

Student Satisfaction and Persistence: Imperative Features to Retention in Open and Distance Learning

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Research and innovative ODL practices: Student learning support

Abstract

Predicting overall service quality elements as an evidence to student satisfaction in an open and distance learning mode was examined. It was mainly aimed at assessing services quality implemented and utilized as it was expected and experienced by students. It was also of interest to discover the links between satisfaction and grade point average, student persistence and retention. The research was conducted at Universitas Terbuka milieu utilizing quantitative approach by survey. Data was collected randomly through questionnaires. The population were 1,154 Universitas Terbuka graduates attending commencement day in May 2014. Three hundred questionnaires were distributed and 218 of them were completely returned and processed. Student satisfaction was assessed by scrutinizing the dimensions of service quality (reliability, assurance, tangible, empathy and responsiveness attributes). Methodologically, Importance Performance Analysis and Customer Satisfaction Index were first applied concurrently to measure student satisfaction and the level of its importance. Structural Equation Model was then utilized to verify imminent influencing features engaged relatable to satisfaction toward the grade point average, persistence and retention. Eight hypotheses were formed and scrutinized. Six of them were statistically validated by the analysis. It was discerned that empathy, responsiveness and reliability agreed upon student satisfaction. Persistence and retention were visibly affected by satisfaction.

Keywords: service quality, persistence, retention, importance performance analysis, customer satisfaction index, structural equation model

Introduction

Parasuraman *et al* (1988) appraised service quality by enunciating $Q = P - E$ (Q: service quality, P: perception and E: expectation). It implies that service quality measured the difference between what was expected from and the perception of the actual service encountered. Tan & Kek (2004) used this scheme to investigate service quality in higher education outlook using an enhanced service quality approach. This effort was imperative as many students endeavored to earn university degree failed to persist (Robert & Styron, 2009) as the service delivered was below the standard (Rojas-Mendez *et al*, 2009), including in Universitas Terbuka context (Sembiring, 2012; Sawitri & Sembiring 2013).

Issues associated with persistence/retention as a consequence of satisfaction in Universitas Terbuka are crucial with respect to maintaining the size and growth of student body (Universitas Terbuka, 2011). In 2011 it was expected students to total 550,000. The targeted number however fell considerably short of that goal and totaled to 432,683 (Sembiring, 2014). Factors driving student satisfaction and its relations to persistence/retention from service quality perspectives (Brown, 2006; Petruzzellis *et al*, 2006; Arokiasamy & Abdullah, 2012) with Australian, Italian and Malaysian universities outlooks respectively are becoming relevant to be conducted in Indonesian context. It was the aim to therefore assess the educational service quality implemented and utilized as it was expected and experienced

by students. Besides, it was of interest to elucidate the links between satisfaction along with grade point average (GPA), student persistence and retention.

Related Literature and the Model

Satisfaction and service quality kept on attracting interest of researchers in a wide variety of disciplines (Athiyaman, 1997). In educational sector, the construct was applied to institutions of higher education (Kitcharoen, 2004). The dimensions of Service Quality (Parasuraman *et al*, 1988) consisted of reliability (consistency of services), assurance (capability of service provider), tangible (hardware infrastructures), empathy (customer centered soft environment) and responsiveness (ability to customize contents and the delivery of services) were adopted. Prior works, Ilias (2008) and Tileng (2013), gave confidence to utilize the model into Universitas Terbuka framework.

The origin notion for this study was service quality and satisfaction integrated with prominent constructs within student persistence/retention (Tinto, 1982, 1993, 1997) and student attrition (Bean, 1983 & 1985). It had made great progress in understanding determinants of service quality, satisfaction and persistence/retention (Hanaysha *et al*, 2011). Mailany (2011) and Martirosyan *et al* (2014) found that evaluation on satisfaction led to GPA.

Students seek out universities that provide personal, unique and memorable educational experiences (Archambault, 2008). Students search for program that will prepare them for career advancement. Some of them even expect to gain more established forthcoming job. By predicting those expectations, it becomes just right to establish the model combines all possible factors in service quality framework, satisfaction and their links comprehensively.

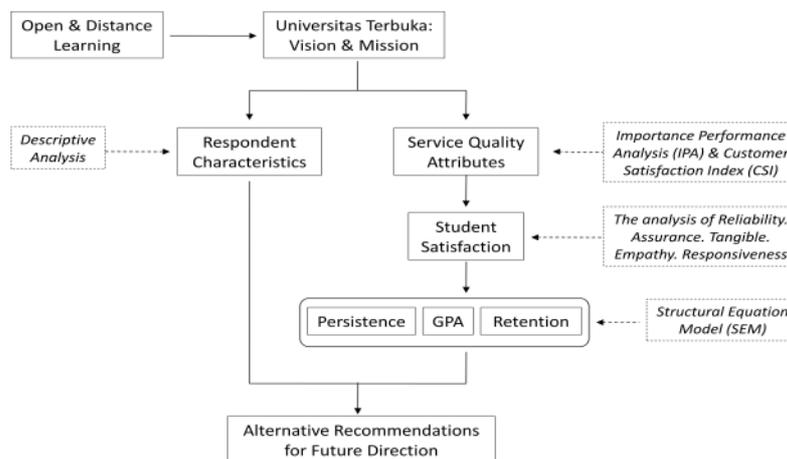


Figure 1: Conceptual Framework

By having the inclusive model, there would be a tool for measuring student satisfaction and its inference viewed from service quality outlooks. This in turn will allow the open and distance learning (ODL) institutions to acclimatize important changes to accommodate student expectations. It might also focus on institutional direction in fulfilling student needs extensively such that the University might be able to maintain/make progress on the size and growth of student body. Having considered those related literatures, this inquest comes to the proposition on the conceptual framework (Figure 1) and the basic model that will be used in this research (Figure 4).

Methodology and the Hypotheses

Figure 4 describes features affecting student satisfaction (Y) lead to GPA (Y₆), persistence (Y_{7,8,9}) and retention (Y_{10,11,12}). Satisfaction includes learning materials (Y₁), tutorials (Y₂), examination (Y₃), registration (Y₄) and general administration (Y₅). Satisfaction will be examined by perceiving the component of Service Quality includes reliability (X₁), assurance (X₂), tangible (X₃), empathy (X₄) and responsiveness (X₅) attributes. The instruments consisted of 2x25 questions related to satisfaction and the level of its importance plus two additional questions for assessing persistence and retention. The study utilized quantitative approach and addressed conceptual framework, the model, hypotheses, survey and sampling, data collection and processing, and drawing the conclusion.

Variables involved were explored through questionnaires (Tjiptono & Chandra, 2011). Survey was implemented to collect data from respondents (Singarimbun & Effendi, 1989). Simple Random Sampling technique was chosen to select eligible respondents (Sugijono, 2012). Importance Performance Analysis (IPA) and Customer Satisfaction Index (CSI) were utilized to get the message on the satisfaction level along with its importance (Kitcharoen, 2004; Silva & Fernandez, 2010). Structural Equation Model (SEM) was used to detect probable relations among variables engaged (Wijayanto, 2008).

These approaches methodologically scrutinize *hypotheses* (**H**) consisted of eight entries (Figure 2): Satisfaction is influenced directly by realibility (H₁), assurance (H₂), tangible (H₃) empathy (H₄) and responsiveness (H₅). GPA (H₆), persistence (H₇) and retention (H₈) are also influenced directly by Satisfaction.

Results and Arguments

Before arguing the results, it is beneficial to portray the traits of respondents (Table 1). This will offer enhanced perspective for the results.

Table 1: Characteristics of Respondents

<i>No</i>	<i>Description</i>	<i>Notes</i>
1	Students domicile	12 Regional Offices (out of 39)
2	Population Minimum sample	1,154 120
3	Questionnaires (sets) - Provided, distributed - Returned, processed	300 218
4	Grade Point Average	2.00-2.49 = 11%; 2.50-2.99 = 62%; 3.00-3.49 = 23%; 3.50-4.00 = 4%
7	Age (Year)	≤ 25 = 8%; 26-30 = 19%; 31-35 = 39% 36-40 = 21%; 41-45 = 11%; ≥ 46 = 2%
8	Professions	Public Service = 35%; Teacher = 46% Private Sector = 4%; Entrepreneur = 6%; Others = 9%

The results of analyses are detailed in the following explanation and figures. Figure 2 exemplifies two of hypotheses are not validated (H₂ = 0.26 and H₃ = 0.95, as they are ≤ 1.96, α = 5%). These mean that satisfaction is not influenced by assurance and tangible aspects. Conversely, the other six hypotheses are confirmed by the analysis. These mean satisfaction is directly influenced by reliability (H₁ = 2.24), empathy (H₄ = 2.00) and responsiveness (H₅

= 2.61). GPA ($H_6 = 2.05$), persistence ($H_7 = 10.52$) and retention ($H_4 = 10.36$) are also directly influenced by satisfaction.

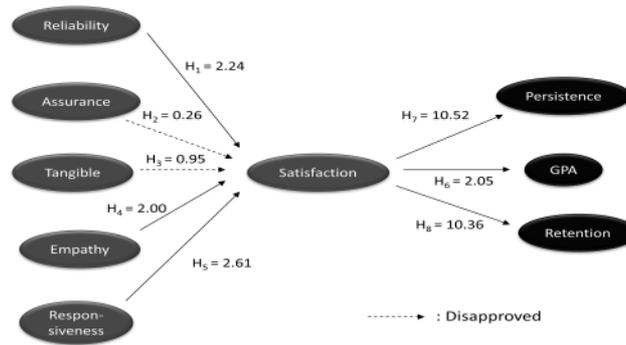


Figure 2: The t -Value of the Model

Before describing the end results, it would be outlined to reveal satisfaction level and the degree of its importance derived from IPA and CSI structure. The analysis generates position of service quality components in accordance with related quadrants to see the degree of its importance (Figure 3).

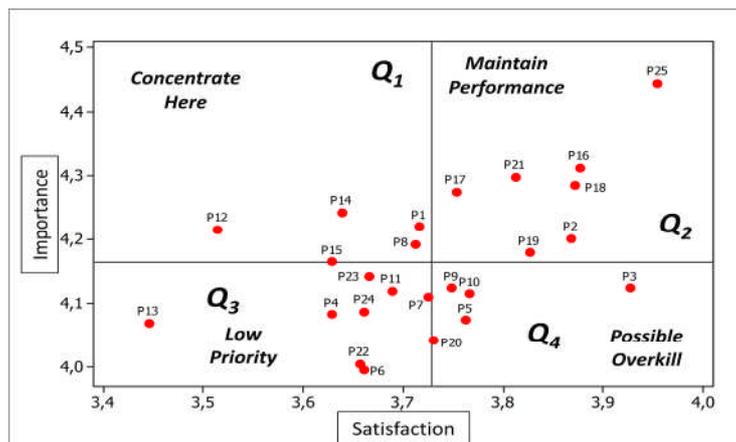


Figure 3: The IPA Chart of the Model

Focus on Figure 3 and refer to each quadrant (Q_1 , Q_2 , Q_3 and Q_4). Q_1 enlightens five points (Ps) that should be seriously taken into account: P_{12} (X_{43} : handling complaints), P_{15} (X_{53} : access to management), P_{14} (X_{52} : communication), P_8 (X_{32} : facilities) and P_1 (X_{11} : curriculum). “Concentrate Here” indicates that satisfaction is low whereas the degree of its importance is high. This means that the University must pay attention gravely to these five points so that student expectation can be encountered; for that reason students can be maintained up to finish.

Q_2 explains seven points should be intensely recognized: P_{25} (Y_{10} : study up to finish), P_{16} (Y_1 : learning materials), P_{18} (Y_3 : examination), P_2 (X_{12} : relevance), P_{19} (Y_4 : registration), P_{21} (Y_6 : GPA), P_{17} (Y_2 : tutorials). “Maintain Performance” is a symptom of both satisfaction and the degrees of its importance are placed in the high level. The University therefore must take care of these aspects thoughtfully so there will be more students getting the advantages of these conditions and in chorus they will accomplish their study with intent.

Q₃ explicates eight points should be cautiously acquainted: P₁₃ (X₅₁: feedback mechanism), P₄ (X₂₁: student service), P₂₂ (Y₇: re-register regularly), P₆ (X₂₃: fees), P₂₄ (Y₉: active in study group), P₂₃ (Y₈: active in tutorials), P₁₁ (X₄₂: support from faculty), P₇ (X₃₁: website). “Low Priority” is an indication of satisfaction and the degree of its importance is in the low category. The University should intelligently categorize these aspects as “the next” focus after concentrating on critical points in Q₁ and Q₂.

In Q₄, five points are classified as “Possible Overkill”: P₃ (X₁₃: reputation), P₁₀ (X₄₁: attention from staff), P₅ (X₂₂: schedules), P₉ (X₃₃: cleanliness), P₂₀ (Y₅: general administration). “Possible Overkill” indicates that the service quality provided is considered less important but respondents found them in high satisfaction degree. Here, attention on the attributes included can be less-focussed so that the University can save costs by redirecting them to take up vital points encountered in Q₁ and maintaining crucial points in Q₂.

Having positioned variables/dimensions in related quadrant based on IPA-CSI, we are in the position of relating loading factors of the model. This is to observe the power of relations of each variable involved under SEM (Figure 4) to figure out the end results.

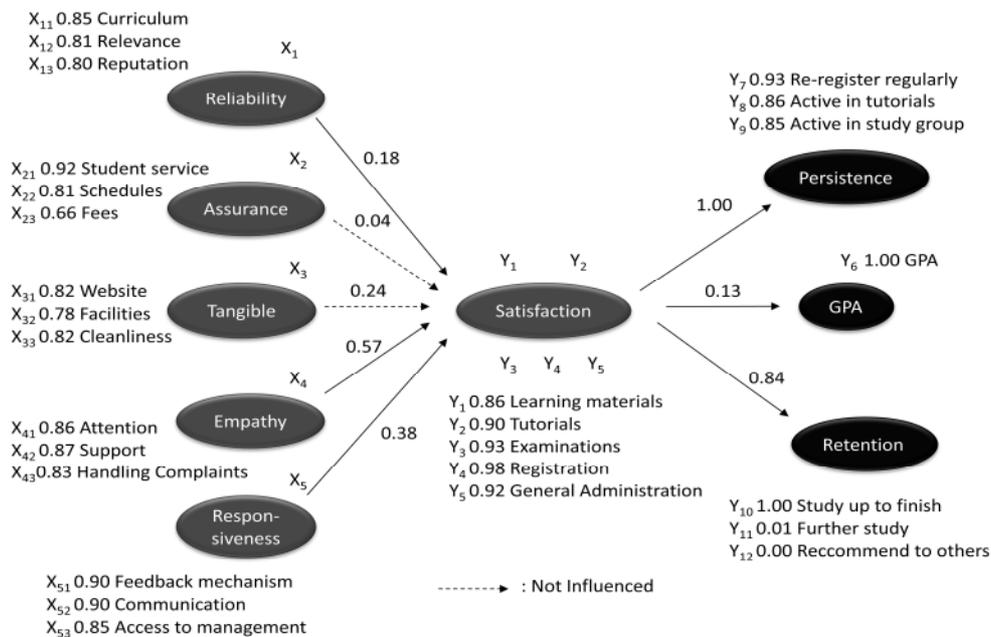


Figure 4: Loading Factor of the Model

Figure 4 typifies five foremost end results. The first upshot is relatable to the three variables directly influenced satisfaction: (i) empathy (X₄ = 0.57), (ii) responsiveness (X₅ = 0.38) and (iii) reliability (X₁ = 0.18). The second is related to the ranks of dimensions in empathy (X₄): (i) support from faculty (X₄₂ = 0.87), (ii) attention from staff (X₄₁ = 0.86) and (iii) handling complaints (X₄₃ = 0.83). The dimension in responsiveness: (i) feedback mechanism (X₅₁ = 0.90), (ii) communication (X₅₂ = 0.90) and (iii) access to management (X₅₃ = 0.85). Standings of dimensions in reliability: (i) curriculum (X₁₁ = 0.85), (ii) relevance (X₁₂ = 0.81) and (iii) reputation (X₁₃ = 0.80).

The third findings, respondents put the order of satisfaction (Y) from the provision of services: (i) registration (Y₄ = 0.98), (ii) examination (Y₃ = 0.93), (iii) general administration (Y₅ = 0.92), (iv) tutorial (Y₂ = 0.90) and (v) learning materials (Y₁ = 0.86). The fourth results

are associated with the power of relations between satisfaction (Y) and GPA (Y_6), persistence (Y_7 , Y_8 and Y_9) and retention (Y_{10} , Y_{11} and Y_{12}). Figure 4 clearly validates satisfaction significantly has an effect on persistence (1.00) and retention (0.84). However, satisfaction impinges on GPA is less significant (0.13).

The fifth effect is on the dimensions of persistence, inhabited orderly by: (i) re-register regularly ($Y_7 = 0.93$), (ii) active in tutorials ($Y_8 = 0.86$) and (iii) active in study group ($Y_9 = 0.85$); while in retention, only study up to finish ($Y_{10} = 1.00$) holds. Further study ($Y_{11} = 0.11$) and recommends to other ($Y_{12} = 0.00$) seem to be statistically excluded from the analysis. Further inquest is required to discover reason why “further study” and “recommend to others” are not valued yet (Note: the analysis also proved goodness fit of model was granted).

Concluding Remarks

Delivering quality service has become an important goal for higher education institutions (Athiyaman, 1997), including for ODL institutions. The goal is to maintain student body for continuation and comply with student expectation concurrently. The use of IPA-CSI, as indicated by Silva & Fernandes (2010) and Tileng (2013), have given comprehensible direction at which points of services should be acutely focus on and in which other points should be wittingly maintained concomitantly. This approach also designated in which points the institution might commit less attention and at which points the institution might even reduce the result achieved to minimize unintended resource spent.

SEM induced that the University has to take considerable notice on empathy, responsiveness and reliability intentionally as these are roots to satisfaction lead to persistence/retention. It signifies students to re-register regularly and finish their study on purpose. Issues on assurance and tangible are no longer problems. Nonetheless, assuring procedures are improved in regular base and maintaining facilities will augment the quality of services. These will show ways to satisfaction as highlighted by Parasuraman *et al* (1988) and elaborated by Tan & Kek (2004). Regrettably, the result does not show significant correlation yet between satisfaction and GPA; further study is crucial to reveal how it comes that way.

It can also be brought to a close that the model is in *good fit* category. With a selection of constraints, it can be wrap up that this upshot will make available openings for the University to be more contributive in eradicating limitations for Indonesians to acquire right of entry to higher education. If this understanding is emblematical universally, administrators and faculty would be well-advised to reflect on satisfaction as a hint to persistence/retention. If student satisfaction can be accomplished, this insinuates that Universitas Terbuka is on the right path to uphold its mission in making higher education open to all. The University will be poised of becoming world quality institution in the the provision of university inventions under ODL by stipulating flexible quality education.

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References

- Archambault, L.Z. (2008). Measuring service performance, student satisfaction and its impact on student retention in private, post-secondary institutions. The EDU-COM International Conference. Edith Cowan University (<http://ro.ecu.edu.au/ceducom/2>).
- Arokiasamy, A.R.A & A.G Abdullah. (2012). Service quality and students' satisfaction at higher learning institutions. *International Journal of Management & Strategy*, Jul-Dec 2012, **3** (5), pp. 1-16.
- Athiyaman, A. (1997). Linking student satisfaction and service quality perceptions: The case of university education. *European Journal of Marketing*, **31** (7), pp. 528-540.
- Bean, J. P. (1983). The application of a model of turnover in work organizations to the student attrition process. *Review of Higher Education*, **6**, pp. 129-148.
- Bean, J. P. (1985). Interaction effects based on class level in an exploratory model of college student dropout syndrome. *American Educational Research Journal*, **22** (1), pp. 35-64.
- Brown, R.M. (2006). Factors driving student satisfaction and retention in Australian universities: The importance of institutional image. Paper presented at the 20th Annual ANZ Academy of Management Conference, Rockhampton, 6-10 December 2006.
- Hanaysha, J.R.M *et al.* (2011). Service quality and students' satisfaction at higher learning Institutions: The competing dimensions of Malaysian universities' Competitiveness. *IBIMA Publishing* (www.ibimapublishing.com/journals/JSAR/jsar.html).
- Ilias, A *et al.* (2008). Student satisfaction and service quality: Any differences in demographic factors? *International Business Research*, **1** (4), pp. 131-143.
- Kitcharoen, K. (2004). The IPA of service quality in administrative departments of private universities in Thailand. *ABAC Journal*, **24** (3), Sep-Dec, pp. 20-46.
- Mailany, H. (2011). Study on the factors affecting student satisfaction in Bogor Agriculture University. *Thesis*, Bogor Agriculture University, Indonesia.
- Martirosyan, N.M *et al.* (2014). Student satisfaction and academic performance in Armenian higher education. *American International Journal of Contemporary Research*, **4** (2), February 2014, pp. 1-5.
- Parasuraman, A, V.A. Zeithaml & L.L. Berry. (1988). SERVQUAL: A multiple-item scale for measuring consumer perception of Servqual. *Journal of Retailing*, **64** (1), pp. 12-40.
- Petruzzellis, L *et al.* (2006). Student satisfaction and quality of service in Italian universities. *Managing Service Quality*, **16** (4), pp. 349-364.
- Roberts, J & R. Styron, Jr. (2009). Student satisfaction and persistence: Factors vital to student retention. *AABRI*, pp. 1-18 (<http://www.aabri.com/manuscripts/09321.pdf>).

- Rojaz-Mendez, J.I *et al.* (2009). Determinant of student retention in higher education: A tested relationship approach in Latin America. *Latin American Bus Rev*, **10**, pp. 21-39.
- Sawitri, H.H & M.G. Sembiring. (2013). Visualizing impending features shaping persistence viewed by Universitas Terbuka students at Denpasar Regional Office. *Paper* presented at the 27th Annual Conference of AAOU, Pakistan, 1-3 October 2013.
- Sembiring, M.G. (2012). Determinants of students' retention at Universitas Terbuka. *Paper* presented at the 26th Annual Conference of AAOU, Japan, 16-18 October 2012.
- Sembiring, M.G. (2014). Modeling determinants of student retention in DE institutions. *Int. Journal of Continuing Education & Lifelong Learning*, **6** (2), May 2014, pp. 15-18.
- Silva, F & O. Fernandes. (2010). Using Importance-Performance Analysis in evaluating of higher education. International Conference on Education and Management Technology.
- Singarimbun, M & S. Effendi. (1989). *Metode Penelitian Survei*. Jakarta: LP3ES.
- Sugiyono. (2012). *Metode Penelitian Kombinasi*. Bandung: Alfabeta.
- Tan, K.C & S.W. Kek. (2004). Service quality in higher education using an enhanced SERVQUAL Approach. *Quality in HE*, **10** (1), pp. 17-24.
- Tileng, M.Y *et al.* (2013). Analysis of service quality using Servqual method and IPA in Population Department, Tomohon City, South Sulawesi. *International Journal of Computer Applications*, **70** (19), pp. 23-30.
- Tinto, V. (1982). Limits of theory and practice in student attrition. *The Journal of Higher Education*, **53** (6), pp. 687-700.
- Tinto, V. (1993). *Leaving College: Rethinking the Causes and Cures of Student Attrition*. 2nd Ed. Chicago: University of Chicago.
- Tinto, V. (1997). Classrooms as communities: Exploring the educational character of student persistence. *The Journal of Higher Education*, **68** (6), pp. 599-623.
- Tjiptono, F & G. Chandra. (2011). *Service, Quality & Satisfaction*. Yogyakarta: Andi.
- Universitas Terbuka. (2011). *Strategic and Operational Planning of Universitas Terbuka 2011-2021*. Revised Version. Tangerang Selatan: Universitas Terbuka.
- Wijayanto, S.H. (2008). *Structural Equation Modeling- Lisrel 8.8*. Yogyakarta: Graha Ilmu.