Importance-performance analysis: a useful tool for directing continuous quality improvement in higher education”	Quality Assurance in Education	Education industry
Douglas <i>et al.</i> (2006) “Measuring student satisfaction at a UK university”	Quality Assurance in Education	Education industry
Angell <i>et al.</i> (2008) “Service quality in postgraduate education”	Quality Assurance in Education	Education industry
Mostafa (2006) “A Comparison of SERVQUAL and I-P Analysis: Measuring and improving service quality in Egyptian private universities”	Journal of Marketing for Higher Education	Education industry
Hawes and Rao (1985) “Using Importance-Performance analysis to develop healthcare marketing strategies”	Journal of Health Care Marketing	Health care industry

Douglas et al., (2006) surveyed 865 students at a UK university to develop a satisfaction-importance grid using what they refer to as a “service-product bundle” consisting of six factors: lecture and tutorial facilities; ancillary (supporting) facilities; the facilitating goods; the explicit service; and the implicit service. In total sixty variables were assessed with nine items allocated to both the “concentrate here” and “possible overkill” quadrants, and 21 items allocated to both “keep up the good work” and “low priority” quadrants. Their quadrant analysis suggests that physical facilities were not

perceived to be important to students. Douglas et al's (2006) "service-product bundle" includes a comprehensive list of 60 variables that may influence student satisfaction and therefore assesses a much wider range of variables than most other studies.

In summary, these studies illustrate that educational institutions can utilise a number of strategic alternatives for allocating resources in an attempt to be more competitive in an increasingly challenging and dynamic environment. They reveal that understanding student satisfaction and evaluating the factors further through IP (quadrant) analysis provides a basis for benchmarking in higher education sector.

Methodology

In this study, a questionnaire was developed based on Douglas et al's., (2006) "service-product bundle". Based on the results of 2 focus groups containing 6 students comprising of a mix of local and international students as well as second and third year students, Douglas et al.'s original 60 variables were reduced to a 53-item scale that were valid in the Malaysian higher education sector. The survey instrument consisted of a five-point agreement scale linked to statements about satisfaction drivers (ranging from very unsatisfactory to very satisfactory) and statements about importance drivers (ranging from very unimportant to very important). Because of high inter-correlations between some of the 53 items a principal components analysis was used to reduce the items to a small more focussed set of underlying satisfaction dimensions or factors.

A quantitative sample of 1,200 students was drawn from 4 institutions and 300 questionnaires were distributed to each educational institution. The institutions were chosen based on their strategic locations to the target population and their accessibility. The survey yielded a total of 823 usable responses which represents a 69% response rate. Stratified random sampling was adopted whereby the first level of stratification involved the year of study (years 1, 2, and 3) and 100 questionnaires have been allocated for each level at each institution. The respondents were then chosen from the programmes and classes within the business schools of each institution. Classroom administered surveys were conducted and the classes were randomly selected as this could provide a sample that is representative of the population being studied and hence allows generalisation.

Results and Discussion

Respondents' Profile

The 1,200 student respondents consisted of 49.9% male and 50.1% female students studying for a mixture of Business Administration (25.9%), Accounting (18.1%), International Business (14.8%), Financial Planning (15.1%), Marketing (18.2%) and Other (7.9%) undergraduate degrees. Thirty-one percent of the students were in their first year of study, 36% in their second year and 33.2% in their third year of study. About 69.7% of students were Malaysian national and 30.3% international students. Approximately 19.3% of students were an A grade average, with 41.9% a B, 30.6% a C and 8.1% a D grade average. Institution 1 has 29.5% of the respondents, 23.6% came from institution 2, 24.6% from institution 3, and finally 22% from institution 4.

Underlying Dimensions of Satisfaction Drivers

Prior to conducting quadrant analysis, the mean of the satisfaction drivers were computed and a factor analysis conducted to identify the underlying dimensions of the 53 satisfaction drivers. A KMO index of 0.697 and Bartlett's test of sphericity ($\text{Sig} = 0.000$) indicated that the data was suitable for factor analysis. Twelve factors explaining 64.6% of the total variation seem to give the best representation of the underlying dimensions. An initial solution yielded 8 factors with eigenvalues of greater than zero, however after testing for interpretability and to achieve a minimum threshold of 60 per variance explained (Hair et. al., 2010) a 12 factor solution was selected that was interpretable. A reliability test using Cronbach's alpha was used to confirm the internal consistency of each of the factors and the 53 items in general. The factors are ranked in order based on the proportion of variance explained and labelled accordingly to their factor loadings and presented in Table 2. Table 3 shows the means of the satisfaction level of students and their perceptions of the importance of each of the factors.

TABLE 2: Results of Principal Component Analysis of Satisfaction Drivers-Factor Loadings

Drivers	Factor Loading	% of Variance Explained	Cronbach's Alpha
Factor 1: Professional Comfortable Environment		8.789	0.897
The sense of competence, confidence and professionalism conveyed by the ambience in the tutorials	0.704		
The feelings that your best interests are being served	0.685		
The sense of competence, confidence and professionalism conveyed by the ambience in the lectures	0.655		
The feelings that rewards-marks/ grades gained are consistent with the efforts you put into assessment	0.608		
The university environment's ability to make you feel comfortable	0.574		
The competence of staff	0.560		
The availability of staff	0.531		
The respect for your feelings, concerns and opinion	0.507		
Factor 2: Student Assessments and Learning Experiences		7.556	0.849
The appropriateness of the method of assessment-coursework and/ or examination	0.714		
The appropriateness of the style of assessment- individual and/ or group work	0.693		
The course workload	0.671		
The level/ difficulty of subject content	0.603		
The appropriateness of the quantity of assessment	0.601		
The way your time table is organised	0.419		
Factor 3: Classroom Environment		7.231	0.847
The decoration	0.744		
The layout	0.703		
The furnishings	0.695		
The teaching and learning equipment, for example, projectors, screens, whiteboards	0.587		
The lighting	0.547		
The level of cleanliness	0.543		
The lecture and tutorial rooms overall	0.456		
Factor 4: Lecture and Tutorial Facilitating Goods		6.580	0.879
Supplementary tutorial materials/ handouts	0.779		
Supplementary lecture materials/ handout	0.773		
The tutorials overall	0.606		
The power point/ slides presentation- where applicable	0.599		
The lectures overall	0.519		
Factor 5: Textbooks and Tuition Fees		5.625	0.787
The textbook value for money	0.665		
The tuition fees	0.646		
The textbooks' availability in local bookstores	0.645		
The textbooks' usefulness in enhancing understanding of the modules	0.617		
The recommended core textbooks overall	0.576		
Factor 6: Student Support Facilities		5.466	0.784
The IT facilities overall	0.696		
The learning resources centre overall	0.684		
The vending machines overall	0.609		
The on-campus cafeteria/ canteen facilities	0.487		
The recreational facilities overall	0.472		
Factor 7: Business Procedures		5.019	0.766
The availability of parking	0.704		
The security measures overall	0.671		
The registration procedures	0.578		
The toilet facilities overall	0.510		
The accommodation facilities/ services overall	0.493		
Factor 8: Relationship with teaching staff		4.668	0.861
The approachability of teaching staff	0.716		

Factor 9: Knowledgeable and Responsive Faculty		4.339	0.821
The teaching ability of staff	0.624		
The consistency of teaching quality irrespective of the lecturer	0.579		
The responsiveness of teaching staff to requests	0.454		
The subject expertise of the staff	0.386		
Factor 10: Staff Helpfulness		3.771	0.743
The helpfulness of administrative staff	0.754		
The helpfulness of technical staff	0.613		
Factor 11: Feedback		2.953	0.778
The usefulness of feedback on your performance	0.615		
The promptness of feedback on your performance	0.607		
Factor 12: Class sizes		2.576	
Class sizes	0.694		

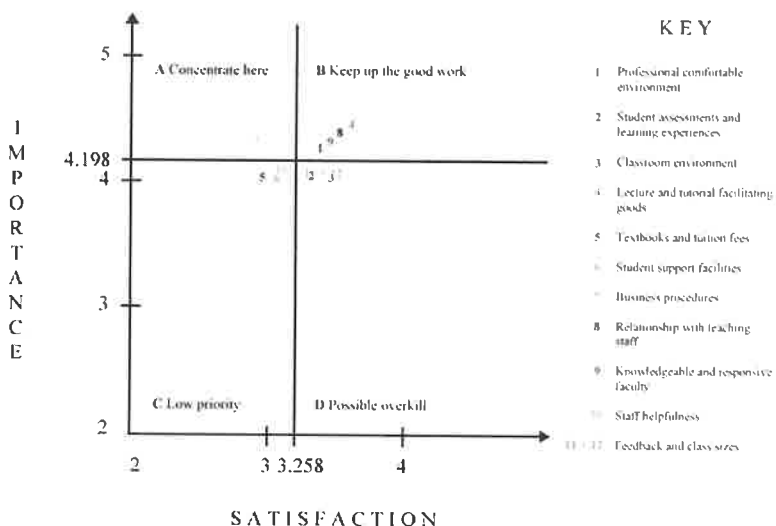
TABLE 3: Analysis of Students' Satisfaction and Importance Ratings (mean values)

Drivers/Factors	Satisfaction	Importance
Professional Comfortable Environment		
The sense of competence, confidence and professionalism conveyed by the ambience in the tutorials	3.427	4.182
The feelings that your best interests are being served	3.211	4.211
The sense of competence, confidence and professionalism conveyed by the ambience in the lectures	3.457	4.168
The feelings that rewards-marks/ grades gained are consistent with the efforts you put into assessment	3.269	4.316
The university environment's ability to make you feel comfortable	3.349	4.310
The competence of staff	3.290	4.115
The availability of staff	3.287	4.165
The respect for your feelings, concerns and opinions	3.328	4.233
Student Assessments and Learning Experiences		
The appropriateness of the method of assessment-coursework and/ or examination	3.367	4.158
The appropriateness of the style of assessment- individual and/ or group work	3.360	4.154
The course workload	3.621	4.080
The level/ difficulty of subject content	3.351	4.157
The appropriateness of the quantity of assessment	3.295	4.044
The way your time table is organised	3.105	4.327
Classroom Environment		
The decoration	3.098	3.543
The layout	3.356	3.818
The furnishings	3.131	4.057
The teaching and learning equipment, for example, projectors, screens, whiteboards	3.454	4.463
The lighting	3.667	4.356
The level of cleanliness	3.524	4.338
The lecture and tutorial rooms overall	3.401	4.260

Lecture and Tutorial Facilitating Goods		
Supplementary tutorial materials/ handouts	3.523	4.320
Supplementary lecture materials/ handouts	3.533	4.363
The tutorials overall	3.497	4.442
The power point/ slides presentation- where applicable	3.611	4.346
The lectures overall	3.527	4.563
Textbooks and Tuition Fees		
The textbook value for money	2.760	4.043
The tuition fees	2.470	4.258
The textbooks' availability in local bookstores	3.106	4.092
The textbooks' usefulness in enhancing understanding of the modules	3.275	4.136
The recommended core textbooks' overall	3.378	4.147
Student Support Facilities		
The IT facilities overall	3.077	4.345
The learning resources centre overall	3.284	4.199
The vending machines overall	3.015	3.680
The on-campus cafeteria/ canteen facilities	2.759	4.255
The recreational facilities overall	3.091	3.942
Business Procedures		
The availability of parking	2.565	4.141
The security measures overall	3.225	4.281
The registration procedures	2.921	4.150
The toilet facilities overall	2.950	4.310
The accommodation facilities/ services overall	2.902	4.231
Relationship with teaching staff		
The approachability of teaching staff	3.566	4.286
The friendliness of teaching staff	3.560	4.331
The concern shown when you have a problem	3.377	4.316
Knowledgeable and Responsive Faculty		
The teaching ability of staff	3.379	4.382
The consistency of teaching quality irrespective of the lecturer	3.380	4.335
The responsiveness of teaching staff to requests	3.371	4.204
The subject expertise of the staff	3.292	4.250
Staff Helpfulness		
The helpfulness of administrative staff	3.107	4.220
The helpfulness of the technical staff	3.250	4.125
Feedback		
The usefulness of feedback on your performance	3.292	4.136
The promptness of feedback on your performance	3.252	4.101
Class sizes		
Class sizes	3.417	4.102

Importance Performance (Quadrant) Analysis

In Figure 2, the ratings from Table 3 are plotted on a grid reflecting the twelve factors identified earlier. Ratings for each factor were calculated using “summated scales” where the average score for each factor was calculated (Hair et al., 2010). In other words, the average score for each variable loading on a factor were added together and divided by the number of variables in a factor. The grand means of both the satisfaction and importance drivers were computed and the mean scores for importance drivers stood at 4.198 and 3.258 for the satisfaction drivers.



The results as illustrated in Figure 2 reveal that the educational institutions studied should concentrate on the factor “business procedures” as this factor falls in the quadrant which is high in importance and low in satisfaction (Quadrant A). Four factors are performing above average (professional comfortable environment; lecture and tutorial facilitating goods; relationship with teaching staff; and knowledgeable and responsive faculty) so it is important to “keep up the good work.” Three factors (textbooks and tuition fees; student support facilities; and staff helpfulness) fall in the “low priority” quadrant and have low scores for both importance and satisfaction (Quadrant C). Four factors, on the other hand fall into the “possible

overkill” quadrant (student assessments and learning experiences, classroom environment, feedback, and class sizes). Additional resources should not be allocated to these areas. The results show educational institutions in the Malaysian private educational environment are performing above average on the four factors in the “B” quadrant, but resources could be reallocated in other areas to improve efficiency or performance.

Conclusion and Implications

In conclusion, in this study we have evaluated the satisfaction levels of students and measured their perceptions of the factors that are important to student satisfaction. The underlying dimensions of student satisfaction have been identified. Service priority areas that may result in a more efficient and effective allocation of resources for educational institutions have been highlighted.

By identifying the factors that drive student satisfaction, we provide new insights into the the general evaluative dimensions of student satisfaction. By better understanding the factors or underlying dimensions that contribute to student satisfaction, education providers may be able to focus on a smaller set of Key Performance Indicators (KPIs) than some studies would suggest. For example, Douglas et al., (2006) identify 60 variables that influence student satisfaction. However, we suggest that there are really 12 broad areas that are important to students. Such knowledge could assist educational institutions to better plan their strategies with regards to the people, process, physical evidence, service environment and other factors aimed at satisfying student needs. We also illustrate how IP (quadrant analysis) can be utilised to help educational institutions to reassess their current allocation of resources. Educational institutions should concentrate on the eight factors identified in their allocation of resources namely, business procedures; textbook and tuition fees; student support facilities; staff helpfulness; student assessments and learning experiences; classroom environment; feedback; and class sizes. The most immediate attention from this finding is the business procedures as students indicated their high concern on their interaction with the service providers in various departments of the educational institutions studied.

Benchmarking student satisfaction for best practice is important for educational institutions and should be adopted if an institution wants to survive, achieve competitive excellence and be a “World Class” provider.

Using IP (quadrant) analysis as a benchmarking tool helps identify areas where resources could be more efficiently and effectively allocated. As this study was undertaken in the context of the Malaysian private higher education sector, care must be taken when generalising the results to other countries or sectors. Another limitation is that this study merely focuses on student satisfaction as benchmarking could also be used to explore other attributes that influence a University's performance. Despite this limitation, this study provides useful new insights into benchmarking based on student satisfaction and the factors that contribute to student satisfaction in general. Future studies could be undertaken to evaluate more factors or constructs that could be benchmarked for best practices in higher education.

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