ANALYSIS OF LOCAL AND INTERNATIONAL STUDENT SATISFACTION IN INTERNATIONAL UNDERGRADUATE PROGRAMS AT STATE UNIVERSITIES IN EAST JAVA

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Abstract: This study aims to examine the influence of service quality related to education, social orientation and technology perceived by students on satisfaction and behavioral intentions in international undergraduate program at state universities in East Java. A quantitative approach has been applied. The data were collected from a total of 98 respondents from state universities in East Java. Nonprobability sampling was used, and data were analyzed using) structural equation modelling (SEM) with partial least square (PLS). The results of this study indicate that perceived service quality education and perceived service quality technology have an impact on student satisfaction. However, perceived service quality social orientation doesn't influence student satisfaction. In addition, this study also shows that student satisfaction has influence on students' future behavioral intention.

Keywords: Perceived Service Quality Education, Perceived Service Quality Social Orientation, Perceived Service Quality Technology, Student Satisfaction, Behavioral Intention.

INTRODUCTION

In recent years, the higher education sector has experienced significant growth, along with the increasing demand for access to further education (Duarte, Alves, & Raposo, 2010). Another important phenomenon that has occurred in this context is the increasing use of English as a medium of instruction (EMI), which has become one of the most important developments in higher education in countries where English is not the native language (Macaro et al., 2020; Nguyen et al., 2017). In Asia-Pacific, including Indonesia, the use of EMI has become an emerging trend in an effort to improve the quality of education, especially in international majors. This phenomenon marks the need for innovation in the provision of educational services to address the increasingly fierce competition in the market (Butt & ur Rehman, 2010). Educational institutions continue to strive to offer attractive and high-quality educational programs to attract students. The increasing complexity and competition in the education market require more attention in understanding the needs and satisfaction of students as consumers of educational services (Ellis & Hogard, 2018; Guilbault, 2016). Therefore, a deep understanding of the factors that influence student satisfaction is crucial for educational institutions to maintain their competitiveness and meet student expectations (Douglas et al., 2006; Veloutsou, Lewis, & Paton, 2004). Behavioral intention is a person's tendency or intention to perform a certain behavior in a certain situation. In the context of higher education, behavioral intention refers to students' desire to perform a certain action related to participation in an educational program or other behaviors related to their learning experience. The benefit of understanding behavioral intention in the context of higher education is to help educational institutions plan strategies and policies that can increase student participation and engagement in educational programs. By understanding students' behavioral intentions, institutions can identify factors that influence students' decisions to perform or not to perform a certain action. This can help in designing programs or initiatives that can increase student satisfaction and engagement, as well as improve their overall learning experience. Thus, understanding behavioral intention can help improve the effectiveness and efficiency of higher education institutions in achieving their educational goals (Saunders, 2015).

Customer satisfaction is a very important factor in various business fields. To attract consumer interest, it is not enough to just meet expectations, but it is necessary to exceed existing expectations (Asif, 2015). Customer satisfaction, according to Fornell (1992), has a positive impact by increasing demand, reducing marketing costs, and improving reputation. Research has shown that high satisfaction is correlated with greater loyalty and behavioral intentions (Helm, Eggert, & Garnefeld, 2010; Haverila, Haverila, McLaughlin & Arora, 2021). In the context of education, student retention is important for the success of an institution (Ayuk & Jacobs, 2018). Student behavioral intentions, such as willingness to recommend and intention to re-choose, predict positive interactions with the institution (Schreiner & Nelson, 2013). Factors such as educational quality, assessment, and value for money are prioritized to increase student satisfaction (Herzberg, Mausner, & Snyderman, 2010). Universities should improve the educational experience to increase student satisfaction and retention (Chen, 2016)

Based on the results of previous studies, the three concepts of "Perceived Service Quality Education", "Perceived Service Quality Social Orientation", and "Perceived Service Quality Technology" have an important role in understanding student satisfaction and improving their educational experience at higher education institutions. Further research on these concepts is needed for several reasons (Haverila, et al., 2021). Perceived service quality education refers to students' perceptions of the quality of education provided by the university, including the quality of teaching, learning materials, and academic support. This variable is very important because the quality of education received by students can have a significant effect on their satisfaction. Students need quality learning experiences that are relevant to their career needs to feel satisfied with the education they receive (Lai & Nguyen, 2017). Perceived service quality related to social orientation refers to students' perceptions of social support and a supportive learning environment on campus. Factors such as interactions between fellow students, support from administrative staff, and opportunities to participate in extracurricular activities can influence student satisfaction (Haverila, et al., 2021). Perceived service quality technology or perceived service quality related to technology includes students' perceptions of the technology infrastructure available at the university, including internet access, hardware and software that support learning, and digital platforms for delivery of learning materials. Advances in technology have changed the way education is delivered and accessed by students, and the quality of technology provided by educational institutions can have a significant impact on student satisfaction (Arambewela & Hall, 2007)

In the context of international education, competition between universities to attract international students has become increasingly intense. International students contribute significantly to the cultural and financial wealth of universities, and therefore, it is important to understand the factors that influence their satisfaction (Marginson, 2000). Several studies have highlighted the challenges faced by international students in adjusting to different learning environments, including cultural differences and learning styles (Pratt & Poole, 1999). However, although there is research that looks at international students' satisfaction in terms of teaching quality (Haverila, Haverila, McLaughlin & Arora, 2021), there is still a lack of understanding of their specific needs and how universities can meet their expectations effectively (Oldfield & Baron, 2000). Therefore, this study aims to fill this gap in the literature by comparing the satisfaction of local and international students in international undergraduate programs at a State University in East Java.

By considering the proposed framework and relevant literature, this study is expected to provide valuable insights for universities and related parties to improve the educational experience for all students, both local and international. By understanding the factors that influence student satisfaction, educational institutions can develop more effective strategies to meet the needs and expectations of their students, and enhance their reputation and attractiveness in the increasingly competitive global education market.

Perceives service quality education

Perceived service quality education refers to students' perceptions of the quality of educational services provided by educational institutions. It encompasses factors such as teaching quality, availability of learning resources, customized curriculum, and academic support. Research has shown that when students perceive the quality of educational services they receive, they tend to be more satisfied with their overall educational experience. A study conducted by Pedro, Mendes, and

Lourenco (2018) highlighted the importance of educational service quality in influencing students' satisfaction levels. Factors such as interaction with lecturers, quality teaching, and availability of learning resources are key in determining students' perceptions of the quality of educational services. Thus, the hypothesis in this study is:

H1: Perceived service quality education has a positive effect on student satisfaction

Perceived service quality social orientation

Perceived service quality social orientation refers to how students assess the quality of services related to the social interactions and support they receive from educational institutions. This includes things like social activities, counseling, and orientation programs. Previous research has shown that this aspect has a significant effect on student satisfaction (Toyokawa & Toyokawa, 2002). This confirms that students' social experiences in an educational environment can affect how satisfied they are with the services they receive and how they assess the value they get from their educational investment. Thus, the hypothesis in this study is:

H2: Perceived service quality social orientation has a positive effect on student satisfaction

Perceived service quality technology

Perceived service quality technology refers to students' views on the quality of services related to the technology provided by educational institutions. This includes the use of technology in the learning process, access to online resources, and the usefulness of learning management systems. Several studies have shown that educational technology has a positive impact on student satisfaction levels (Bryant, 2006), as well as influencing how students assess the value of their investment in education (Baron & Corbin, 2012). Thus, the hypothesis in this study is:

H3: Perceived service quality technology has a positive effect on student satisfaction

Student Satisfaction

Student satisfaction is a student's perception of various outcomes and experiences related to education. This construct includes students' subjective evaluations of various aspects of education, including the quality of instruction, the quality of educational programs, and satisfaction with the value of the education received. The concept of student satisfaction is often associated with customer satisfaction, which refers to feelings of pleasure or disappointment arising from the comparison between the performance of perceived from educational services with their expectations (Kotler & Keller, 2021). Previous studies have shown that student satisfaction directly affects students' behavioral intentions, including retention, recommendation, and loyalty to educational institutions (Helm et al., 2010).

There is a close relationship between student satisfaction and behavioral intention. Student satisfaction is the result of their subjective evaluation of their educational experience, including perceptions of the quality of educational services and teaching. Studies have shown that student satisfaction positively affects their behavioral intentions towards academic institutions, such as the intention to recommend the institution to others or choose to return to continue their studies. Several studies have shown that more satisfied students tend to have higher intentions to stay at their institution and engage in behaviors that support the institution, such as providing positive testimonials or recruiting new students. (Helm et al., 2010). Thus, the hypothesis in this study is:

H4: Student satisfaction has a positive effect on behavioral intention

Behavioral Intention

Behavioral intention refers to an individual's tendency to perform a certain action or behavior in the future. In the context of higher education, students' behavioral intention can relate to their intention to continue their studies, recommend the institution to others, or engage in other academic or non-academic activities. Research has shown that behavioral intention can be predicted by students' level of satisfaction with their educational experience (Bloemer & Odekerken-Schroder, 2002)

The conceptual model and hypotheses of this study are shown in the model below. We propose that Perceived Service Quality Education, Perceived Service Quality Social Orientation, and Perceived

Service Quality Technology are the antecedents of Student Satisfaction. As a result, students' Behavioral Intention will be formed

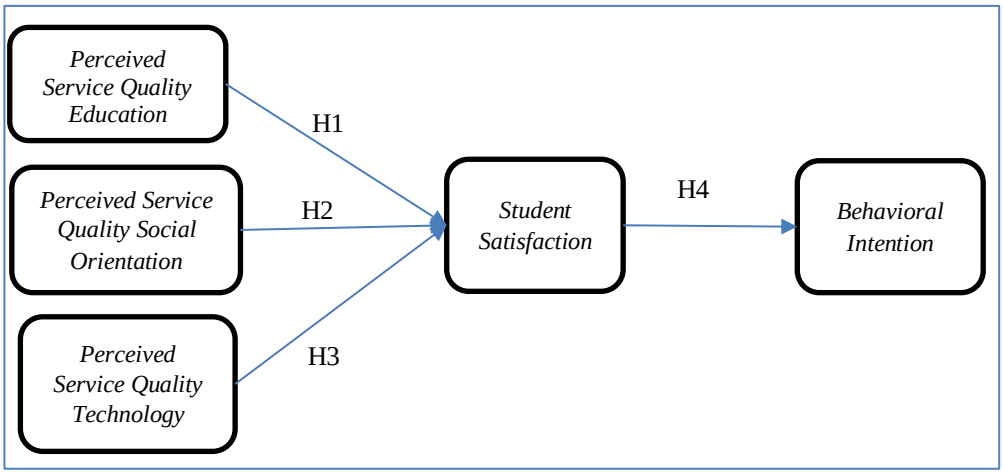

Fig. 1. Research Model

RESEARCH METHOD

The sampling method in this study uses a nonprobability sampling method, involving undergraduate international students from state universities in East Java. This sampling method is suitable for this study because there is no information on the number of students in international programs accurately because there is no widely available information that can be accessed directly by researchers. The collection of research data was carried out through questionnaires distributed online using electronic forms by utilizing the network of international class lecturers at various universities. This method is not only cost-effective, but also useful for researchers to avoid time bias in reaching populations in various locations in East Java. The questionnaire form was distributed in March until October 2024. The total number of respondents in this study was 102 people, but the data that can be used is 98 answers, because there were 4 people who did not answer completely. This research questionnaire was designed to evaluate various aspects of the program, including the quality of educational services, satisfaction with the curriculum and teaching methods, academic and social support, and perceptions of the value of the program. The questions used in this study were adapted from previous studies. Question items regarding Perceived Service Quality Education (9 items) were adopted from Haverila et. al (2021), Perceived Service Quality Social Orientation (6 items) and Perceived Service Quality Technology (3 items) were adopted from the study of Arambewela & Hall (2009), students' satisfaction variables (2 items) and Behavioral Intention (2 items) were adopted from the study of Haverila et. al (2021). The answers to these questions were measured using a Likert Scale scored 1-5, namely between "Strongly Disagree" to "Strongly Agree". This research is using quantitative research approach, using PLS SEM to analyze the data. Hypothesis testing uses the t-test, which is done by comparing the t-statistic value with the t-table value; or comparing the probability value (p-value) with its significance value (5%). Variables are said to have a relationship if the t-statistic value is greater than the t-table value or the probability value is less than 0.05 (5%).

RESULT AND DISCUSSION

The results of data collection show that most respondents are female (53%) and the majority of respondents' ages range from 19-21 years. Comparing this sample with the number of students at the university, it can be concluded that this sample represents students at universities in international programs.

In this study, data were analyzed using SEM PLS to test complex constructs that are operationalized at a more abstract level using a high-level model (Hair et al., 2016). Following the two-stage SEM

(Structural Equation Modeling) method, the study tested the measurement model using the outer loading factor (inner model) and the Average Variance Extracted (AVE) value. The outer loading factor for each indicator must be above 0.5, with a minimum AVE value of 0.5. There are several invalid items, namely the first item "I feel that the curriculum in my Faculty/Program covers a wide range of fields" and the eighth item "I feel that the curriculum taught is always updated according to developments" on the variable perceived service quality education and one item that measures the variable Perceived Service Quality Technology, namely "I have easy access to the computer laboratory at my University". Further testing was carried out by eliminating the item and the results of the second measurement, the measurement item was valid. Table 1 shows the results of the test .

The reliability of the measurement model was tested using Cronbach alpha and composite reliability. According to Hair et al. (2021), an instrument is said to be reliable if the minimum Cronbach value is 0.7 for and the composite reliability value is above 0.7. From the results of the data analysis shown in Table 2, it shows that the measurement model used has met the requirements of a reliable measurement model.

Table 1. Convergent Validity

Variable	Item	Outer Loading	AVE	Decision
Behavioural Intention	BI1	0,901	0,800	Valid
	BI2	0,888		
Perceived Service Quality Education	PSQE2	0.700	0,598	Valid
	PSQE3	0.822		
	PSQE4	0.639		
	PSQE5	0.833		
	PSQE6	0.814		
	PSQE7	0.811		
Perceived Service Quality Social Orientation	PSQSO1	0.834	0,655	Valid
	PSQSO2	0.820		
	PSQSO3	0.780		
	PSQSO4	0.800		
Perceived Service Quality Technology	PSQT2	0.758	0,719	Valid
	PSQT3	0.892		
	PSQT4	0.888		
Student Satisfaction	SS1	0.910	0,806	Valid
	SS2	0.886		

Table 2. Reliability Test

Variable	Composite Reliability	Cronbach's Alpha	Conclusion
Behavioural Intention	0.889	0.751	Reliable
Perceived Service Quality Education	0.898	0.871	Reliable
	0,883	0,837	Reliable
Perceived Service Quality Social Orientation	0,884	0,871	Reliable
Perceived Service Quality Technology	0,893	0,767	Reliable
Student Satisfaction			

After determining the validity and reliability of the construct, it is to conduct an evaluation of the structural model (inner model) to determine the level of accuracy of the model in the overall research formed through variables and their indicators. The suitability of the model is assessed from the value of the coefficient of determination (R-Square). The results of the R-Square calculation can be seen in Table 3 below:

Table 3. R-Square Coefficient

	R-Square	Adjusted R-Square
Behavioural Intention	0.356	0.350
Student Satisfaction	0.662	0.651

Source: Data processed using SmartPLS (2024)

From table 3 above, it shows that Behavioral intention can be explained by the student satisfaction variable by 66% and has strong predictive power, while PSQE, PSQSO and PSQT contribute to the formation of student and alumni satisfaction by 35% where this predictive power is classified as moderate.

Next is hypothesis testing using the SmartPLS (Partial Least Squares) algorithm and bootstrapping. The purpose of this section is to test the hypothesis as proposed and assess the suitability of the research model. Figure 2 is the result of testing the structural model of the study.

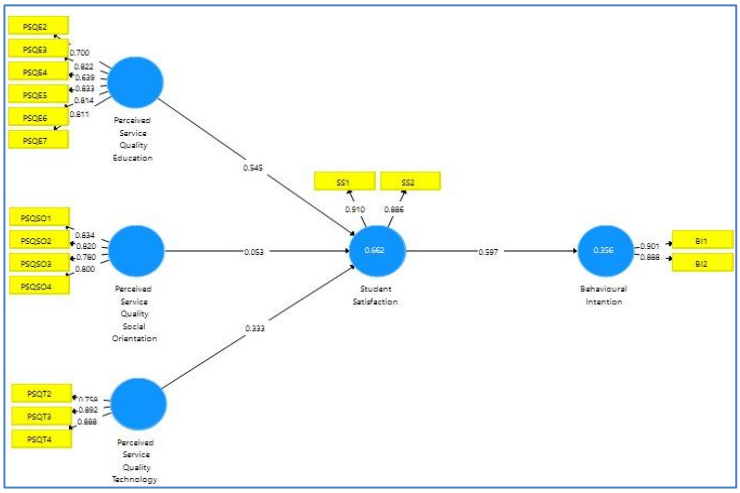

Fig. 2. Structural Model Test Results

The figure shows the analyzable results where Table 4 presents the direct relationships between the variables, while Table 5 shows the specific indirect effects that test the mediating impact of student satisfaction.

Table 4. Results of Direct Influence Testing

Relationship	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values	Result
PSQE → SS	0.545	0.548	0.069	7.920	0.000	Accepted
PSQSO → SS	0.053	0.046	0.068	0.776	0.438	Not Accepted
PSQT → SS	0.333	0.338	0.089	3.721	0.000	Accepted
SS → BI	0,597	0.599	0.068	8.826	0.000	Accepted

Source: Data processed using SmartPLS (2024)

Table 5. Results of Indirect Effect Testing

Relationship	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	t-Statistics (|O/STDEV|)	P Values	Result
PSQE → SS → BI	0.325	0.330	0.062	5.260	0.000	Accepted
PSQSO → SS → BI	0.032	0.029	0.042	0.753	0.452	Not Accepted
PSQT → SS → BI	0.199	0.200	0.048	4.100	0.104	Accepted

Source: Data processed using SmartPLS (2024)

From the results of the data analysis above, this study shows the following results. First, that of the three antecedent variables, namely PSQE, PSQSO and PSQT, there are only two variables that influence the formation of student and alumni satisfaction. Second, PSQE has the greatest influence compared to PSQT on student satisfaction. Third, SS influences the formation of behavioral intention from students to recommend to others about international programs.

The results of this study indicate that the behavioral intentions of students related to international programs, namely the desire to recommend to others and return to study in the program, are influenced by the formation of student satisfaction related to services, teaching and the overall experience of students or alumni. The effect of student satisfaction on future behavioral intentions is moderate with an R-Square of 0.356. The results of this study are in line with the results of a study by Haverila et al (2021) who conducted a study on student satisfaction with future behavioral intentions at universities in Canada. This study also shows that student satisfaction can be influenced by Perceived Service Quality Education (Quality of Education Services received) and (Quality of Technology Services received) Perceived Service Quality Technology but is not influenced by the quality of services related to the social orientation received Perceived Service Quality Social

Orientation. The results of this study are in line with the research of Arambewela and Hall (2007), which states that these two variables influence the formation of student and alumni satisfaction,

while the research of Mavondo, Tsarenko and Gabbott (2004) and Haverila et. al (2021) also found that the service quality variable related to social orientation had no effect on student or alumni satisfaction. Service quality related to social orientation is closely related to student adaptation related to the new campus environment they have entered. The interaction between the campus and new students is very important, especially for foreign students who have just arrived on campus, especially in a new country. These results may indicate that the usual student orientation is more directed at introducing a broader institutional culture and this implies the need for various methods to respond to and manage interactions with students proactively. The results of this study also show that the consumer satisfaction formation model is a model that has high power in explaining phenomena related to the relationship between service quality and consumer satisfaction with an R-Square value of 0.662.

CONCLUSIONS

The results of this study are useful for decision makers in international programs at state universities in Indonesia. Campus administrators can focus on future strategies by improving the quality of services related to Education and related to the technology provided to students. Improving the quality of Education services can be done by increasing the program's commitment to academic excellence, improving consistent and clear service quality, providing feedback from lecturers, increasing lecturers' interest and knowledge related to learning materials, and updating the curriculum according to developments. While improving the quality of services related to technology can be improved by improving more modern facilities and adequate teaching aids. With the results of this study, if international programs improve the quality of education and technology services, students will feel more satisfied and will form an intention to return in the future, either related to the intention to continue to an international postgraduate program or recommend international programs to others.

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