

# THE PERFORMANCE OF SERVQUAL TO MEASURE SERVICE QUALITY IN PRIVATE UNIVERSITY

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## Highlights

- The relationship of service quality on satisfaction and loyalty in private university via structural equation modeling (SEM) approach
- Only tangible and reliability do significantly affect student satisfaction
- Satisfaction significantly affects student loyalty
- SERVQUAL is redundant as a model to measure the effect of service quality in educational service

## Abstract

The increasing number of educational services has caused a high competition in this industry. In Indonesia, the number of private universities is the highest compared to state universities and other forms of higher education institutions. Ability to predict factors that are important in providing educational services to achieve student satisfaction and make them loyal to the university is highly necessary. In this study, we investigated the main factors of service quality that affect student satisfaction and loyalty by collecting data from 319 students from London School of Public Relation in Jakarta. Structural equation modeling (SEM) was employed to analyze the data through AMOS 24 statistical package. The findings indicated that the main factors influencing student satisfaction in private university are tangible and reliability consisting of: 1) comfortable lecture rooms, 2) adequate library facilities, 3) neat staff appearance, 4) non-discriminatory treatments provided by staff and lecturers, 5) high ability and knowledge provided by staffs and lecturers, and 6) appropriate academic services provided by the university. Student satisfaction with these factors would indirectly lead to loyalty to the university. Finally, service quality measurement through SERVQUAL was redundant as a model to measure the effect of service quality in educational service.

## Keywords

Higher education, loyalty, private university, satisfaction, SERVQUAL

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## Introduction

Increasing globalization in the education sector in recent years has led to a growing demand for higher education services (Lim, Yap, & Lee, 2011). The high demand for education services is also accompanied by the increasing of higher education service providers, particularly private universities (Naidu & Derani, 2016). Due to the selection system in state universities, private universities become alternative for prospective students who wish to continue their higher education (Rama, 2016). The number of private universities in Indonesia is very high at 3136 units compared to the state universities of only 122 units (Databoks, 2017). The high number of private universities will lead to higher business competition. According to (Chui & bin Ahmad, 2016), the high competition caused the number of private universities is unable to fulfill the sufficiency of the number of students so that they have to close their study program, while from the number of students, in 2014/2015, 4,156,483 students are enrolled in private universities (67.93%) and only as many as 1,962,250 (32.07%) of students enrolled in state universities (PDDIKTI, 2016), which means that private universities have a very high market potential when managed well compared to state universities.

The provision of high service quality is a fundamental strategy that service providers can afford to maintain and increase their number of students. High service quality will affect the financing, reputation, and popularity of private universities that can guarantee the number of prospective students applying for the next period. In addition, although major consumers of private universities are students, the quality of service they receive indirectly affects industry, parents, communities and governments in their views and decisions on private universities (Kitchroen, 2004). Research on service quality in educational

service has been widely applied (Zammuto, Keaveney, & O'Connor, 1996; Abdullah, 2006a, 2006b, 2006c; Manaf, Ahmad, & Ahmed, 2013; Đonlagić & Fazlić, 2015; Chui & bin Ahmad, 2016; Naidu & Derani, 2016). Most of the studies employ the SERVQUAL and SERVPERF models. However, the application in Indonesia, especially in private universities is still limited. Previously, Susanti, Sule, & Sutisna (2015) and Hasbullah & Yusoff (2017) have conducted research on service quality in educational services in Indonesia. But their research does not specifically focus on private universities. Therefore, in this study, we investigated service quality in the private university in Indonesia. This study contributed by adding a new perspective on service quality predictors on higher educational services and identified which dimensions of service quality were the most influential on student satisfaction. Since, the number of private universities in Indonesia is overwhelming and there is a possibility of increasing the number in the future, then the results of this study are beneficial as a consideration for existing university managers, as well as input for upcoming private universities.

## Literature

### Service quality in educational services

Services on educational services have the same characteristics as services in other service sectors, as the existence of intangibility, inseparability, heterogeneity, perishability, and lack of ownership (Zeithaml, Parasuraman, & Berry, 1985; Parasuraman, Zeithaml, & Berry, 1988; Gruber et al., 2010). Because of these similarities, according to Hemsley-Brown & Oplatka (2006), educational institutions need to apply market-oriented and profit-oriented principles to achieve competitive

advantage and institutional sustainability. One of the basic principles applied to achieve both is to provide high service quality. The ability of service quality to meet the expectations of students will determine the level of student satisfaction, university costs and benefits, student switching behavior, and positive behavior such as word of mouth and repurchase intention (Crosby, 1979; Bolton & Drew, 1991; Cronin Jr & Taylor, 1992; Rust & Zahorik, 1993; Stodnick & Rogers, 2008; Leonnard et al., 2015). In the measurement of service quality in educational services, perceived service quality is used to compare service expectation with perception of real service performance, as well as service quality measurement in other service sectors (Zeithaml, Parasuraman, & Berry, 1990). When real performance exceeds the expectations of the students, there is positive disconfirmation that will result in satisfaction (Buttle, 1996). This satisfaction will determine the long-term competitive advantage and sustainability of the university.

### **SERVQUAL approach to measure service quality in educational services**

According to Clewes (2003) and Marzo-Navarro, Pedraja-Iglesias, & Pilar Rivera-Torres, (2005), there is no agreement on the best model in measuring educational service quality. Each model used has its own advantages and disadvantages. In general, the most commonly used models for measuring service quality in educational services are SERVQUAL (Parasuraman et al., 1988), SERVPERF (Abdullah, 2006b), and HEDPERF (Abdullah, 2006a). Of the three models, SERVQUAL is the most widely used model. According to Parasuraman et al. (1988), the core of this model is the ability to measure whether the real performance of services exceeds consumer expectations. To measure this, five dimensional measurements consisting of tangibles, reliability, responsiveness, assurance, and empathy are used. Tangibles are related to the physical condition and availability of facilities and human resources. Reliability relates to the ability of service providers to provide services in accordance with what is promised. Responsiveness relate to the ability of service providers to provide the best service to consumers. Assurance deals with the knowledge and skills of service provider employees. Last, empathy deals with the personal attention provided by the service provider to the consumers. The use of SERVQUAL in educational services has been widely demonstrated in previous studies (Zammuto, Keaveney, & O'Connor, 1996; Browne et al., 1998; Oldfield & Baron, 2000; de Jager & Gbadamosi, 2013; Chui & bin Ahmad, 2016; Naidu & Derani, 2016). Based on the above analysis, the research hypotheses to be tested are as follows:

#### **Research hypothesis 1 (H1):**

Perception of tangible dimension has a positive relationship on overall service quality perceptions toward educational services

#### **Research hypothesis 2 (H2):**

Perception of reliability dimension has a positive relationship on overall service quality perceptions toward educational services

#### **Research hypothesis 3 (H3):**

Perception of responsiveness dimension has a positive relationship on overall service quality perceptions toward educational services

#### **Research hypothesis 4 (H4):**

Perception of assurance dimension has a positive relationship on overall service quality perceptions toward educational services

#### **Research hypothesis 5 (H5):**

Perception of empathy has a positive relationship on overall service quality perceptions toward educational services

### **The relationship between service quality and satisfaction**

Previous studies have proven that high service quality in educational services has a significant effect on student satisfaction (Cronin Jr & Taylor, 1992; de Jager & Gbadamosi, 2013; Leonnard et al., 2013; Mustaffa et al., 2016; Kasiri, Cheng, Sambasivan, & Sidin, 2017, Leonnard, 2017). Students' satisfaction is achieved when real performance of educational services exceeds student expectations (Parasuraman et al., 1988). Student expectations are student expectations of the quality of services provided by educational services while performance is the real performance of the service quality provided by educational services (Kotler & Keller, 2003). According to (DeShields Jr, Kara, & Kaynak, 2005), the main predictors of student satisfaction with educational services are performance of faculty, staff and classes. Furthermore, according to (de Jager & Gbadamosi, 2013), predictors of student satisfaction with educational services are internationalization, marketing and support, access, staff and academic quality, accommodation, and facilities. Based on the above analysis, the research hypothesis to be tested is as follows:

#### **Research hypothesis (H6):**

Service quality has a positive relationship on student satisfaction.

### **Data and Methods**

#### **Reliability**

SERVQUAL approach was adopted to measure educational service quality which consisted of tangibles, reliability, responsiveness, assurance, and empathy (Parasuraman et al., 1988). The student satisfaction was measured by the expectations and performance dimensions of the educational service (Kotler & Keller, 2003). Indicators of each dimension can be seen in Appendix A1. Furthermore, to measure the construct variables, a five-point likert scale was employed (1 = strongly disagree and 5 = strongly agree). Data were collected from 319 students of London School of Public Relations in Jakarta. Data collection was carried out by employing stratified random sampling method. Finally, data analysis was carried out by employing Structural Equation Modeling (SEM) and software of AMOS 24 statistical package

#### **Research Instrument**

To test the reliability of the dimensions used to measure each construct, cronbach's alpha test was employed. The test results by using SPSS 20, indicated that all item values were > 0.600 and were reliable to measure each construct (Hair et al., 1998) (Table 1).

Constructs		Dimensions	Cronbach's Alpha
Tangibles	Q1	Neat staff appearance	0.765
	Q2	Adequate library facilities	
	Q3	Comfortable lecture rooms	
Reliability	Q4	High ability and knowledge provided by staffs and lecturers	0.822
	Q5	Non-discriminatory treatments provided by staff and lecturers	
	Q6	Appropriate academic services provided by the university	
Responsiveness	Q7	Fast response	0.811
	Q8	Accurate academic services	
	Q9	Quickly complain handlings	
Assurance	Q10	High quality service standards	0.750
	Q11	High-quality administrative services	
	Q12	High-quality academic services	
Empathy	Q13	Serving students friendly	0.728
	Q14	Provides information that is easy to understand	
Satisfaction	S1	Study facilities as expected	0.824
	S2	Quality of staff and lecturers as expected	
	S3	Environmental conditions and learning atmosphere as expected	
Loyalty	L1	I told the superiority of this university to others	0.857
	L2	I recommend this university to the public	
	L3	I will remain loyal to this university until my studies are completed as well as for my study in the future	

**Table 1: Reliability test results (source: own calculation from AMOS 24 software)**

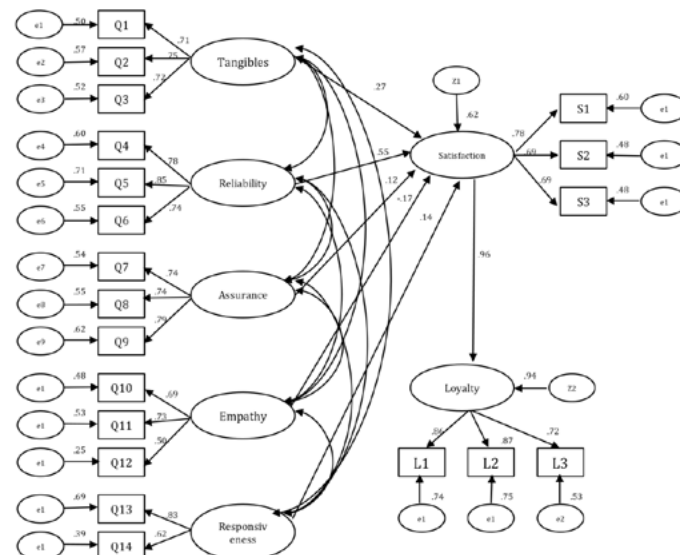
**SEM Model and Solution Procedure**

The first order confirmatory factor analysis (CFA) was performed first in the overall dataset through the maximum likelihood (ML) estimate. The first order CFA was employed to test the validity of a theoretical construct (Byrne & Gavin, 1996). The constraints employed were tangible, reliability, responsiveness, assurance, and empathy (related to 14 dimensions). Afterwards, the CFA results were evaluated whether the unidimensionality and reliability of each construct were confirmed. The fit indicators evaluated were RMSEA, CMIN / DF, RMR, GFI, NFI, IFI, and CFI. In addition, the evaluation of the feasibility of parameter estimation, standard error compatibility, significance of parameter estimation, and construct validity were also conducted. The structural relationships between variables are displayed in Figure 1. Hereafter, the structural equation modeling model (SEM) was performed by employing AMOS 24 software to notice the relationship between service quality dimensions (tangible, reliability, responsiveness, assurance, and empathy) with satisfaction and loyalty (related to 20 dimensions). SEM is an appropriate analytical technique for testing the relationship between theoretical constructs and visualized through path diagrams (Hox & Bechger, 2007). The model validation, then evaluated through convergent, discriminant validity, and reliability.

**Results and Discussions**

The result of the fit analysis indicated that the RMSEA value was 0.08 (according to recommended rate level), CMIN/DF of 3.216 (valid), RMR of 0.049 (valid), GFI is 0.860 (moderate), NFI is 0.866 (moderate), IFI is 0.904 (valid), CFI is 0.903 (valid). Although there were some indicators that did not meet the criteria goodness of fit, overall the model has met the criteria

of goodness of fit (Meesala & Paul, 2016). The relationship between each latent variable was displayed in Figure 1.



**Figure 1: Path diagram (source: own calculation from AMOS 24 software)**

Service quality dimensions that positively affected student satisfaction were only tangible (0.283) and reliability (0.580) (alpha 5%). While the other three dimensions, namely responsiveness, assurance, and empathy were not proven to have significant effects (Table 2).

	Estimate	Standardized loadings	S.E.	C.R
Tangibles → Satisfaction	0.283	0.269**	0.129	2.197
Reliability → Satisfaction	0.580	0.552***	0.144	4.032
Responsiveness → Satisfaction	0.116	0.118	0.293	0.395
Assurance → Satisfaction	-0.278	-0.174	0.534	-0.521
Empathy → Satisfaction	0.173	0.141	0.129	1.346
Satisfaction → Loyalty	0.884	0.956	0.078	11.277

\*, \*\*, \*\*\*Significant at alpha 10 %, 5 %, and 1 % respectively

S.E: Standard Error

C.R: Critical Ratio

**Table 2: Result of regression weights (source: own calculation from AMOS 24 software)**

The significant effect of tangible dimensions on student satisfaction supported previous studies (Hill & Epps, 2010; Manaf, Ahmad, & Ahmed, 2013; Hoque et al., 2013; El-Hilali, Al-Jaber, & Hussein, 2015). In educational services, facilities and physical environments had direct effects on student satisfaction. Similarly, the direct effect of service reliability supported the previous study by (Pathmini, 2016). The ability of private university to provide services in accordance with what the private university promised will increase student satisfaction. However, from the perspective of the direct effect of service quality on student satisfaction, the use of SERVQUAL to measure the quality of service in the field of educational services is considered redundant. This becomes very interesting considering most of the previous studies on educational services uses SERVQUAL approach to analyze the effect of service quality on student satisfaction (Zammuto, Keaveney, & O'Connor, 1996; Browne et al., 1998; de Jager & Gbadamosi, 2013; Chui & bin Ahmad, 2016; Naidu & Derani, 2016). From table 1, it was indicated that of the five dimensions, only two dimensions significantly affect student satisfaction. Reliability had a greater direct effect on satisfaction (0.552) than tangibles (0.269). Both dimensions had an indirect effect of 0.250 (tangibles) and 0.513 (reliability) of loyalty through

a mediating variable of students' satisfaction. In addition, the total effects of tangibles and reliability on loyalty were 0.250 and 0.513 respectively (Table 3).

	Empathy	Assurance	Responsiveness	Reliability	Tangible	Satisfaction
<b>Direct effects</b>						
Satisfaction	0.173	-0.278	0.116	0.580	0.283	0.000
Loyalty	0.000	0.000	0.000	0.000	0.000	0.884
<b>Indirect effects</b>						
Satisfaction	0.000	0.000	0.000	0.000	0.000	0.000
Loyalty	0.153	-0.246	0.102	0.513	0.250	0.000
<b>Total effects</b>						
Satisfaction	0.173	-0.278	0.116	0.580	0.283	0.000
Loyalty	0.153	-0.248	0.102	0.513	0.250	0.884

**Table 3: Direct, Indirect, and Total effects (source: own calculation from AMOS 24 software)**

From table 4, the main dimension of tangibles was comfortable lecture room (0.776), while the main dimension of reliability was the non-discriminatory treatments provided by staff and lecturers (0.864). Furthermore, the main dimension of responsiveness was quickly complaint handlings (0.801), and the main dimension of assurance was a high administrative service (0.787). Finally, the main dimension of empathy was serving students friendly (0.812). All significant dimensions affect each variable with alpha 1% (Table 3). All values of standardized loadings were above 0.50, GFI = 0.927, AGFI = 0.886, RMR = 0.065, CMIN/DF = 2.427, RMSEA = 0.06, PCLOSE = 0.017 indicated the general model had met the goodness of fit.

	Estimate	Standardized loadings	S.E.	C.R
Q1 → Tangibles	0.960	0.733***	0.084	11.500
Q2 → Tangibles	0.922	0.747***	0.093	10.752
Q3 → Tangibles	1.000	0.776***		
Q4 → Reliability	1.122	0.793***	0.081	13.220
Q5 → Reliability	1.210	0.864***	0.081	14.333
Q6 → Reliability	1.000	0.742***		
Q7 → Responsiveness	0.957	0.749***	0.069	13.614
Q8 → Responsiveness	0.974	0.753***	0.068	13.927
Q9 → Responsiveness	1.000	0.801***		
Q10 → Assurance	1.241	0.764***	0.182	7.748
Q11 → Assurance	1.414	0.787***	0.187	8.094
Q12 → Assurance	1.000	0.626***		
Q13 → Empathy	1.224	0.812***	0.168	7.705
Q14 → Empathy	1.000	0.627***		

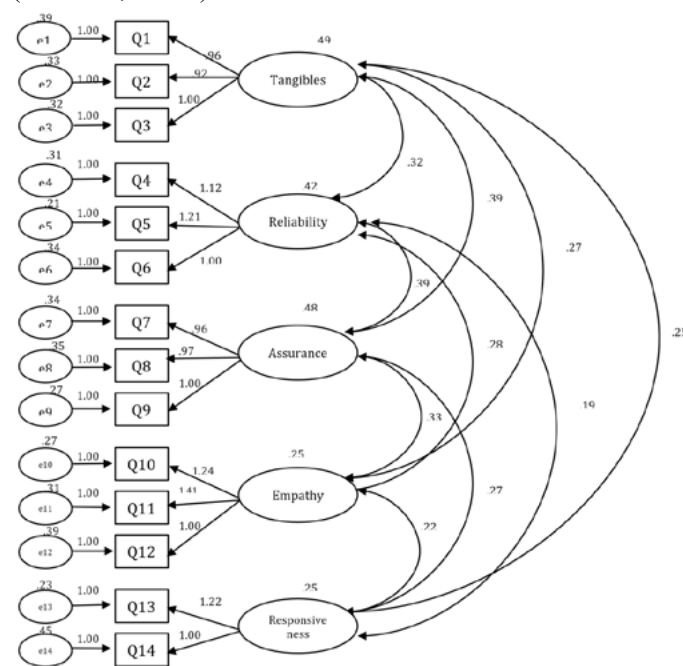
\*, \*\*, \*\*\*Significant at alpha 10%, 5 %, and 1 % respectively  
 S.E: Standard Error  
 C.R: Critical Ratio

**Table 4: Results of service quality regression weights (source: own calculation from AMOS 24 software)**

The relationship between each latent variable of service quality was displayed in Figure 2.

Based on the empirical results, it is inferred that only two dimensions of SERVQUAL had an affect on student satisfaction (research hypothesis 3, 4, and 5 are rejected). This result is in accordance with Meesala & Paul (2016) which measures service quality in the hospital by using SERVQUAL (research hypothesis 6 is accepted). For managers of higher education institutions, the results of this study are useful in providing guidance on the main dimensions of service quality in educational services so that education managers can focus on those dimensions. In relation to the level of satisfaction, the physical state of the university facilities, the qualifications of staff and lecturers, quality and non-discriminatory services become the main constructs. The comfortable lecture room is the main dimension of physical facilities that the university needs to provide. This is because the lecture room is the main place for students to receive lectures.

Less comfortable rooms, will indirectly affect the quality of absorbing lectures well. Furthermore, non-discriminatory treatment by staff and lecturers becomes the main dimension of the reliability of services provided by the private university. The services provided by the university should be provided without distinction of race, ethnicity, culture, national origin, social status or educational level. While for the researcher in the field of service management, the result of this research is useful in evaluating the reliability and performance of the use of SERVQUAL in the field of education services to predict student satisfaction. The use of other methods such as SERVPERF or HEDPERF is suggested to be able to more specifically analyze the factors of service quality predictors in higher education (Abdullah, 2006b).



**Figure 2: Path diagram of service quality (source: own calculation from AMOS 24 software)**

### Conclusion and Direction for Further Research

Some conclusions drawn from this research are:

- Factors affecting student satisfaction in the private university are tangible and reliability consisting of: 1) comfortable lecture rooms, 2) adequate library facilities, 3) neat staff appearance, 4) non-discriminatory treatments provided by staff and lecturers, 5) high ability and knowledge provided by staffs and lecturers, and 6) appropriate academic services provided by the university. Satisfaction significantly affects student loyalty.
- SERVQUAL is redundant as a model to measure the effect of service quality in educational service.
- However, this study has some limitations. First, the institutions that are the object of this research are private universities, so in the next research the SERVQUAL model needs to be applied to other educational institutions such as state universities, or at different levels of education such as senior or junior high school to get a more comprehensive conclusion on the relevance of the use this model is in the educational sector. In addition, the use of more relevant models is strongly recommended to measure the effect of service quality on satisfaction with educational services.

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## Appendix A

### Description of construct dimensions

Constructs		Dimensions
Tangibles	Q1	Neat staff appearance
	Q2	Adequate library facilities
	Q3	Comfortable lecture rooms
Reliability	Q4	High ability and knowledge provided by staffs and lecturers
	Q5	Non-discriminatory treatments provided by staff and lecturers
	Q6	Appropriate academic services provided by the university
Responsiveness	Q7	Fast response
	Q8	Accurate academic services
	Q9	Quickly complain handlings
Assurance	Q10	High quality service standards
	Q11	High-quality administrative services
	Q12	High-quality academic services
Empathy	Q13	Serving students friendly
	Q14	Provides information that is easy to understand
Satisfaction	S1	Study facilities as expected
	S2	Quality of staff and lecturers as expected
	S3	Environmental conditions and learning atmosphere as expected
Loyalty	L1	I told the superiority of this university to others
	L2	I recommend this university to the public
	L3	I will remain loyal to this university until my studies are completed as well as for my study in the future

**Table A1: The dimensions of constructs (source: own calculation)**