

Service Quality Measurement through Higher Education Performance (HEDPERF)

The Case of an Indonesian Public University

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Abstract

The purpose of this study was to measure service quality performance based on student perceptions of the higher education department service quality performance. The research used a Higher Education Performance (HedPERF) measurement scale. There were six structural factors/dimensions namely: Non-Academic Aspect, Academic Aspect, Reputation, Access, Program Issues, and Understanding. The research method used quantitative methods with descriptive approaches. The research utilized questionnaire surveys with Probability Sampling techniques and Proportioned Stratified Random Sampling collection techniques. Data analysis utilized Importance-Performance Analysis. The importance-performance analysis result exhibited similarities in measurement results. The similarities occurred between respective service items measurements and factors/dimensions structure instrument measurement. The analysis result exhibited that Academic Aspect factors are service quality improvement's top priority, Reputation and Access factors are maintained service quality, Understanding factors are service quality improvement's secondary priority, and Non-Academic Aspect factors exhibited service quality exceeding students expectations. In order to improve Academic Aspect factor, it is suggested to implement Law No. 14 of 2005 which focused on lecturer competencies (Pedagogic Competence, Professional Competence, Social Competence, and Personality Competence).

Keywords: Higher Education Performance, Service Quality, Student Satisfaction, Public University, Indonesia.

INTRODUCTION

In order to challenge the fast-paced Industrial Revolution 4.0 era, universities ought to build a high-quality culture to be competitive at the global level. It could be achieved by producing graduates possessing skilled labor and innovation [1]. Service quality is crucial for universities to be able to provide a good service performance system. The service quality role on student satisfaction must be considered as part of public service [2]. The service quality has attracted considerable attention in the higher education sector. Regardless, there is little attention on identifying determinants from the students' perspective as primary customers. The main factors influencing service quality are the expected service and perceived service. These depend on service providers' ability to consistently meet customer expectations [3].

Customer satisfaction is a specific measure for each transaction, situation, or interaction which are short-term in nature. It acts as a mediator in the relationship between service quality and interest behavior [4]. Service performance is the performance of the service received by the consumers. Furthermore, consumers evaluate service quality [5] [6].

In terms of the service quality provided to students, there is no specific student satisfaction used as a reference to improve service quality. The service quality and student satisfaction measurement are generally conducted on semester activity routine. The measurement is generally directed at student satisfaction on lecturers teaching process. Higher Education Performance (HEdPERF) is a scale of measuring the quality of performance-based services that comprehensively produces authentic determinants in the Higher Education sector [7] [8] [9] [10].

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This study was conducted to determine the service quality performance through Higher Education Performance (HedPERF) perspective. The research result provided recommendations in an effort to improve the Higher Education Department service quality.

MATERIAL AND METHOD

The service quality performance measurement utilized the Higher Education Performance (HedPERF) instrument. Student satisfaction was measured using 41 items/attributes taken from the six factors structure. The conceptual dimensions are described as follows:

1. Non-Academic Aspect, related to services carried out by non-academic staff.
2. Academic Aspect, related to services rendered by academics (lecturers).
3. Reputation, related to higher education in projecting a professional image.
4. Access, related to approachability, ease of contact, availability, and convenience.
5. The Program Issue, emphasizes the importance of offering extensive and reputable academic / specialization programs with flexible structures and syllabi.
6. Understanding, related to understanding the student's special needs in terms of counseling and health services.

This study utilized a quantitative method descriptive approach. Data collection used surveys method with questionnaires as the main data collection tool [11].

The survey sample used Probability Sampling and Proportional Stratified Random Sampling technique [12]. The measurement scale utilized a 5-point Likert scale, by determining the level of importance (expectation) and the level of performance (satisfaction) on the service quality. The measurement scale used a 1 – 5 scale.

Data analysis utilized Importance-Performance Analysis [13] [14], first proposed by Martilla & James (1977) [15], as a reference to higher education institutions' service dimensions and attributes analysis. It exhibited important dimensions and attributes for students, as well as dimensions and attributes not generating student satisfaction [16].

Respondents (students) assessed various attributes level of importance and perceived performance level. The questionnaire answer was divided into four matrix variations on the gap

results based on the level of importance and perceived performance.



Figure 1. The Importance-Performance Analysis Matrix

In Figure 1 it can be explained that Quadrant A (Concentrate Here) is the top improvement priority, Quadrant B (Maintain Quality) is the maintained quality, Quadrant C (Low Priority) is service quality improvement's secondary priority, and Quadrant D (Possible Overkill) is excessive service quality.

Data Collection

The population of the study was undergraduate students (Bachelor Degree) in one of the tertiary educational institutions in East Java. The total population was 935 students. Total samples (using Taro Yamane formula with 5% sample error) was 283 students. The samples are described as follows:

Table 1. Number of Research Sample

Student Years	Population	(Na/N) x n	Sample
2010	2	0,6	1
2011	6	1,8	2
2012	10	3,01	3
2013	52	15,63	16
2014	103	30,96	31
2015	178	53,5	54
2016	207	62,21	62
2017	188	56,5	57
2018	189	56,8	57
Total Sample			283

The respondent distribution based on gender characteristics is described in the following figure 2:

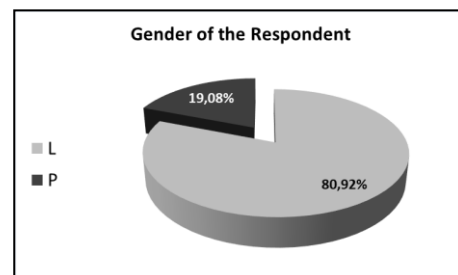


Figure 2. Respondent's gender distribution

Figure 2 exhibits that of the 283 respondents, 80.92% were male student respondents, and 19.08% were female student respondents.

RESULT AND DISCUSSION

Result

Based on 30 sample data on 41 service attributes/items with a significant probability

level $\alpha = 0.05$ (5%), the importance and performance level were under 0.05.

Therefore the data is declared valid. The Level of Importance α value is $0.982 > 0.361$ (r-table). The Performance Level α value is $0.980 > 0.361$ (r-table). Therefore all items are declared reliable.

The data analysis used IBM SPSS 22 for Windows. IPA analysis (Importance-Performance Analysis) result is described as follows:

1. Based on service item

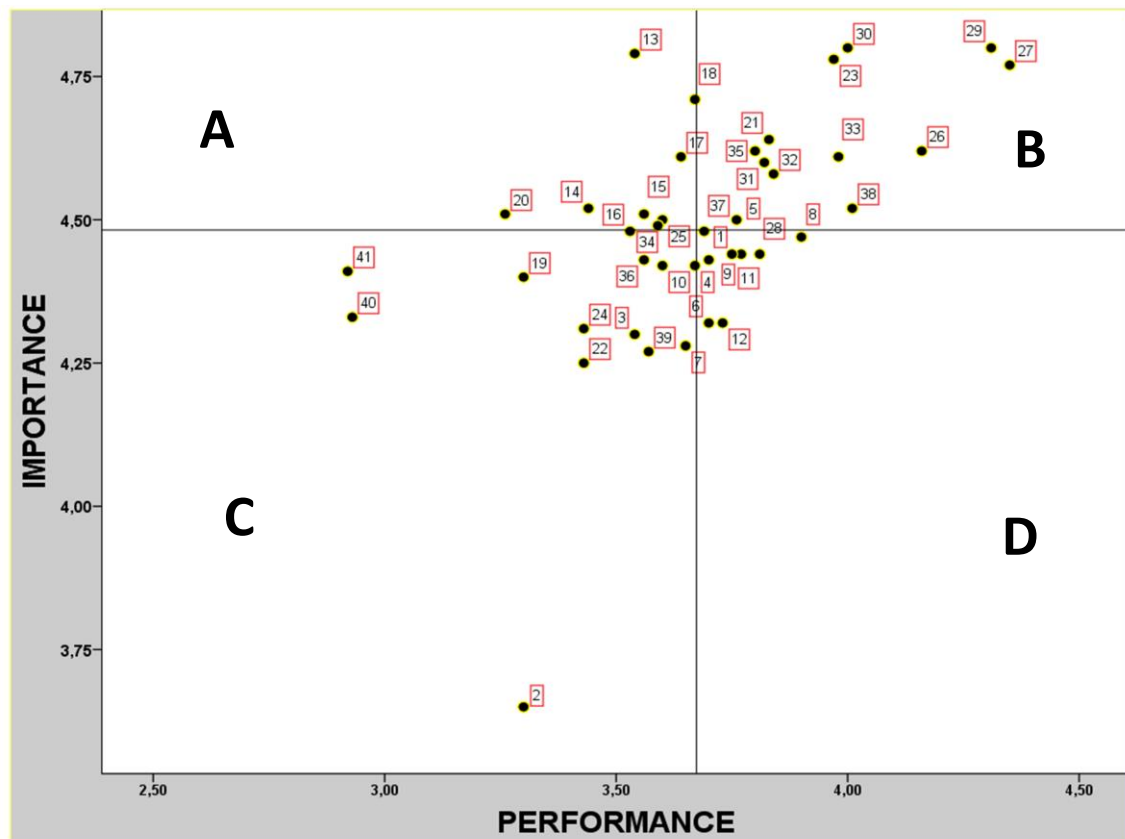


Figure 3. Plotting based on service item

Figure 3 exhibits 8 service item in the Concentrate Here category, 12 service item in the Maintain Quality category, 13 items in the Low Priority

category and 8 items in the Possible Overkill category.

QUADRANT	CATEGORY	NUMBER OF ITEM SERVICE	TOTAL
A	Concentrate Here	13, 14, 15, 17, 18, 20, 25, 34	8 items
B	Maintain Quality	5, 21, 23, 26, 27, 29, 30, 31, 32, 33, 35, 38	12 items
C	Low Priority	2, 3, 4, 7, 10, 16, 19, 22, 24, 36, 39, 40, 41	13 items
D	Possible Overkill	1, 6, 8, 9, 11, 12, 28, 37	8 items

Table 2. Plotting based on service item

2. Based on Service Quality Dimension

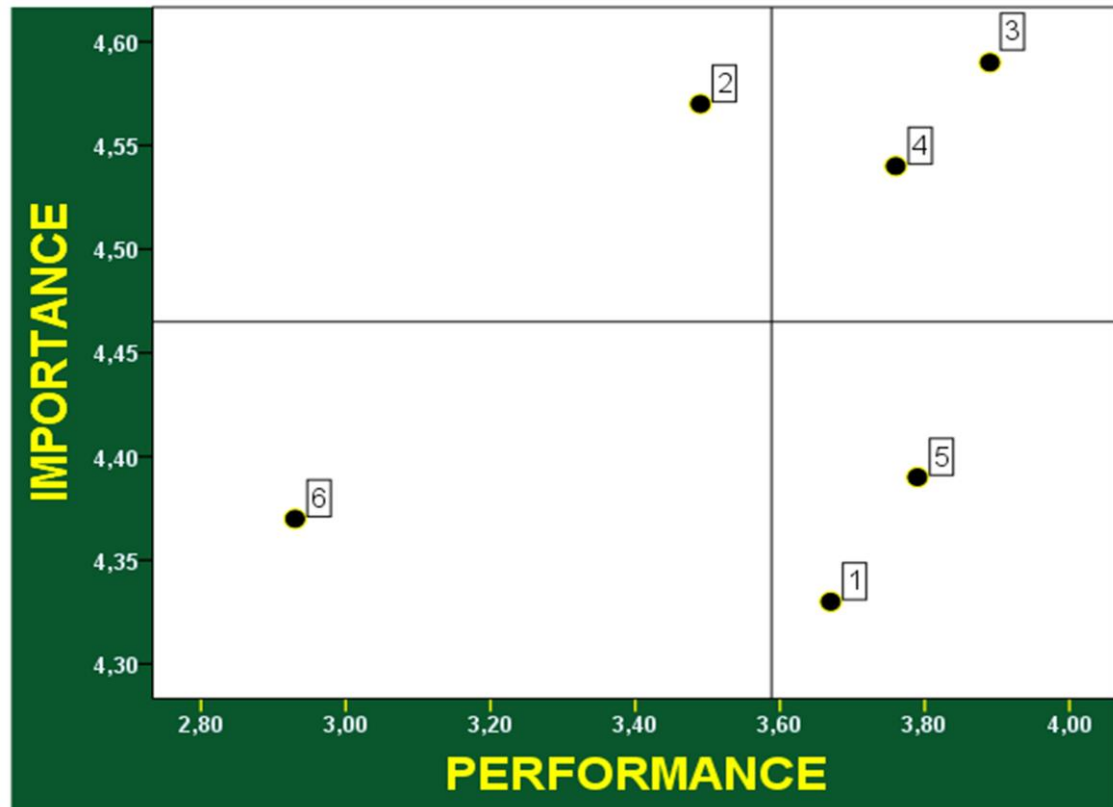


Figure 4. Plotting based on Service Quality dimension

Figure 4 exhibits that Academic Aspect is included in Concentrate Here (Quadrant A) category. The Reputation and Access dimension are in the Maintain Quality (Quadrant B) category.

The Understanding dimension is included in Low Priority (Quadrant C). Non-Academic Aspect dimension and the Issues Program dimension are included in Possible Overkill (Quadrant D) category.

QUADRANT	CATEGORY	SERVICE DIMENSION
A	Concentrate Here	(2) Academic
B	Maintain Quality	(3) Reputation; (4) Access
C	Low Priority	(6) Understanding
D	Possible Overkill	(1) Non Academic; (5) Program Issues

Table 3. Plotting based on Service Quality dimension

Discussion

1. Quadrant A (Concentrate Here)

There are 8 service quality items exhibited as service improvement top priority. The service item are described as follows:

- *Academic Aspect*. Service item 13 (lecturers provide easy to understand lecture material), service item 14 (lecturers exhibits concern and friendliness for students), service item 15 (lecturers respond to requests for assistance) , service item 17 (lecturers have positive attitudes), service item 18 (lecturers have good communication skills), and service item 20 (lecturers take sufficient time to provide student consultation).
- *Reputation*. Service item 25 (Department has a service quality assurance program (such as ISO series)).
- *Access*. Service item 34 (Department provides convenience for students to contact all staff).

Based on the factor/dimension stucture instrument, the Academic Aspect related to lecturers service is the service quality

improvement's top priority.

2. Quadrant B (Maintain Quality)

There are 12 service quality items to be maintained, which are described as follows:

- *Non-Academic Aspect*. Service item 5 (Staff provide accurate and reliable information)
- *Reputation*. Service item 21 (Department has a good professional reputation), service item 23 (Department has complete academic facilities such as classroom, reading room, laboratory, etc.), service item 26 (Department has recreational facilities such as garden, student gazebo, large parking lot, etc.), service item 27 (Good accredited department), service item 29 (Department has well educated and experienced lecturers), and service item 30 (The Department possesses a good reputation, improving graduates employment rate)
- *Access*. Service item 31 (Department gives equal treatment and appreciations to all students in any service), service item 32 (Department provides equal fairness and freedom to all students in any service), service item 33 (Department maintains confidentiality of students' information), and service item 35 (Department provides convenience for students to channel their talents and interests in an organization).
- *Program Issues*. Service item 38, (The department has a varied field of interest studies).

Based on the factor/dimension structure instrument, the following service quality dimensions should be maintained: The Reputation dimension associated with campus image as a professional campus with good service as well as the Access dimensions related to the ease and convenience of dealing with all campus parties.

3. Quadrant C (Low Priority)

There are 13 service quality items exhibited as service improvement's secondary priority. These are described as follows:

- *Non-Academic Aspect*. Service item 2 (Staff exhibits concern and attention to student personal issues), service item 3 (Staff has the ability to deal with and resolve complaints from students efficiently), service item 4 (Staff is willing to respond immediately to student

assistance requests), service item 7 (Staff open service hours adjusted to student break hours), and service item 10 (Easy to understand administrative services SOP).

- *Academic Aspect*. Service item 16 (lecturers are willing to help students' problems in sincere manner), and service item 19 (lecturers provide feedback on student learning progress).
- *Reputation*. Service item 22 (Possess dormitory facilities and equipment), and service item 24 (Appropriate number of students in a class).
- *Access*. Service item 36 (Department provides feedback on the progress of student learning outcomes).
- *Program Issues*. Service item 39 (Department has a flexible syllabus).
- *Understanding*. Service item 40 (Department provides student counseling services), and service item 41 (Student health services availability).

Based on the factor/dimension structure instrument, the Understanding dimension is service improvement's secondary priority.

4. Quadrant D (Possible Overkill)

There are 8 service quality items considered excessive. These are described as follows:

- *Non-Academic Aspect*. Service item 1 (Staff are willing to help solve student problems), service item 6 (Staff are responsible and fulfill provided promises), service item 8 (Staff have positive attitudes), service item 9 (Staff have good communication skills), service item 11 (staff provide comfort in service), and service item 12 (staff open and close hours of service on time).
- *Reputation*. Service item 28 (campus locations is easily accessible by public transportation).
- *Access*. Service item 37 (Department has a Standard Operating Procedure (SOP) in terms of service to students).

Based on the factor/dimension structure instrument, the Non-Academic Aspect and Program Issues dimensions exhibits excessive service performance.

CONCLUSION

The Importance-Performance Analysis exhibits similar average measurements among the majority of service items compared to factor/dimension structure instrument. Therefore the Higher Education Department may consider

the following suggestions in an endeavor to improve service quality:

1. Quadrant A is a top priority service improvement. Academic Aspect requires improvement on the following factors: lecturers must provide easy to understand lecture material, exhibit concern and friendliness to students, respond to request for help, have positive attitudes and good communication skill, and provide sufficient time for student consultations.
2. Quadrant B exhibits factors to be maintained, which are described as follows:
 - *Reputation* factor exhibits good professional reputation, complete academic facilities (classrooms, reading rooms, laboratories, etc.), recreational facilities (parks, student gazebos, large parking lots, etc.), well-accredited departments, well-educated and experienced lecturers, and high employment rate, graduates.
 - *Access* factor exhibits equal treatment and appreciation to all students in any service, fairness and freedom to all students in any service, maintaining the confidentiality of student information, and providing convenience for students to channel their talents and interests in an organization.
3. Quadrant C is service quality improvement's secondary priority (low priority). The Understanding factors to be improved are providing student counseling services and improving student health services.
4. Quadrant D exhibits service quality which exceeded student expectations. The similarity of measurement results (using Importance-Performance Analysis) is exhibited by Non-Academic Aspect factors. The staff are willing to help solve student problems, be responsible and fulfill promises given, have positive attitudes, have good communication skills, provide comfort in service, as well as open and close hours of service on time.

Academic Aspect related to lecturers' service to the student is a top improvement priority. This could be achieved by implementing Law No. 14 of 2005 relating to lecturers certification to be carried out in an optimal manner. It is conducted to maintain lecturers conduct and responsibilities performance based on Pedagogic Competence, Professional Competence, Competence Social, and Personality Competence.

ACKNOWLEDGEMENT

As an educational staff in higher education, the author wishes to extend their gratitude to the Ministry of Research, Technology and Higher Education of Indonesia for the academic competencies development opportunity and financial support. The author extends their gratitude to all parties at the Sepuluh Nopember Institute of Technology and Universitas Brawijaya Faculty of Administrative Sciences Malang for their support.

The research result is expected to be an input for the Ministry of Research, Technology and Higher Education of Indonesia related to the quality measurement standard in Indonesian higher education services. Further research development may focus on HedPERF (Higher Education Performance) as a scale of measurement of service quality in higher education. The factors and items services structures can be modified in a manner to realize Indonesian universities characteristics as a manifestation of national identity.

REFERENCES

- [1]. Penprase, B. E. 2018. *"The Fourth Industrial Revolution and Higher Education"*, pp. 207–229.
- [2]. Xing, B. and Marwala, T. 2017. "Implications of the Fourth Industrial Age on Higher Education", (March). doi: arXiv preprint arXiv:1703.09643.
- [3]. Parasuraman, A., Zeithaml, V. A. and Berry, L. L. 1985. "A Conceptual Model of Service Quality and Its Implications for Future Research", *Journal of Marketing*, 49(4): 41.
- [4]. Tjiptono, F. dan Chandra, G. 2016. *"Service, Quality dan Satisfaction"*. IV. CV. ANDI OFFSET (Penerbit ANDI), Yogyakarta - Indonesia.
- [5]. Cronin, J.J. & Taylor, S.A. 1992. "Measuring service quality: reexamination and Extension", *Journal of Marketing*, 56: 55–68.
- [6]. Cronin, J.J. & Taylor, S.A. 1994. "SERVPERF versus SERVQUAL: Reconciling Performance-Based and Perception-Minus-Expectations Measurement of Service Quality", *Journal of Marketing*, 58(1): 125–131.
- [7]. Abdullah, F. 2006. "Measuring service quality in higher education: three instruments compared", *International Journal of Research and Method in Education*, 29(1): 71–89.
- [8]. Abdullah, F. 2006. "The development of HEDPERF: a new measuring instrument of service quality for the higher education

- sector": *International Journal of Consumer Studies*, 30(6): 569–581.
- [9]. Abdullah, F. 2006. "Measuring service quality in higher education: HEdPERF versus SERVPERF",: *Marketing Intelligence dan Planning*, 24(1): 31–47.
- [10]. Abdullah, F. 2005. "HEdPERF versus SERVPERF The quest for an ideal measuring instrument of service quality in the higher education sector",: *Quality Assurance in Education*, 13(4): 305–328.
- [11]. Effendi, S., & Tukiran. 2012. *Metode Penelitian Survei*. Edisi Revisi 2012. LP3ES, Jakarta.
- [12]. Sugiyono. 2018. *"Metode Penelitian Kuantitatif"*, CV. ALFABETA, Bandung.
- [13]. Kitchroen, K. 2004. "The importance-performance analysis of service quality in administrative departments of private universities in Thailand",: *ABAC Journal*, 24(3): 20–46.
- [14]. Kitchroen, K. 2004. "Determinants of Service Quality in", *ABAC Journal*, 24(2): 14–25.
- [15]. Martilla, J. A. and James, J. C. 1977. "Importance-Performance Analysis",: *Journal of Marketing*, 41(1): 77–79.
- [16]. Douglas, J., Douglas, A. and Barnes, B. 2006. "Measuring student satisfaction at a UK university",: *Quality Assurance in Education*, 14(3): 251–267.