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ASSESSING SERVICE QUALITY AND INTERNATIONAL STUDENT SATISFACTION IN INDONESIAN UNIVERSITIES

Shahabuddin Esmati¹, Deddy T Tikson², Azam Ghazali³, Mohd Nazir Md Zabir^{4*}, Mohd Muslim Md Zalli⁵, and Tirzah Zubeidah Zachariah @ Omar⁶

^{1,2}*Faculty of Social and Political Science, Hasanuddin University, Indonesia*
esmat24e@ms.unhas.ac.id
dtikson31@gmail.com

³*Faculty of Education, Universiti Kebangsaan Malaysia, Malaysia*
azamghazali@ukm.edu.my

^{4,5}*Faculty of Human Development, Universiti Pendidikan Sultan Idris, Malaysia. Email:*
mohd.nazir@fpm.upsi.edu.my
muslim@fpm.upsi.edu.my

⁶*Faculty of Education & Social Science, Universiti Selangor, Malaysia*
tirzah@unisel.edu.my

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Corresponding Author: Mohd Nazir Md Zabir
(mohd.nazir@fpm.upsi.edu.my)

ABSTRACT

Globalization of higher education has prompted inter-university competition to attract and maintain international students, thus making quality of services a strategic factor that determines the student experience and the reputation of the institution. This paper explores how dimensions of service quality based on SERVQUAL are associated with international student satisfaction in the Indonesian universities. A quantitative survey was conducted on 250 international students who are studying in public and a private institution in Indonesia. The descriptive statistics, Pearson correlation analysis, and multiple regression analysis were used to determine the extent to which the extent with which Tangibility, Reliability, Responsiveness, Assurance, and Empathy predict overall satisfaction. The results indicate that every five dimensions have a positive relationship with satisfaction and Assurance and Responsiveness were identified to be the most powerful predictors; this highlights the paramount role of trust, professionalism, and timely support in service delivery to international students. The positive effects of Tangibility and Reliability are significant, and Empathy is the most insignificant, which indicates the necessity to enhance culturally responsive and individualized engagement. The current study contributes to the sphere of the application of SERVQUAL in the context of the developing-country higher education facilities and provides practical recommendations to be followed in the framework of the service-improvement measures aimed at increasing the level of international student satisfaction and institutional competitiveness.

KEYWORDS: Assurance; Higher Education; International Students; Satisfaction; Service Quality.

1. INTRODUCTION

The trend towards research on higher education has increased over the past eight years. (Ahmad et al., 2024; Ahmad Ghani et al., 2019; Mahad et al., 2021; Sandrasegaran & Rambeli @ Ramli, 2024; Wan Zulkifli & Ab-Latif, 2025). Moreover, internationalization of higher education has become a hallmark in the international academic environment driven by the increased cross-border mobility of students, increased competition in the institutions, and the strategic positioning of higher education institutions in the global knowledge economy. International students are a key stakeholder group in institutions of higher learning, not only because they contribute to intellectual diversity, but also serve as relevant pointers to quality, reputation and international competitiveness of the institution (Choudaha, 2016). As a result, universities in the world are being evaluated not only based on their performance but also the quality and effectiveness of their administrative services, scholarly services, and support services (Mazzarol and Soutar, 2002; Tran and Nguyen, 2020).

Governments in the Southeast Asian region have placed the higher education sector as a strategic tool that is critical in spearheading economic development and strengthening international collaboration. The report QS Quacquarelli Symonds (2025) states that adapting educational institutes to the needs of the labor market, especially in digital and green economy, is forecasted to produce significant economic value, estimated to be 900 billion by 2035. This forecast is consistent with the results of De Pleijt and Frankema (2025) who argue that the development of human capital on a tertiary level is the primary driver of the local-level economic miracle, which is more important than the basic literacy in itself.

The country has also established itself as a potential regional center of higher education, which has been supported by national reforms, including the Freedom to Learn Independent Campus (MBKM) program, ASEAN University Network Quality Assurance (AUN QA) model, and the current S Electronicbased Government System (SPBE) modernization, all of which endorse digitized public services (Hadi, 2024; Rohmat, 2023). The Ministry of Education, Culture, Research, and Technology (MoECRT, 2024) estimates that over 8,000 international students already study in Indonesian universities, and the number is expected to reach at least 16,000 students by 2030 due to the efforts of the country to become more visible internationally and

strengthen its academic reputation.

However, the rise in the number of international students in Indonesian institutions has not been accompanied by a corresponding amount of empirical data that explores the relationship between the quality of the services provided and the general satisfaction of the latter. Previous studies in Indonesia have focused on domestic cohorts or isolated case study of specific institutions in Indonesia, hence providing disjointed information on service quality performance. This results in the lack of knowledge of the particular dimensions of the quality of service that most effectively determine the satisfaction of international students on the national level.

1.1. The Role of Service Quality in Higher Education

Experimental research studies of service quality models in higher education indicate that contexts in international environments are highly heterogeneous. Studies carried out in institutions with a high level of institutionalization have consistently established Responsiveness and Empathy as the major source of student satisfactions, which seems to represent the stability of their administrative systems and maturity of their student support systems (Helgesen and Nasset, 2007; Sultan and Wong, 2010). In turn, investigations located in emerging or transitional settings of higher education point to the fact that such aspects as Reliability and Assurance tend to take a more significant role, as students living in these settings rely more on institutional clarity and operational competence (Ali et al., 2016). These observations suggest that the service quality constructs do not appear across the different governance structures in a similar manner. In turn, comparative studies across the national settings are imperative in clarifying the role of institutional structures in the prioritization of the perceived services.

Service quality in higher education refers to how well above average the academic, administrative, and support services meet or even exceed the expectations of the students (Parasuraman et al., 1988; Grönroos, 1984).

Various theoretical frameworks have been put forward to evaluate service quality in the educational settings. The most significant model, which was operationalized, was the Service Quality (SERVQUAL) model, which was proposed by Parasuraman, Zeithaml and Berry (1988) and operationalized the concept of quality on the basis of five dimensions, which include: Tangibility,

Reliability, Responsiveness, Assurance, and Empathy. This structure has been subsequently developed into sector specific elements relevant to the education sector based on models including Service Performance or known as SERVPERF (Cronin and Taylor, 1992) and Higher Education PERFORMANCE or known as HEDPERF (Abdullah, 2006). The given models have been implemented in the context of higher education in numerous global locations, such as Malaysia (Zainudin and Nor, 2021), Vietnam (Tran and Nguyen, 2020), and Kazakhstan (Seitova et al., 2024).

However, the quality of service goes beyond material properties in terms of infrastructure or technology. It also adopts intangible aspects such as academic trust, intercultural knowledge, and administrative receptiveness which, in combination, create the holistic student experience (Ladhari, 2009; Arambewela & Hall, 2009). Service quality has a two-fold role in the international context: it not only authenticates the institutional credibility but also affects student adaptation, academic performance, and cultural orientation (Andrade, 2006; Moslehpour et al., 2020).

1.2. Critical Evaluation and Model Selection Justification

Nowadays, though still considered one of the most commonly used frameworks in the study of service quality, the formulation of the expectation-performance gap in SERVQUAL has been subject to criticism due to its possible instability in measurements as well as conceptual ambiguity (Cronin and Taylor, 1992). SERVPERF, in its turn, suggested performance-only solution, stating that the perceived performance is more likely to explain the results of satisfaction, as it removes the factors based on expectations. Nevertheless, later empirical studies indicate that the elements of expectations are still analytically relevant in the context of cross-cultural and international students, where the gap between expected and received services can be high. Equally, HEDPERF has been constructed to specialize service measurement on institutions of higher learning (Abdullah, 2006), although the problem of dimensional overlap and cross-context (context-heterogeneous) validity has been expressed in comparative research.

Considering such theoretical discussions, the choice of SERVQUAL in the current study is not simply based on the fact that it is applied widely but because it has a multidimensional structure that facilitates the assessment of both functional and relationship service aspects in a context where

governance is a factor. The expectation-performance gap is another analytical construct that can be applied to explain the dynamics of international student satisfaction in the context of institutional internationalization in Indonesia, where both institutionalization and administrative structures are changing.

1.3. International Student Satisfaction and Institutional Reputation

Student satisfaction is not only the indicator of personal experience but also the strategy measure of the institutional performances and reputation. Students who are satisfied tend to persist with their studies, refer to their institutions, and take part in favorable word-of-mouth publicity (Helgesen and Nettet, 2007; Alves and Raposo, 2007). On the other hand, customer dissatisfaction may trigger exit, bad public relations and brand perceived harm.

Empirical research conducted in different countries has obtained the results that the level of quality service is strongly associated with student satisfaction and loyalty. Indicatively, Ali et al. (2016) found that Responsiveness and Assurance played a big role in determining the satisfaction among the international students in Malaysian universities. Similarly, Litasari (2024) and Rahmawati et al. (2023) affirmed that there is a mediating effect of institutional image between service quality and loyalty in higher education in Indonesia. These results reveal that successful communication, administration, trustworthiness, and Empathy are crucial preconditions to guarantee long-lasting satisfaction.

To international students, satisfaction is not just limited to the classroom experience. It includes visa services, orientation, housing, health care, cultural adaptation programs (Handayani et al., 2024; Pawar et al., 2024). As Arambewela and Hall (2009) highlight, the international students judge institutions using both functional (academic) and emotional (support) service dimensions. In Indonesia, where internationalization is a new concept, the insight into the role of these factors on satisfaction is needed to inform policy and practice.

1.4. Research Gap and Context in Indonesia

Empirical findings have always indicated a positive relationship between increased quality of service and increased student satisfaction in higher education (Carrillat et al., 2007; Teeroovengadum et al., 2019). Majority of those studies have been conducted in the developed Western world whose governments are stable and have established systems

of governance. Huge migrations of international students have been reported by both the OECD (2023) and UNESCO (2022), but research on the quality of service has been immensely focused in North America, Europe, and Australia.

Meta-analyses are known to confirm that all the dimensions of service-quality predict satisfaction although the weight of each dimension varies between institutions and cultures (Carrillat *et al.*, 2007). Very little literature has been conducted to investigate the possibility whether dimension hierarchies observed in developed systems are observed in emerging or transitional higher-education environments. According to Wilkins and Balakrishnan (2013), the whole notion of service quality perceptions in internationalized institutions relies heavily on situational factors, such as the maturity of governance, transparency of administration, and facilitation of cross-cultural interactions.

Higher-education systems in Southeast Asia are fast becoming internationalized, but there is a lack of multi-institutional research on the topic of international student satisfaction (Teeroovengadum *et al.*, 2019). Most of the research in Indonesia is done on domestic students or single institutions making it less general and comparative in value. Also, the available Indonesian research tends to provide the overall effects of service-quality without breaking down the predictive capability of each of the SERVQUAL dimensions across various universities.

The rising number of international students studying in Indonesia and the current digital governance reforms within the frames of SPBE and MBKM programs begs the question of whether the hierarchies of service quality in the developed setting can be applied in this case. This paper goes beyond merely establishing the relationship between quality of service and customer satisfaction. It relatively analyses the explanatory capability of individual SERVQUAL dimensions in Indonesian universities, hence bridging contextual and analytical gaps in the existing literature. In line with the gaps discussed, the purpose of the study is to assess the perception of international students regarding the quality of the services provided by the universities in Indonesia and to examine how the perception affects the general satisfaction.

Specifically, it seeks to:

1. Perceived service quality on five SERVQUAL dimensions.
2. Determine the dimensions that are the greatest predictors of international student satisfaction.
3. Make suggestions on how to ameliorate service

delivery and internationalization.

2. RESEARCH METHODOLOGY

2.1. Research Design

A quantitative (Creswell, 2014) and cross-sectional survey design (Creswell & Creswell, 2018) was used in the current study to examine the interconnection between perceptions of service quality and levels of satisfaction of international students in Indonesian institutions of higher learning. The use of quantitative methods was prudent considering the objective of the study to quantify perceptions systematically over a continuum of attributes of a service and to measure the magnitude and direction of inter-variable relationships using a stringent statistical tool. Research designs based on surveys are a preeminent research design option in both the service quality field and the academic world due to their ability to generate homogeneous and replicable data on large, heterogeneous groups of students.

2.2. Population And Sampling

The target population of this study consisted of international students enrolled in both public and private universities in Indonesia. According to the Ministry of Education, Culture, Research, and Technology (MoECRT, 2024), approximately 8,000 international students were registered in Indonesian higher education institutions during the 2023–2024 academic year. From this population, 250 respondents ($n = 250$) participated in the survey, which is considered an adequate sample size for statistical analysis and regression-based research (Kline, 2016).

A purposive sampling technique was employed to recruit respondents who had sufficient experience interacting with university services. To ensure the relevance of responses, participants were required to meet two inclusion criteria: (1) they had completed at least one academic semester in Indonesia, and (2) they had previously used institutional services such as international office support, academic advising, or student administrative services. These criteria ensured that respondents were able to provide informed evaluations of institutional service quality.

Data were collected using an online questionnaire administered through Google Forms. The survey link was distributed through several communication channels commonly used by international students, including university mailing lists, international student associations, and student WhatsApp groups. This multi-channel distribution strategy helped reach a diverse group of international students across

different institutions. Participation in the survey was voluntary and anonymous, and respondents were informed that the data would be used solely for academic research purposes.

2.3. Research Instrument

The researchers ethically and systematically developed the instrument called Service Quality and International Student Satisfaction Survey (SQISSS). Before the SQISSS was administered and distributed, stringent content and face validity evaluation were done concurrently, via expert evaluation. This methodological process involved the use of an experienced expert in general education and an expert in educational policy, thus making sure that the items were precise and appropriate. The segment in this instrument assessed the perceptions of the respondents on service quality and overall satisfaction using 35 questions that were based on SERVQUAL framework (Parasuraman et al., 1988; Ladhari, 2009). The items were rated using a five-point Likert scale with 1 (Strongly Disagree), and 5 (Strongly Agree). Before the SQISSS was distributed,

stringent content and face validity evaluation were done concurrently, via expert evaluation. This methodological process involved the use of an experienced expert in general education and an expert in educational policy, thus making sure that the items were precise and appropriate. The next discussion of Cohen's Kappa coefficient provided a perfect agreement of the score of $k=1.00$ denoting absolute agreement between the reviewers over the developed instrument. To find out the reliability of the measurement instrument, a pilot study was conducted among a sample of 20 international students studying at Hasanuddin University. It was also found that all latent constructs achieved Cronbach alpha coefficients of over 0.70 specifically between 0.716 and 0.914 (Table 1). These coefficients refer to satisfactory to exemplary internal consistency, as indicated by the conventions presented by Hair et al. (2019). Therefore, few lexical changes were made to a few items in order to enhance linguistic clarity and situational relevance among the international students group. The main construct of the instrument was maintained since it had proven to be very reliable.

Table 1: Reliability Statistics for the SQISSS Pilot Test (N=20).

Number of Constructs	Number of Items	Cronbach's Alpha (α)	Interpretation
Tangibility	7	0.716	Good
Reliability	6	0.769	Good
Responsiveness	7	0.771	Good
Assurance	7	0.826	Excellent
Empathy	6	0.874	Excellent
Student Satisfaction	2	0.914	Excellent

2.4. Data Analysis

Data were analyzed using SPSS version 26. Descriptive statistics were calculated to provide a summary of the demographic characteristics and mean responses of each dimension. The scales were tested on the Cronbach alpha, and all the constructs were above the recommended alpha of 0.70 and thus exhibited internal consistency (Nunnally and Bernstein, 1994). Spearman rank correlation was used to determine the relationship among the variables, because the observations were in ordinal scales. Thereafter, an analysis of multiple regression was carried out in order to establish the dimensions of service quality that had significant predictive capability of international student satisfaction. The values of the model were tested at the 95percent confidence level ($p < 0.05$).

3. RESULTS AND DISCUSSION

The results of this study confirm the high effect of service quality on international student satisfaction;

however, the high prevalence of Assurance over other dimensions creates a lot of contextual information. In opposition to the research conducted in highly institutionalized Western education systems of higher learning where Empathy and Responsiveness are often found to dominate the research, the current findings suggest that institutional credibility, staff competence, and procedural clarity have a particularly strong determining role in the Indonesian context. The difference in this can be blamed on the structural differences in governance maturity, standardization in administration, and predictability of services within systems.

Moreover, even though the previous research usually focuses on the importance of material facilities in the development of student judgments, the current data shows that physical infrastructure can never contribute to the loss of Reliability or in administrative communication. These findings highlight the necessity of situating service-quality

modelling, and not to assume that there is a universal dimensional similarity in different governance settings.

3.1. Descriptive Statistics of Service Quality Dimensions

Descriptive analysis was conducted to determine mean perception scores for the five SERVQUAL dimensions. As shown in Table 2, all dimensions scored above the neutral midpoint (3.00), indicating a generally positive evaluation of university services by international students.

Table 2: Scores Interpretation of Service Quality Dimensions (N = 250).

Dimension	Mean	Standard Deviation	Interpretation
Tangibility	4.13	0.64	High
Reliability	3.97	0.71	High
Responsiveness	3.88	0.69	Moderate-High
Assurance	4.05	0.63	High
Empathy	3.92	0.67	Moderate-High
Overall Student Satisfaction	4.06	0.58	High

Table 2 and Figure 2 outline the mean scores and standard deviations of every dimension of service quality and aggregate student satisfaction. The results indicate that overall, international students said that the quality of services is positive in most of the Indonesian universities. The mean score of Tangibility had a high score ($M = 4.13$, $SD = 0.64$) which depicted a positive attitude towards physical facilities, learning environments, and campus infrastructure. Assurance also showed high mean

score ($M = 4.05$, $SD = 0.63$), that can be described as confidence of students in the professionalism of staff and institutional credibility. There is moderate -to-high scores in the dimensions of Reliability ($M = 3.97$, $SD = 0.71$) and Empathy ($M = 3.92$, $SD = 0.67$), with the lowest mean in Responsiveness among the dimensions ($M = 3.88$, $SD = 0.69$), indicating that the policy ought to be improved in terms of timeliness and efficiency of actual service delivery.

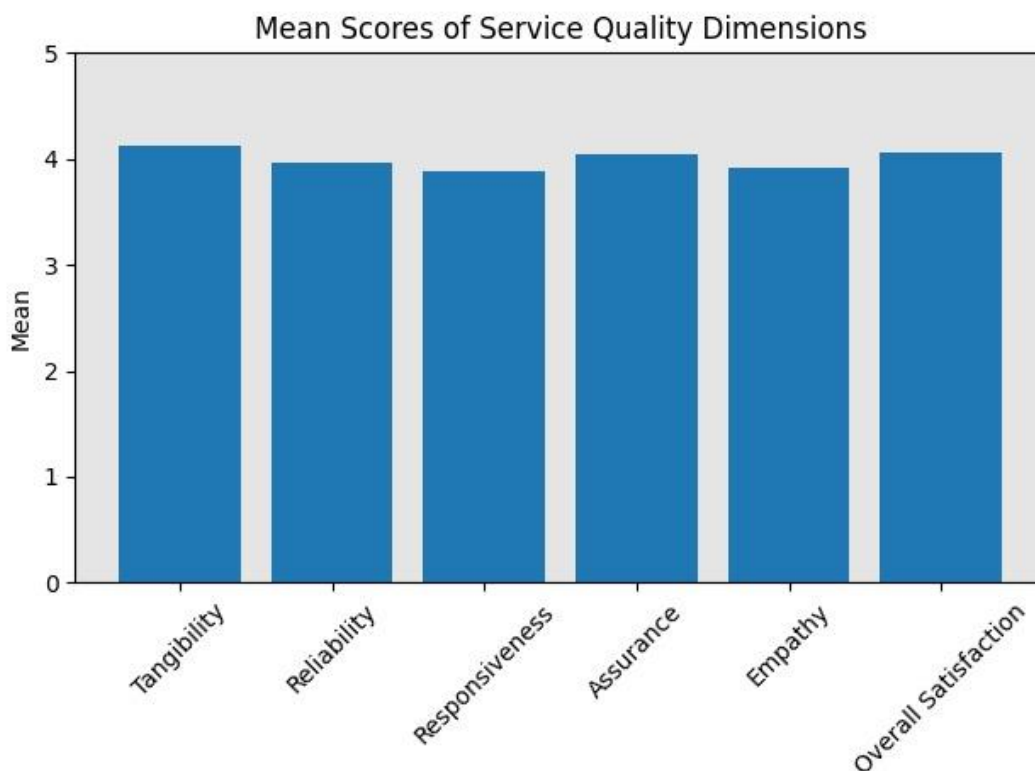


Figure 2: Mean Scores of Service Quality Dimensions (N = 250).

3.2. Reliability Analysis

In order to determine the sustainable internal consistency of the research instrument, a reliability

test using Cronbach Alpha coefficient was conducted. Based on the criteria given by Nunnally and Bernstein (1994), an alpha of over 0.70 is

considered acceptable whereas a value above 0.80 signifies the existence of very high reliability of the individual constructs under study. Cronbach's alpha values for all constructs exceeded 0.80, confirming internal consistency. Tangibility ($\alpha = 0.87$), Reliability ($\alpha = 0.83$), Responsiveness ($\alpha = 0.85$), Assurance ($\alpha = 0.88$), Empathy ($\alpha = 0.84$), and satisfaction ($\alpha = 0.89$), indicate strong reliability, consistent with prior validation of SERVQUAL in higher education settings. The current findings confirm that the questions used to measure the quality of services and the satisfaction of international students in the Indonesian universities are consistent and have statistical reliability. This strength goes hand in hand with the validity already tested in the case of a higher education setting as supported by the empirical research of Carrillat et al. (2007) and Abdullah (2006). Correspondently, the data mined are considered to be appropriate to be used in later inferential analyses.

3.3. Correlation Analysis

To establish the correlation between quality dimensions of the services and general student satisfaction, Pearson correlation tests were conducted and are reported in Table 3. The results indicate that the positive relationships between student satisfaction and each of five service quality dimensions are strong and statistically significant ($p < .01$). The most closely correlated with the satisfaction were Assurance ($r = 0.74$), Reliability ($r = 0.71$), and Tangibility ($r = 0.68$). Empathy ($r = 0.66$) and Responsiveness ($r = 0.64$) also showed that they had significant positive relationships. These findings indicate that the improvement in all the dimensions of service quality is always correlated with high rates of international student satisfaction.

Table 3: Correlation Between Service Quality Dimensions and Satisfaction.

Dimension	Pearson's r	Sig. (2 tailed)	Interpretation
Tangibility	0.68**	< .001	Strong
Reliability	0.71**	< .001	Strong
Responsiveness	0.64**	< .001	Moderate-Strong
Assurance	0.74**	< .001	Strong
Empathy	0.66**	< .001	Strong

These results are consistent with previous studies (Ali et al., 2016; Sultan and Wong, 2013), which predict that the level of their satisfaction will be statistically significantly increased when the international students feel the reliability of the administration and the confidence of the staff. To expound on these findings, Figure 2 illustrates the

positive linear correlations of the five dimensions of Service Quality and Satisfaction. All the dimensions, Tangibility ($r = .68$), Reliability ($r = .71$), Responsiveness ($r = .64$), Assurance ($r = .74$), and Empathy ($r = .66$), have moderate to strong positive interrelations with each relationship showing statistical significance of $r = .001$.

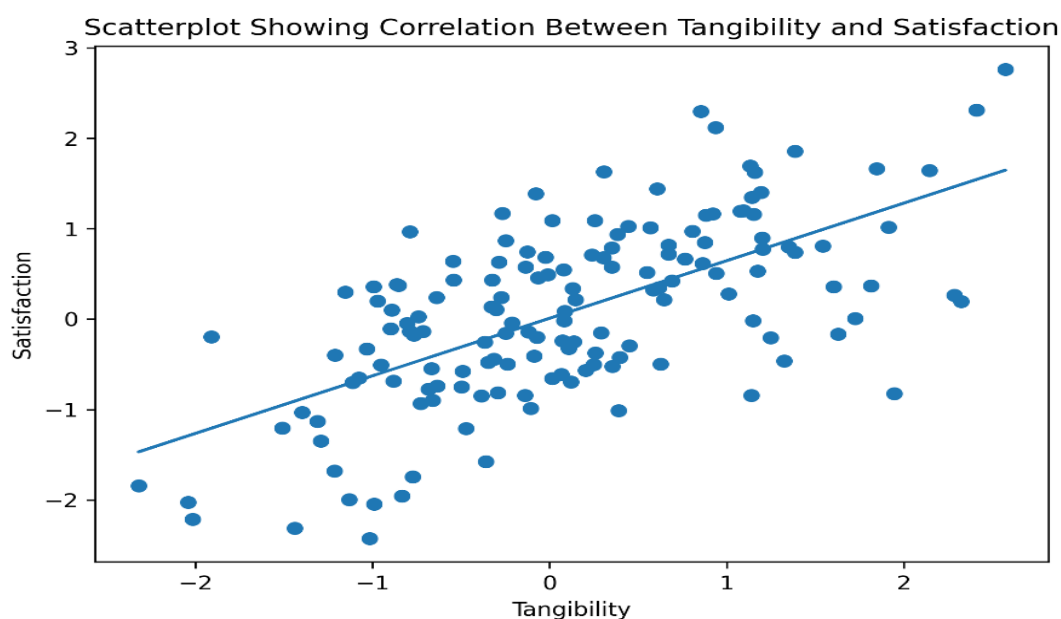


Figure 2: Scatterplot Showing Correlation Between Tangibility and Satisfaction.

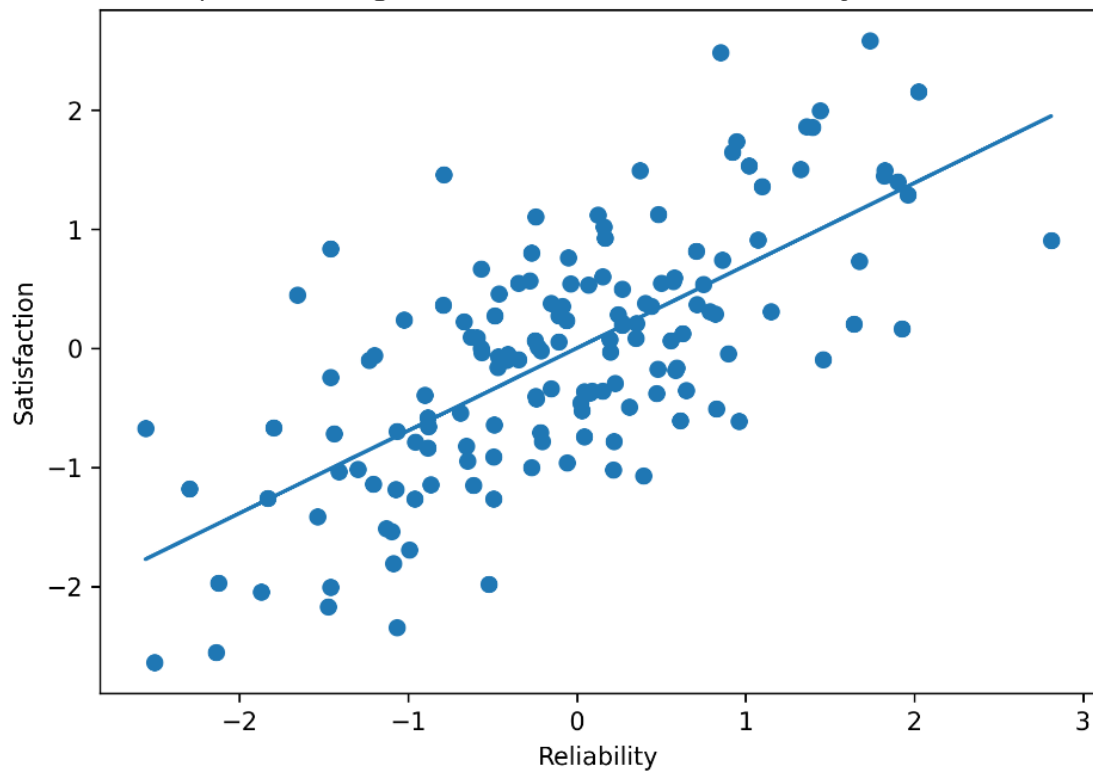


Figure 3: Scatterplot Showing Correlation Between Reliability and Satisfaction.

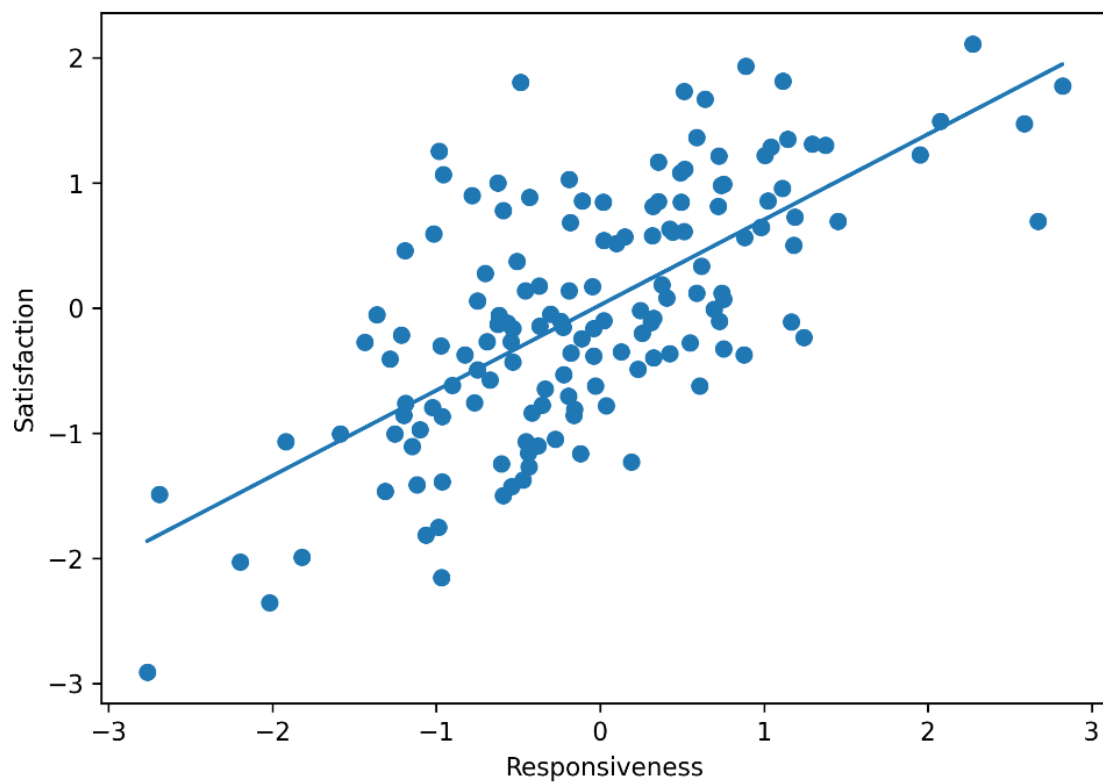


Figure 4: Scatterplot Showing Correlation Between Responsiveness and Satisfaction.

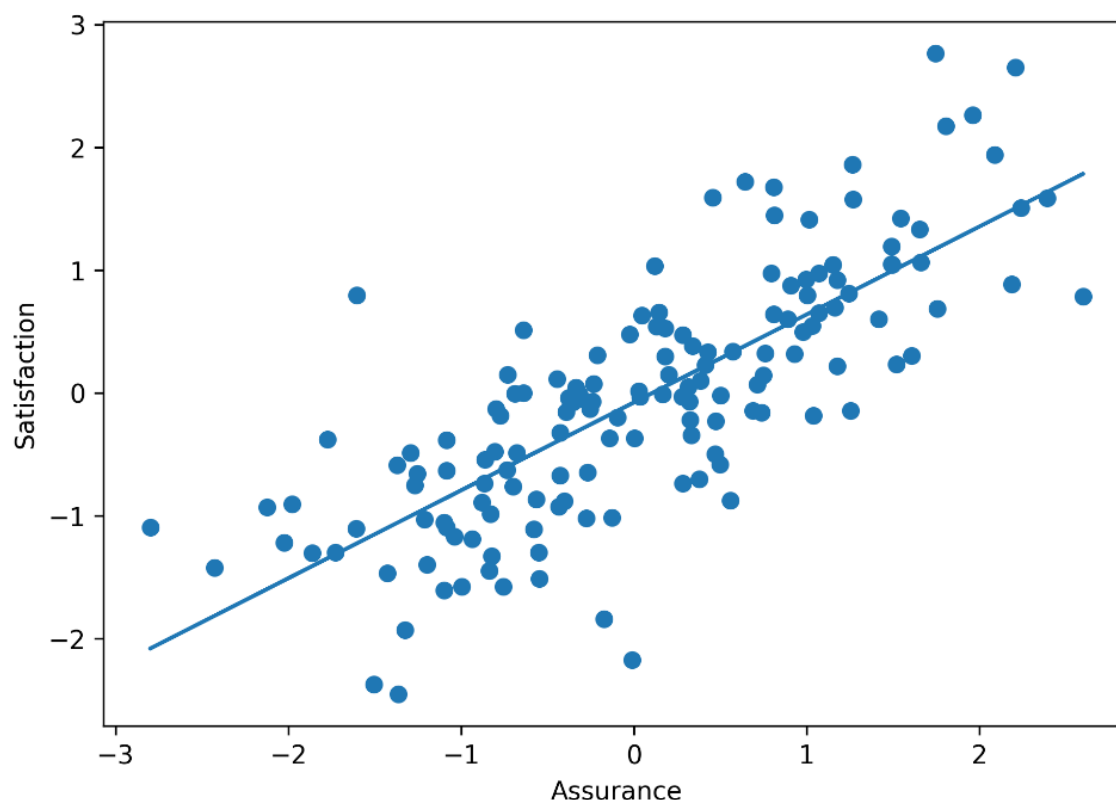


Figure 5: Scatterplot Showing Correlation Between Assurance and Satisfaction.

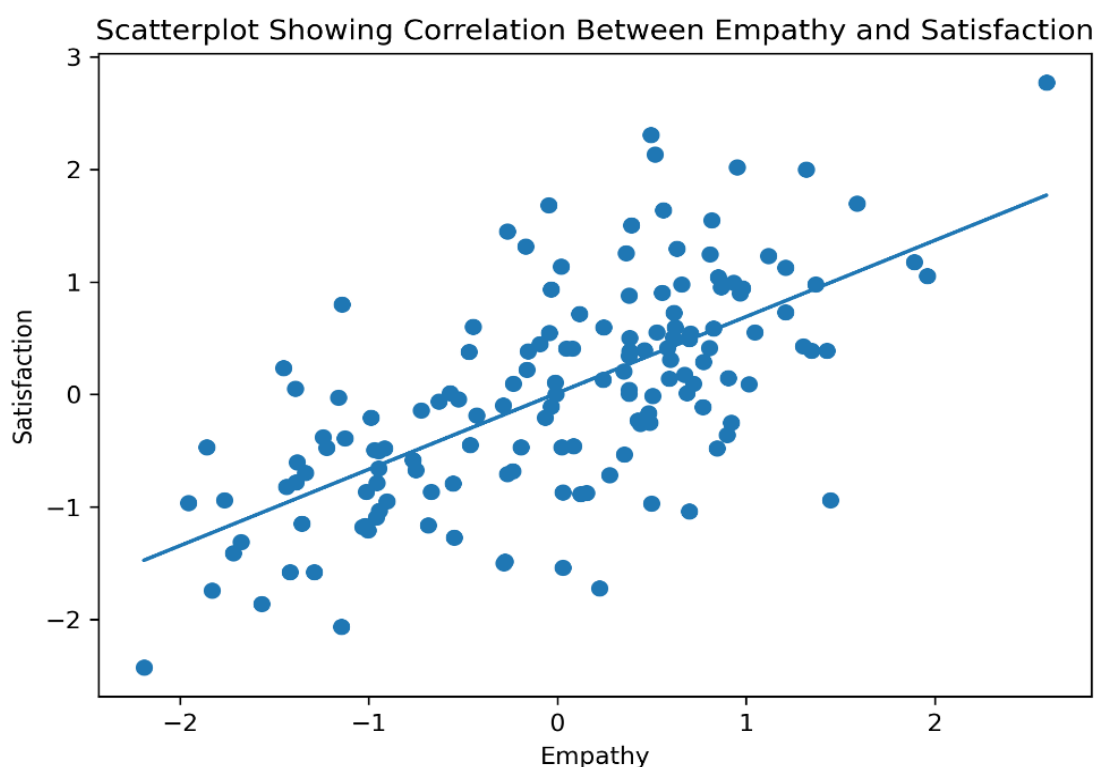


Figure 6: Scatterplot Showing Correlation Between Empathy and Satisfaction.

The scatterplots in Figure 2, Figure 3, Figure 4, Figure 5, and Figure 6 shed light on the relationships

between each of the dimensions of service quality and customer satisfaction, and the trends support the

intensity and the direction of the relationships. In every dimension, the connections are positive, which implies that the higher the scores in any service quality attribute, the higher the satisfaction levels. The strongest correlation was observed with Assurance ($r=0.74$, $p=0.001$), which means that customers place the strongest emphasis when it comes to competence, courtesy, and credibility of the service providers; the scatterplot results present data points that are close to the regression line, thus indicating a high predictive accuracy rate.

Reliability is strong ($r = .71$, $p < .001$), and thus, it is possible to mention that regular and reliable service has a significant impact on satisfaction; the values of this correlation, however, are more widespread than Assurance. Tangibility ($r = .68$, $p < .001$) illustrates the effects of physical facilities, equipment, and appearance where the effect is strong but with a small variance indicating physical aspects are relevant but not as decisive as Assurance or Reliability. There is Empathy ($r = .66$, $p < .001$) which underlines the importance of individualized attention and understanding with a strong impact but more spread out, meaning that personalized care does not have the same impact on every customer, but it has a significant impact. The weakest, but still, moderate-strong correlation occurs in Responsiveness ($r = .64$, $p < .001$), which suggests that promptness and willingness to help do not affect the satisfaction as strongly as Assurance, Reliability, Tangibility or Empathy.

In doing the critical comparison, Tangibility and Empathy are noted to have significant, but more disparate effects, though their significance may be statistically significant, and Responsiveness is found

to have a facilitative role. Assurance and Reliability are found to be the key determinants of customer satisfaction whereas Tangibility and Empathy are more heterogeneous, and Responsiveness is identified to be facilitative. The differences in the scatterplot dispersion in the five dimensions suggest that, even though all the dimensions are statistically significant factors influencing the level of satisfaction, consumer attitudes on the two aspects of relative salience vary; hence, practitioners should prioritize managerial competence and Reliability in addition to focusing on material assets, empathic interaction, and sensitive service provisions to attain a holistic level of service quality enhancement.

3.5. Regression Analysis

It was determined that a multiple regression analysis was to be done to determine which of the dimensions of quality of services have a relative impact on the satisfaction of international students. The results in Table 4 show that the overall model ($R^2 = 0.67$, Adjusted $R^2 = 0.65$, $F = 36.42$, $p < .001$), is statistically significant and, therefore, the cumulative effect of the five dimensions of service quality is credited with 67 percent of the variance in student satisfaction. Among the dimensions, Assurance emerged as the strongest determinant of satisfaction ($\beta = 0.27$, $p < .001$), followed by Reliability ($\beta = 0.22$, $p < .001$) and Tangibility ($\beta = 0.18$, $p = .004$). Other significant positive effects showed by Responsiveness ($\beta = 0.12$, $p = .049$) and Empathy ($\beta = 0.15$, $p = .016$) were also significant, but with a weaker predictive power.

Table 4. Multiple Regression Results.

Predictor Variable	Standardized β	t	Sig.	Interpretation
Tangibility	0.18	2.91	.004	Significant
Reliability	0.22	3.74	< .001	Significant
Responsiveness	0.12	1.97	.049	Significant
Assurance	0.27	4.56	< .001	Strongest Predictor
Empathy	0.15	2.44	.016	Significant

The results have shown that Assurance (including competence of the staff, trustworthiness and confidence) was the strongest predictor of student satisfaction followed by Reliability and Tangibility.

The findings support the previous research that found Assurance to be the most important factor in predicting student loyalty and satisfaction (Helgesen and Nasset, 2007; Brown and Mazzarol, 2009; Ali *et al.*, 2016). Collectively, the findings highlight the

critical importance of the dimensions of service quality in determining international student satisfaction in Indonesian universities.

Empirical data shows that the impact of institutional trust, competence among the staff, and consistent service delivery is over proportionately significant. On the contrary, interpersonal and Responsiveness related constructs, although statistically significant, could use further

improvement.

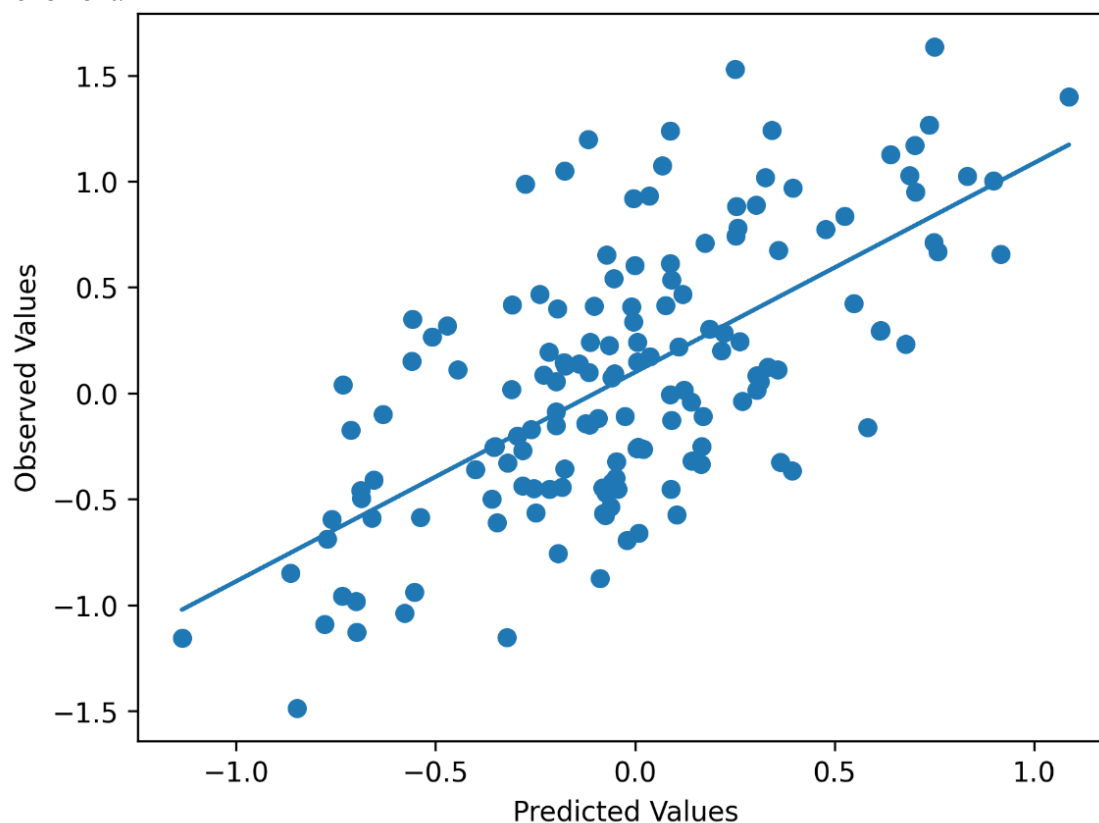


Figure 7: Scatterplot With a Regression Line.

A scatterplot illustrating a regression line can be seen in Figure 6 that defines the correlation between the predicted and observed values that were obtained using the multiple regression model. The regression line increases which indicate a positive linear relationship, hence depicting that an increase in the predicted scores leads to an increase in the observed scores. The closeness of data points to the regression line demonstrates that the model has a rather satisfactory fit. According to the standardized beta coefficients, the strongest predictor, Assurance ($\beta = 0.27$, $p < .001$) was found, then Reliability ($\beta = 0.22$, $p < .001$), Tangibility ($\beta = 0.18$, $p = .004$), Empathy ($\beta = 0.15$, $p = .016$), and Responsiveness ($\beta = 0.12$, $p = .049$). Each of the predictors was statistically significant, indicating that each dimension of service quality is a significant variable in the explanation of the dependent variable, with Assurance having the strongest relative explanatory power.

4. DISCUSSION

This study examined the effect of SERVQUAL dimensions on the satisfaction of international students pursuing their studies in Indonesian universities and provided a contextually grounded

piece of evidence to demonstrate how service quality works in an emerging higher education context.

The most predictive factor of international student satisfaction was assurance. The result is in line with earlier studies by Helgesen and Nasset (2007) and Brown and Mazzarol (2009), who determined institutional trust and perceived competent to be the key factors in student loyalty and assessment in tertiary institutions. Likewise, Ali et al. (2016) also discovered assurance to feature specifically in support of international students in Malaysia, where credibility and staff experience minimized doubt in cross-border educational experiences. Theoretically assurance is a risk reduction tool, Parasuraman et al. (1988) defined assurance as knowledge, courtesy, and capability of employees to generate trust. In the case of international students who have to deal with new academic frameworks, immigration policies, and bureaucracies, perceived competence acts as a stabilising factor. The fact that assurance is dominant in the analysis that is being presented points to the fact that structural credibility and professional legitimacy have a higher impact on the situation in developing systems of higher education and, in fact, on the situation in higher education in general than

the relational aspects of service interaction do. It is worth noting that the given arrangement is rather different than some mature higher education settings, where empathy or responsiveness have been identified as the predominant predictors (Sultan and Wong, 2013; Teeroovengadum *et al.*, 2019). By extension, the current findings indicate that the hierarchies of service-quality depend on the extent of institutional maturity and governance stability.

The second most powerful predictor was reliability that supported the meta-analytic results of Carrillat *et al.* (2007) who found that reliability is the most stable SERVQUAL dimension utilized in a variety of sectors. Similar evidence is also presented in the higher education setting where Douglas *et al.* (2006) and Clemen *et al.* (2008) reported that steady administrative processes have a strong impact on student satisfaction. To international students, reliability has more implications than procedural efficiency. Inaccurate record keeping that delays academic history or infrequent application of some of the procedures directly interferes with visa compliance and academic advance. Andrade (2006) argues that informational asymmetrical and the reliance on the direction of the institutions has a disproportionate impact on international students because of such institutional inconsistencies. The strong impact of reliability that was recorded in the present study therefore highlights a structural reliance on institutional systems and supports the principles of the Institutional Theory which holds that legitimacy of an organization is developed based on the fundamental consistency and predictability of its performance (Hemsley-Brown and Oplatka, 2006).

Tangibility was found to be a statistically significant, but relatively small source of satisfaction. This trend is akin to the findings of Oldfield and Baron (2000), Arambewela and Hall (2009) who confirmed that physical and technological infrastructure could serve as salient, visible features of institutional commitment and educational value. However, the comparatively smaller weight, which is given to tangibility, suggests that the infrastructure cannot be used to compensate for the lack of procedural reliability or institutional credibility. The current results thus support the distinction between technical quality and functional quality by Grönroos (1984) and claim that although physical resources play a consequential role, the concept of functional service delivery is the key factor in the establishment of satisfaction.

Even though responsiveness and empathy were found to be statistically significant, their relatively

weaker effect is in contrast with the empirical data in Western situations where relational dimensions usually dominate the satisfaction models (Sultan and Wong, 2010; Teeroovengadum *et al.*, 2019). Such deviation denotes a contextual priority. Functional predictability can be favored by students in nascent systems of higher education in place of personalized interaction. In this context, Indonesian overseas students will probably measure service in terms of performance-based measures including accuracy and competence. Furthermore, high intercultural competence is required to be an effective empathist, and this could not be institutional yet (Andrade, 2006). In this regard, responsiveness and empathy work as auxiliary enhancers, as opposed to structural drivers.

This paper is an addition to the SERVQUAL debate in that it shows that the five-dimensional structure is psychometrically valid in an Indonesian higher-education case, although it shows that the salience of the dimensions in the structure is not as related when compared to the findings in mature systems. The results are relevant to the criticism of Buttle (1996) in terms of contextual adaptation, and at the same time, they confirm the statement provided by Carrillat *et al.* (2007) that SERVQUAL does not lose cross-sector robustness. The current study enriches the service-quality theory by making the assurance and reliability the prevailing predictors of the outcomes in a multi-institutional sample of the international students of a developing nation. It proves the idea that institutional trust and procedural consistency can come first before the relational personalization in the internationalising higher-education systems.

The focus on professional development efforts that would foster better competency of faculty, and the creation of an effective communication channel is expected to produce substantial gains in the level of institutional satisfaction in the Indonesian universities. Standardization of administrative practices in order to enhance reliability should be considered as a strategic need. Despite the fact that the physical infrastructure investments are still inevitable, they must be complemented with governance reforms and intercultural training initiatives that would increase the levels of empathy and responsiveness within the institutional setting.

5. CONCLUSION

This study examined the relationship between service quality dimensions and international student satisfaction in Indonesian universities using the SERVQUAL framework. Based on data collected

from 250 international students across public and private institutions, the findings confirm that perceived service quality plays a decisive role in shaping students' overall satisfaction with higher education services. All five dimensions Tangibility, Reliability, Responsiveness, Assurance, and Empathy were found to have significant positive effects on satisfaction, although their relative influence differed.

Among the service quality dimensions, Assurance emerged as the strongest predictor of international student satisfaction, underscoring the importance of staff competence, professionalism, and institutional credibility in higher education service delivery. Reliability and Tangibility also demonstrated substantial effects, highlighting the significance of consistent administrative processes and adequate physical and digital infrastructure. While Responsiveness and Empathy were statistically significant, their comparatively weaker influence suggests that international students may prioritize structural Reliability and institutional trust over personalized interaction, particularly within complex administrative environments.

The findings contribute to the literature on higher education service quality by extending the application of the SERVQUAL model to a multi-institutional international student population in a developing country context. By identifying the service dimensions that strongly influence international student satisfaction, this study offers empirical evidence that refines existing theoretical assumptions and provides a clearer understanding of service quality priorities in emerging higher education systems.

From a practical perspective, the results suggest that Indonesian universities should prioritise strengthening Assurance and Reliability related services through staff capacity development, transparent communication, and standardized administrative procedures. Enhancing service Responsiveness and culturally sensitive support mechanisms may further improve the international student experience. Collectively, these efforts can support Indonesia's strategic objective of increasing its global competitiveness as an international education destination.

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