

Evaluation of the Service Quality in Higher Education Using HEISQUAL Approach

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To Link this Article: <http://dx.doi.org/10.6007/IJARBSS/v14-i12/24122> DOI:10.6007/IJARBSS/v14-i12/24122

Published Date: 11 December 2024

Abstract

To maintain high quality education services while also achieving social goals, public universities need to take a business approach. In order to compete, universities must adopt a customer-centric approach that includes understanding students' perceptions of service quality and satisfaction. Students are regarded as the most important determinant of service success in higher education institutions. Student satisfaction with educational services is highly abstract and varies greatly based on personal perceptions, thus valid and reliable evaluations are required to assess and improve service quality. This study aims to evaluate the quality of services in Higher Education Institutions using the HEISQUAL approach. Data analysis of 449 students of a public university was conducted using several methods such as descriptive statistics, Importance-Performance Analysis (IPA), and PLS-SEM. Results show that aspects such as Safety and Security, Employment, Student Skill Development, Infrastructure and Facilities, and Support Staff and Management have a significant impact on overall Student Satisfaction, while no impact is shown from Lecturer Profiles and Curriculum.

Keywords: HEISQUAL, Higher Education, Importance Performance Analysis, Student Satisfaction, Service Quality

Introduction

Higher education institutions (HEIs) are entities primarily engaged in providing educational services, with public universities typically recognized as non-profit organizations (Purwolastono, 2012). However, due to changes in political, socio-economic, and cultural conditions driven by globalization, the role and function of HEIs have expanded. In Indonesia, for instance, public universities, including Public Universities with Legal Status (Perguruan Tinggi Berbadan Hukum / PTN-BH), are now required to operate as business entities while maintaining their social objectives. Despite focusing more on commercial values, Public Universities with Legal Status need to provide quality education services at affordable costs. Public Universities with Legal Status must also adapt to current conditions by expanding its

role from merely providing quality education services to becoming a business entity capable of enhancing revenue generation capabilities.

In the increasingly competitive and dynamic global market, HEIs compete to enhance their quality. To address this competition, HEIs need to adopt a customer-oriented approach (Bates, 2003; Wulandari & de Jager, 2018). Understanding how students perceive quality and satisfaction is essential because service quality is determined by customers, not the organization itself. Service quality is a key determinant of attractiveness for customers, with students being the primary determinants of service success (Safdar et al., 2018). Therefore, monitoring and managing service quality should be done from the perspective of students as consumers.

Measuring service quality plays a crucial role in improving service quality, creating differentiation, and gaining competitive advantages. However, the main challenge lies in identifying quality indicators and using appropriate measurement instruments. Various instruments such as SERVQUAL, SERVPERF, and HEdPERF have been developed to measure service quality in HEIs, but they may be too general or not consider modern service quality aspects in higher education. Most measurement instruments focus on course mechanisms and teaching quality (Silva et al., 2017; Srikanthan & Dalrymple, 2007).

A study by Abbas (2020) developed a method for measuring service quality in HEI context, specifically linking it to the university environment. This method, called HEISQUAL, comprehensively measures service quality in HEIs, considering both operational and technical aspects. Technical quality describes the degree to which the university has trained its students in accordance with industry standards, while operational quality describes the physical and intangible resources available to students during their time at the university. HEISQUAL has identified 7 dimensions of service quality determinants: Lecturer Profile, Curriculum, Infrastructure and Facilities, Management and Support Staff, Employment, Safety and Security, and Student Skill Development (Abbas, 2020).

Although the utilization of HEISQUAL is widespread as a framework to measure service quality, particularly in Higher Education Institutions (HEIs), one of its main limitations is its inability to provide further improvement on identified weaknesses in HEI service quality. To address this limitation, researchers employ the Importance-Performance Analysis (IPA) Matrix tool, which is useful for depicting the correlation between user perceptions and priority areas for improving service quality in a visual quadrant visualization. Despite being a simple tool, IPA Matrix aligns with HEISQUAL analysis. Additionally, IPA serves as a powerful evaluation tool for practitioners and academics to identify attributes performing well and those needing improvement, prompting immediate action (Feng et al., 2011).

The purpose of the current study is to validate an instrument that measures SQ from the viewpoint of university students in HEIs and is developed to evaluate the service quality of HEI in line with customer expectations. The method involves conducting a customer satisfaction survey among HEI undergraduate students. Through this research, it is expected to assist HEIs in measuring their service quality and become a reference for service development plans to create a better academic environment. By providing recommendations

for improvement, the output aims to enhance HEI service quality in line with students' desires as the primary customers.

Literature Review

Service Quality

Service quality (SQ) is defined as the consumer's overall impression of the inferiority/superiority of the organization and the services offered (Bitner et al., 1990). Cronin & Taylor (1992) stated that in the absence of objective measures, an appropriate approach to estimating the quality of a service is to measure the performance of the services consumed by consumers. For every organisation, SQ is vital and directly affects whether they succeed or fail (Li, 2018). Comparing consumers' opinions of the service they got or received with the service they expected can help to assess service quality. The service is considered to be of good quality if it exceeds expectations; it is of poor quality if it falls short of expectations; and satisfactory if it meets expectations (Fitz-Simmons & Fitzsimons, 1994). According to Parasuraman et al. (1994), Service Quality is a concept that accurately represents the essence of the performance of a service, namely a comparison of reliability (excellence) in service encounters made by consumers. Thus, Service Quality can be defined as how much is the difference between customers' real perceptions and expectations for the services they receive.

Customer expectations are basically the same as what kind of service the service provider should provide (Parasuraman, et al., 1994). Basically, service quality focuses on efforts to fulfil customer needs and desires and the accuracy of delivery to match customer expectations. This understanding comes from the Service Quality literature which defines expectations as the desires of customers rather than the services that a service provider or company might provide. Service quality can be measured using the SERVQUAL method (Parasuraman et al., 1985). In general, the SERVQUAL dimension has five categories consisting of tangibles, reliability, responsiveness, assurance, and empathy (Parasuraman et al., 1988).

HEISQUAL

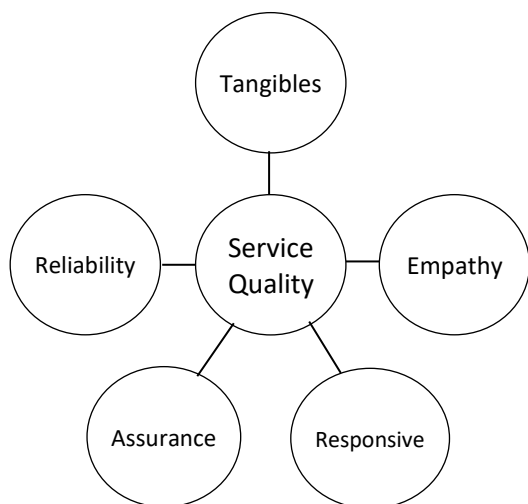
According to Parasuraman et al. (1988), the dimensions of service quality in general allow for modifications to be made to adapt the service model to be analyzed. The use of higher education service quality (HEISQUAL) dimensions is adapted on research conducted by Abbas (2020), where the dimensions of service quality have been modified to suit the instruments that will be used in the academic world. This dimension is the development of a comprehensive instrument that measures service quality, especially in higher education, by considering operational aspects, as well as technical.

Companies that want to raise their SQ need to be able to comprehend what customers want and are satisfied with. Given that HEIs have up to now gone through several social, political, technological, and economic upheavals, this is even more pertinent. Using a thorough SQ instrument, one can gather customer input for this (Abbas, 2020).

Operational quality in the context of higher education refers to the material and immaterial resources accessible to students while they are enrolled in the institution. It concentrates on how the facility is provided to them as well. Technical quality describes how much an institution has trained its students to meet industry standards so that, upon graduation, they

can possess skills relevant to what the industry needs. Dimensions of measuring Service Quality in Higher Education proposed by Abbas (2020) in the HEISQUAL Method which has identified 7 (seven) dimensions determining service quality, namely Lecturer Profile, Curriculum, Infrastructure and Facilities, Management and Support Staff, Employment, Safety and Security, and Student Skills Development (Abbas, 2020). The dimensions are a replicated version of Parasuraman's original service quality model as shown below.

Parasuraman et al. (1988)



Abbas (2020)

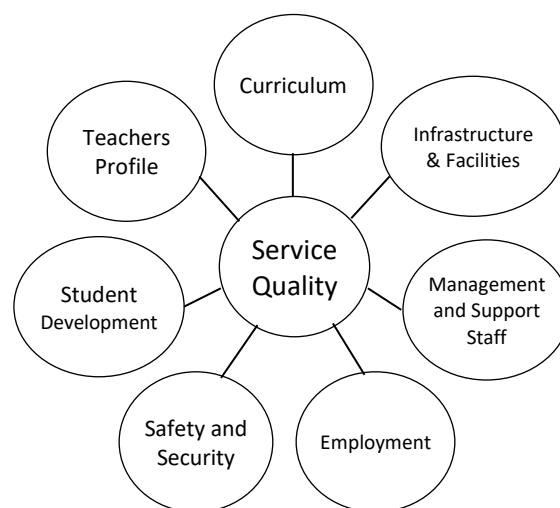


Figure 1. Dimensions of Service Quality in HEI (HEISQUAL)

Student Satisfaction

Customer satisfaction is seen as a special form of consumer attitude. Attitude describes the overall evaluation of an object that tends to direct behavior towards the object (Kuswoyo et al., 2017). Satisfaction is a post-purchase phenomenon that reflects how much consumers like or dislike a service after they have gained experience. In the context of higher education, customer satisfaction is centred on the student community, specifically on the subjective evaluations of several academic outcomes and experiences by students (Onditi & Wechuli, 2017). Student satisfaction is the extent that a university's performance satisfies student expectations (Saleem et al., 2017). Views and expectations of students regarding the services and degree of quality provided affect their satisfaction. Pedro et al. (2018) stated that there are six factors that affect student satisfaction and that there is a positive correlation between them:

- a. In general, students are satisfied with the quality of their higher education institutions (HEIs).
- b. In general, the university is a good university.
- c. In general, the university meets students' needs
- d. Choosing a university to study is a good decision.
- e. In general, students are satisfied with the performance of the services provided by the University
- f. In general, students are satisfied with the value for money commensurate with the quality obtained
- g. In general, the university satisfies students in relation to other Faculties/HEIs.

Research Methodology

The sample criteria in this study are active students of undergraduate programs, students who are in their second year of study and above. Prior to main data collection, wording test and pilot test are conducted to make sure every statements are well-understood and that the instrument is valid and reliable. The study uses cross-sectional design through one time survey and purposive sampling targeting respondents with specific criteria (Maholtra et al., 2010). This study employs HEISQUAL instrument adopted from Abbas (2010), and student satisfaction referring to da Silva et al. (2021) and Pedro et al. (2018).

Data are collected using structured questionnaire through offline and online survey and gained 718 respondents of students from a big public university in Indonesia. After applying several screening questions in the main part of the questionnaire to determine whether respondents read the instructions correctly, only 449 data are valid to be analyzed further. In developing countries, research on student service quality primarily focuses on private university students rather than public university students (Kwek et al., 2010; Sumaedi et al., 2012). Despite substandard amenities and facilities, prospective students prefer public universities due to the relatively more affordable tuition, image, etc. These phenomena led the author to study Indonesian public university students' service quality perceptions.

Analyses are done using descriptive analysis, Importance Performance Analysis (IPA), and partial least square structural equation modeling (PLS-SEM) using SmartPLS 3. IPA is assessed through respondents scoring each item using importance and satisfaction response. IPA Matrix is used to see in more detail the attributes that need to be improved and the attributes that need to be maintained by HEI, where indicators are divided into 4 quadrants, namely quadrants I (High Importance, Low Satisfaction), II (High Importance, High Satisfaction), III (Low Importance, Low Satisfaction), and IV (Low Importance, High Satisfaction). IPA involves gathering direct feedback from customers, which can provide immediate and valuable insight for universities into their perceptions and expectations.

PLS-SEM is used in this study as the study aims to test theoretical framework from a prediction perspective, involve many constructs, indicators, and relationships, and exploring theoretical extensions of an established theory (Hair et al., 2022, Ringle et al, 2025). This is relevant because HEISQUAL is a recent extension of service quality in HEI context, developed by Abbas (2020) and is still little researched. Combining IPA and PLS-SEM methods allows for more comprehensive and accurate analysis results to prioritize and understand factors that influence satisfaction or performance.

Table 1
Demographic Profile of Respondents

Profile	Characteristics	Total respondents	Percentage (%)
Gender	Male	226	50.33
	Female	223	49.67
Cohort	Sophomore	134	29.84
	Junior	165	36.75
	Senior	150	33.41
Discipline Cluster	Science	94	20.93
	Engineering	198	44.09
	IT	46	10.24
	Social Humanities	20	4.45
	Creative Design	18	4.00
	Applied Science	73	16.25

Proposed Conceptual Model

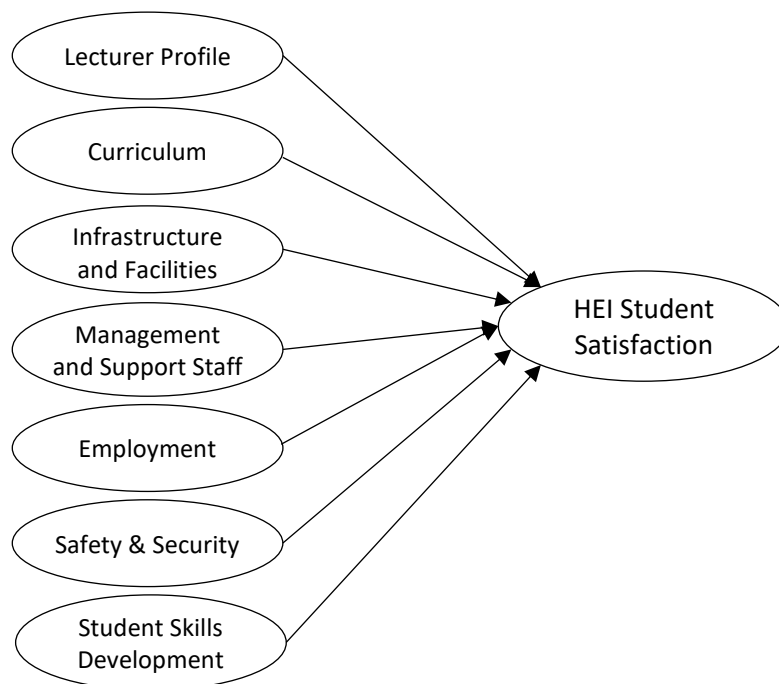


Figure 2. The Proposed Conceptual Model of HEISQUAL

The following are hypotheses being analyzed in the study:

The interaction between lecturers and students has a significant impact on student perceptions of Service Quality (SQ) (Abbas, 2020; Long et al. 2014; Listyaningrum et al., 2016).

H1: Lecturer profile has a significant influence towards student satisfaction.

Research shows that there is a positive and significant influence on the quality of academic services, including the lecture curriculum, on student satisfaction (Abbas, 2020; Sufiyah, 2017; Martasubrata & Suwanto, 2016).

H2: Curriculum has a significant influence towards student satisfaction

HEIs must provide specialised and complex services, thus they have to guarantee the availability of the best facilities and infrastructure quality (Abbas, 2020; Shahbana et al., 2021).

H3: Infrastructure and Facilities have a significant influence towards Student Satisfaction.

University management and support staff must interact with students in the right manner. Management must respect and appreciate students' points of view and suggestions by giving feedback (Abbas, 2020; Aisyatunnadiya, 2021; Malikhah, 2019).

H4: Management and Support Staff have a significant influence towards Student Satisfaction

Many students expect that universities should not only educate them to gain standard skills relevant industry requirements but should also help them in securing quality jobs (Abbas, 2020; Safi'l et al., 2022; Ludfi & Hanifah, 2019).

H5: Employment has a significant influence towards student satisfaction.

Students feel that HEIs ought to take the necessary precautions to guarantee their personal safety and security on campus. Equipment and training required for security personnel must be provided (Abbas, 2020; Malikhah, 2019).

H6: Safety and Security have a significant influence towards Student Satisfaction.

Programmes for developing personality and skills in students through extracurricular activities are also seen to be significant measures of the quality of services in higher education (Abbas, 2020; Malikhah, 2019; Daud et al., 2012).

H7: Student Skills Development has a significant influence towards Student Satisfaction.

Results and Discussions

Table 2

Path Coefficient Results

H	Path	T-Value	P-Value	Result
1	Lecturer Profile → Student Satisfaction	2.243	0.025	Sig.
2	Curriculum → Student Satisfaction	2.299	0.022	Sig.
3	Infrastructure and Facilities → Student Satisfaction	0.241	0.81	Not Sig.
4	Management and Support Staff → Student Satisfaction	3.425	0.001	Sig.
5	Employment → Student Satisfaction	3.493	0.001	Sig.
6	Safety and Security → Student Satisfaction	0.283	0.777	Not Sig.
7	Student Skills Development → Student Satisfaction	3.363	0.001	Sig.

The assessment of service quality is carried out initially using Importance Performance Analysis (IPA), namely by looking at the importance and assessment values. From the results of the Level of Conformity to Expectations (TKI) test, the service quality indicators are between 61% -92%, still not reaching 100% on all indicators, meaning that service quality cannot be said to be satisfactory. It can also be seen from the results. The gap in the assessment level and importance level of all service quality indicators shows negative values. This means that overall, HEI still has to improvise all the facilities and services provided.

Based on the results of the IPA Matrix analysis, there are 14 indicators that fall into quadrant one which shows a high level of importance but a low assessment or not in line with student

expectations. Based on the 14 indicators, there are 14 aspects that need to be improved, namely:

1. Increased understanding of concepts taught by lecturers to students.
2. Increasing lecturers' ability to explain complex concepts in a simple and easy to understand manner.
3. Repair and maintenance of classrooms at HEI.
4. Increased appreciation and acceptance by management of feedback from students.
5. Improve the administration process at so that it is clearer and better structured.
6. Increased response and speed of admin and support staff in resolving student problems.
7. Increasing safety and security standards on the campus.
8. Increased training and professionalism of security staff at HEI.
9. Fulfillment of appropriate and modern equipment for security staff at HEI.
10. Increase the number and increase monitoring via CCTV at HEI.
11. Increase the availability and maintenance of fire extinguishers at HEI.
12. Increasing the availability of adequate PK3 (Fire Protection and Safety) equipment at HEI.
13. Increase the security of the parking area at so that it is adequate and good.
14. Improved management and supervision of the overall security of the campus.

Furthermore, results of the analysis of the influence of service quality dimensions towards student satisfaction were obtained from PLS-SEM findings. Based on the results, several variables including Safety and Security, Employment, Students Skills Development, Infrastructure and Facilities as well as Supporting Staff and Management have a significant influence on Overall Student Satisfaction. Meanwhile, the Lecturer Profile and Curriculum variables do not have a significant influence on satisfaction student.

The latter findings may be due to first, with students prioritize learning experiences from various lecturers and focus on the insights, rather than looking at lecturers' profiles. Next, curricula may not always be perceived as relevant to students' interests or future goals, thus student satisfaction are more likely to be driven by the other major aspects of service quality.

Conclusions

Based on HEISQUAL approach, it is revealed that Safety and Security, Employment, Skills Development Students, Infrastructure and Facilities as well as Supporting Staff and Management have a significant influence on Overall Student Satisfaction. Meanwhile, the Lecturer Profile and Curriculum do not have a significant influence on student satisfaction.

Recommendations for improvements to improve the quality of services are carried out by prioritizing several facilities and services included in quadrant 1 of the IPA Matrix. General improvement recommendations that include these indicators namely first, it is necessary to increase communication and interaction between lecturers and students.

The study was carried out at a public university. To generalise the study result, more research in the form of a longitudinal study with various geographic samples is needed. Most service quality research in HEI context has been done in developed countries, while this study was done in a developing country that also sheds light on quality management of a state university. Future research may conduct research to identify other factors that have the

potential to influence student satisfaction outside of the variables that have been studied. For example, campus environmental factors, non-academic supporting facilities, and social interactions between students. Longitudinal research can also be conducted to observe changes in student satisfaction over time and consider involving other stakeholder aside from students.

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