

# Measuring the Quality of Private Universities: The Elasticity of Demand Approach

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**ABSTRACT:** *The Government of the Republic of Indonesia annually announces a list of quality universities. In addition, various international institutions such as Webometrics and Times Higher Education also release a list of superior universities in Indonesia. In fact, the assessment of the excellence of a university can also be done by evaluating how interested the public is in studying at a university. In this regard, the government and each university need to measure the elasticity of public demand for a university. In principle, the more inelastic the public demand for a university, the more superior the university is. The more elastic the public demand for a university, the less superior the university is. This study was conducted to identify the elasticity of demand for private universities (PU) in East Java. There are two large groups of PU that are the objects of this study, namely PU accredited as “superior” and accredited as “very good”. This study successfully identified 8 indicators that influence the elasticity of demand for PU. Public demand for PU accredited as “superior” is in the “very inelastic” category. Public demand for PU accredited as “very good” is in the “inelastic” category. PU is categorized as superior if the high cost of education does not reduce public interest in studying at the institution. Based on the results of this study, the government and each university should routinely conduct measurements to determine the elasticity of public demand for institutions. The results of measurements on elasticity can be used to measure the level of excellence of each private university.*

**KEYWORDS:** *demand elasticity, private university, excellence*

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## I. INTRODUCTION AND LITERATURE REVIEW

Superior and quality Higher Education (HE) greatly determines the progress of a nation. Therefore, the government through related departments and agencies encourages all HE, both state/private universities, to become superior HE, both at the national and global levels. Various data show that the economic performance of various countries in the world is greatly influenced by the existence of superior HE (Xia & Qiu, 2021; Dreval et al., 2022). Previous studies have also proven that there is an interdependent relationship between the existence of superior HE and economic growth and the level of progress of a nation (Arman, Purwandaya & Saefuddin, 2020; Artyukhov et al., 2021; Artyukhov et al., 2021). In other words, for a nation and country that aspires to achieve a level of progress in various fields, one strategic choice that can be taken is to facilitate all HE to become superior higher education institutions.

A superior university is basically a quality university. Therefore, a superior university always has a strong reputation, marked by the existence of great public trust. That is why superior universities are usually in great demand by the wider community, which is marked by the large number of students who are studying. A

superior university is marked by the large number of students who register. The amount of tuition fees determined by the superior university does not prevent prospective students from registering at the institution. The great public interest in superior universities even though they are expensive also shows public awareness of the importance of excellence in a product/service that is to be purchased and consumed. This shows that the price paid by consumers is a reflection of the quality of the product (Kotler and Armstrong, 2016; Kotler, 2016). Usually, there is a linear relationship between the price level and the level of product quality (Alma, 2013). If the price of goods and services is getting more expensive, but at the same time the goods and services have very high demand; it shows that the goods and services are in the category of superior goods and services (Prianto, 2006).

Related to the excellence of a university, there are several indicators that are commonly used by various ranking institutions to assess the excellence of a university. The Directorate General of Higher Education of the Ministry of Education, Culture, Research and Technology of the Republic of Indonesia uses 4 indicators, namely: (a) input, related to the aspect of human resources which includes the existence of lecturers and students, (b) process, related to the quality of management of a university, such as accreditation ranking, (c) output, which is indicated by the performance of education and teaching, research, and community service of lecturers, student performance, and department accreditation ranking, (d) outcome, related to the achievements of the university, such as innovation products, patents, the number of citations per lecturer, community service performance, and the number of alumni who get jobs 6 months after being declared graduated.

Most people assume that state universities are considered superior to private universities (Arlinta, 2019). This causes most private universities to struggle to attract prospective students (Napitupulu, 2023). To deal with the stigma of the quality of private universities below state universities, private university managers are trying to improve the quality of education, so that they become leading private universities both nationally and globally. Data shows that leading private universities are the main choice for prospective students if they are not accepted at state universities. These leading private universities are also perceived to be able to provide a guarantee of the future for students after they graduate from college (Napitupulu, 2023).

Leading private universities that are included in the national and international rankings are also in great demand by prospective students. The high interest of prospective students in leading private universities then triggers the law of demand in the market. When the number of people interested in private universities increases, the cost of education tends to be more expensive. At this point, the term favourite university emerged, even though it is expensive, it is still in demand by prospective students. The relationship between the cost of education and the interest of prospective students actually explains the level of elasticity of demand for prospective students towards higher education.

Previous studies have explained the importance of the quality of a higher education institution (Degtjarjova, Lapina, & Freindenfelds, 2018). Various previous studies have also examined the elasticity of demand for higher education, and the results show that the amount of tuition fees has a significant effect on students' decisions to study at a higher education institution (Chen, 2016; Kiiashko, 2016). In the context of higher education in Indonesia, a study conducted by Hapsari and Hascaryani (2012) revealed that students view education as an investment for the future, so that the amount of tuition fees determined by the university does not hinder their interest in studying at the desired university. For some groups of students, they even follow whatever fees are determined by the university.

A study conducted by Kartini and Milawati (2022) revealed that student demand for higher education is inelastic, which shows that the amount of tuition fees does not hinder students' interest in studying at the university of their choice. Meanwhile, research conducted by Arfan, Arifulsyah, and Bhayangkara (2021) revealed that the amount of tuition fees greatly influences students' decisions to study at HE. Various previous research results have not revealed the elasticity of student demand for private universities, both those with the status of leading and non-leading universities.

A recent study conducted by Prianto et al. (2022) has analyzed the public's access to leading state universities in East Java, by taking samples of parents of students. The results of this study revealed that 85.48% of the community felt a large burden of education costs to access education services at leading state universities in East Java. Even though it is expensive, the public's interest in studying at leading state universities in East Java actually shows an increasing trend from year to year.

The phenomenon of the increasing cost of education in higher education and the increasing interest of the community in pursuing higher education is intended to confirm that higher education services are a primary need for the wider community (Gallet, 2007). This phenomenon can also illustrate whether a university has strong bargaining power in society (Kiiashko, 2016). To respond to this phenomenon, this study aims to analyze the elasticity of demand for prospective students for private universities in East Java. The results of this study are expected to be used as an indicator to measure whether a private university is included in the superior or non-superior category, as well as to complement the 4 indicators of superior universities as stated by the

Directorate General of Higher Education, Ministry of Education, Culture, Research and Technology of the Republic of Indonesia.

A study of the elasticity of demand for universities, by taking the case of superior state universities in East Java, has been conducted by Prianto, Firman, and Timan (2024). However, so far there has been no data that can be disclosed regarding the study of the elasticity of demand for private universities in Indonesia. In fact, the results of the study with this theme can be used to map whether a private university is included in the superior or non-superior category according to the perspective of society. The community (consumers) is one of the parties that determines whether a private university is worthy of being categorized as a superior private university, so that they are willing to study there. Usually, a product or service that is included in the superior category will be the main choice of consumers.

In the realm of microeconomic theory, an instrument that can be used to detect whether a product and service are superior or not is by using demand elasticity analysis (Mankiw, 2008). Theoretically, demand elasticity describes whether there is a reduction in the number of products and services consumed when prices increase. In the context of higher education services, the coefficient of elasticity of demand for universities can be determined by comparing the number of prospective students who register with the amount of education costs determined by the university.

Quantitative comparison between the number of prospective students who register with the amount of tuition fees is not the only measure that can be used to detect the elasticity of demand for a college. There are many qualitative measures that can be used to detect the nature of the elasticity of demand for colleges. Some of these qualitative measures are: (a) whether the goods and services have equivalent substitutes. Colleges that have equivalent substitutes tend to be elastic, and vice versa; (b) whether the goods or services consumed are considered very urgent or not. If studying at a college is considered urgent, then the elasticity of demand for the college tends to be inelastic, and vice versa; (c) whether consumers are willing to pay for goods or services as determined by the seller. If students are willing to pay the tuition fees determined by the university, then the elasticity of demand for the college tends to be inelastic, and vice versa; (d) whether the goods and services have high popularity. If the college is very popular, then it will tend to be the main choice for students. Therefore, popular colleges tend to be inelastic, and vice versa; (e) whether the goods and services have loyal consumers. Universities that have loyal students tend to be inelastic, and vice versa; (f) parties involved in financing the procurement of goods or services. If many parties are involved in financing education, for example because of subsidies or scholarships, then the elasticity of demand for the university tends to be inelastic, and vice versa; (g) uniqueness and superiority of goods and services. Universities that have uniqueness and superiority tend to be inelastic, and vice versa; (h) public views on the cost or price of goods and services. If the public views that tuition fees are equivalent to the quality of education services at a university, then the elasticity of demand for the university tends to be inelastic; and vice versa.

Theoretically, if the following conditions are met, then the demand for goods and services becomes inelastic. These conditions include: (a) Goods and services do not have equivalent substitutes, (b) goods and services have a high urgency value, (c) the proportion of income allocated by consumers to consume certain goods and services is high, (d) prioritized goods and services must be fulfilled, (e) goods and services that are unique and of high quality, (f) goods and services that have loyal customers, (g) goods and services that are booming and popular (Mankiw, 2008; Prianto, 2016).

Related to the elasticity of demand for HE, the results of previous studies revealed that the amount of education costs is the main consideration for white Americans, Asian Americans, African Americans and Mexican Americans to study at HE in the United States. The elasticity of demand for HE for African Americans and Mexican Americans is in the very elastic category, so that the increase in education costs makes them postpone studying in it. Meanwhile, for white Americans and Asian Americans, the elasticity of demand for higher education is in the inelastic category, so that the increase in education costs does not reduce their interest in studying (Whyte, 2012).

Another study conducted by Carter & Curry (2011) revealed that for high-income groups, the increase in education costs does not significantly affect their interest in studying at college. Meanwhile, for low-income groups, the increase in education costs will reduce their interest in studying at college. In other words, the elasticity of demand for higher education is greatly influenced by the economic capacity of the community (prospective students).

Meanwhile, studies conducted by Spence (2006) and Gallet (2007) showed that demand for higher education by Americans is inelastic. This means that increasing education costs in America do not significantly change the decisions of Americans to study at college. However, studies conducted by Gallet (2007), Hubner (2012), and Hemelt & Marcotte (2011) revealed that there are many other variables besides income that affect the elasticity of demand for higher education in America.

Studies by Ehrenberg (2000) and Menzies III (2017) have revealed that there is a tendency for education costs at elite universities in America to increase from year to year. This is triggered by the high

interest of the public in studying at college. This phenomenon explains the increasing public trust in higher education. For this reason, university leaders must improve the quality and service. This is what causes the cost of organizing higher education to increase. As a result, the education costs charged to students also increase. Considering various theoretical studies and previous research, it is revealed that there are many factors that influence the nature of the elasticity of demand for goods and services, especially the demand for higher education services. This study is intended to reveal various variables that influence the level of elasticity of demand for private higher education.

This study examines the level of elasticity of demand for private higher education as measured by the following 8 indicators: (a) student perception of whether private higher education has an equivalent substitute, (b) student perception of the level of urgency to study at a private higher education, (c) willingness to pay tuition fees determined by private higher education, (d) student perception of the popularity of private higher education, (e) student loyalty to only study at private higher education, (f) financing facilities that can be accessed by students, such as discounts, scholarships, and the like, (g) student perception of the uniqueness and excellence of private higher education, (h) the assumption that the tuition fees paid by students are equivalent to the quality of private higher education services.

Referring to the various problems discussed in this study, there are several questions raised in this study, as follows: (1) How is the elasticity of demand for private higher education in East Java? (2) How is the correlation between various factors that form elasticity towards student interest in studying at private universities in East Java? (3) Is the elasticity of demand for private universities related to the status of excellence of the university? The findings of this study are expected to be used as a reference by the Government and the community to determine whether a private university is included in the category of excellent universities or not. For the leaders of private universities, the results of this study can be considered in formulating university development policies, especially related to the strategy for determining the amount of tuition fees that will be charged to students.

## II. RESEARCH METHOD

This research was conducted using a quantitative descriptive research approach. This study aims to describe the elasticity of demand for private universities in East Java. The population in this study were active students from 8 private universities in East Java. They came from 4 private universities accredited as "superior" (with the initials U1, U2, U3, and U4) and 4 private universities accredited as "very good" (with the initials BS1, BS2, BS3, BS4). The determination of students from the 2023 intake was based on the consideration that these students could provide the latest information related to their various considerations when deciding to study at a university.

The number of samples was determined using a formula developed by Lemeshow and David (1997) because it considered the very large population and was spread across various universities in East Java. By setting the  $z$  value = 1.96; maximum estimate = 50%, and sampling error = 10%, the number of samples obtained was 192 students. The determination of the research sample was proportionally taken from 8 private universities in East Java, namely: U1, U2, U3, U4, BS1, BS2, BS3, and BS4. Thus, each university is represented by 24 active students of the 2023 intake. The sample determination was carried out using the accidental sampling technique (Sugiyono, 2018). A total of 24 first students from each university who had filled out the questionnaire via Google Form were designated as sample members. The various data used in this study are data on student considerations in choosing a private university as a place of study, which includes 8 indicators that determine the level of elasticity, as described in other sections of this paper. Students were asked to determine the urgency weight of each indicator, through a questionnaire developed by researchers using the semantic difference technique, with the lowest score of 1 and the highest score of 5 (Azwar, 2007; Azwar, 2015).

Considering that the questionnaire uses a scale of 5, the following guidelines can be formulated for interpreting the level of elasticity of demand for private universities:

**Tabel 1:** Guidelines for interpreting the level of elasticity of demand and interest of students towards private HE

No	Score Range	Elasticity of Demand and Interest in Private HE
1	1.00 – 1.80	Very elastic, Very Low
2	1.81 – 2.60	Elastic, Low
3	2.61 – 3.40	Moderate, Moderate
4	3.41 – 4.20	Inelastic, High
5	4.21 – 5.00	Very inelastic, Very High

Example of a questionnaire statement with Semantic Difference Technique with the lowest score of 1 and the highest score of 5, as follows: "The college where I study is superior compared to other private colleges".

Students are invited to give a score to the statement, starting from the lowest score of 1, to the highest score of 5. If students give a very low score, it means that the level of excellence of the college is very low, so it is very easy to be replaced by other colleges. In other words, the elasticity of demand for the college is in the very elastic category. Conversely, if students give a very high score, it means that the college is perceived as very superior, so it cannot be replaced by other colleges. In other words, the elasticity of demand for the college is very inelastic.

Thus, the higher the score given by students, the more inelastic the demand for the college. Conversely, the lower the score given by students indicates the level of elasticity of demand for the college is increasingly elastic. This illustrates that the college is not a superior college. This study describes the level of elasticity of demand for colleges. Data on the elasticity of demand for colleges can be used to assess the level of excellence of private colleges in East Java.

### III. RESULTS AND DISCUSSION

This study describes the relationship between indicators of demand elasticity for private universities in East Java, as presented in table 2.

**Table 2:** Relationship between indicators of demand elasticity and interest to private universities in East Java

Indicator	A	B	C	D	E	F	G	H	I
A	-	.799*	.911**	.930**	.921**	-.578	.935**	.821*	.913**
B	.799*	-	.812*	.844*	.801*	-.356	.712*	.704*	.915**
C	.911**	.812*	-	.381	.821*	-.106	.817*	.781*	.818*
D	.930**	.844*	.381	-	.928**	-.352	.920**	.777*	.957**
E	.921**	.801*	.821*	.928**	-	.816*	.977**	.722*	.876*
F	-.578	-.356	-.106	-.352	.816*	-	.711*	-.134	.775*
G	.935**	.712*	.817*	.920**	.977**	.711*	-	.768*	.958**
H	.821*	.704*	.781*	.777*	.722*	-.134	.768*	-	.888*
I	.913**	.915*	.818*	.957**	.876*	.775*	.958**	.888*	-

**Source:** data processed by researchers

\*) Significant at alpha 5%

\*\*) Significant at alpha 1%

**Note:**

- A. Private universities do not have equivalent substitutes
- B. Urgency of study at the targeted private university
- C. Willingness of the community to pay the education costs determined by the private university
- D. Popularity of private universities
- E. Loyalty to private universities as the main choice
- F. Accessible financing facilities
- G. Uniqueness and advantages of private universities
- H. Education costs paid by students are considered equivalent to the quality of services of private universities
- I. Interest in continuing studies at the targeted private university

Based on the research data as shown in table 2, various facts can be presented, as follows:

First, students' perception that private universities are irreplaceable is closely related to students' perceptions about the urgency of studying at these universities, the assumption that the amount of tuition fees determined by private universities is not a problem, the popularity of private universities, loyalty to private universities, the uniqueness and excellence of private universities, and the assumption that the tuition fees paid by students are equivalent to the quality of private university services.

Second, students' perceptions about the urgency of studying at private universities are closely related to students' perceptions about private universities as irreplaceable universities, the assumption that the tuition fees determined by private universities are not a problem, the popularity of private universities, loyalty to private universities, the uniqueness and excellence of private universities, and the assumption that the tuition fees paid by students are equivalent to the quality of private university services.

Third, students' perception that the tuition fees set by private universities are not a problem is related to students' perception of private universities as irreplaceable universities, the urgency of studying at private universities, the popularity of private universities, loyalty to private universities, the uniqueness and excellence of private universities, and the perception that the tuition fees paid by students are equivalent to the quality of private university services.

Fourth, the popularity of private universities is related to students' perception of private universities as irreplaceable universities, students' perception of the urgency of studying at private universities, students' loyalty to private universities, the uniqueness and excellence of private universities, and the perception that the tuition fees paid by students are equivalent to the quality of private university services.

Fifth, student loyalty to private universities is related to, students' perception that the private university they are aiming for is an irreplaceable university, students' perception of the urgency of studying at a private university, the perception that the tuition fees determined by private universities are not a problem, the popularity of private universities, the perception of the uniqueness and superiority of private universities, and the perception that the tuition fees paid by students are equivalent to the quality of private university services.

Sixth, accessible financing facilities are related to loyalty to private universities, the uniqueness and superiority of private universities.

Seventh, the uniqueness and superiority of private universities are related to students' perception that private universities are irreplaceable universities, students' perception of the urgency of studying at private universities, the perception that the amount of tuition fees determined by private universities is not a problem, the popularity of universities, loyalty to private universities, alternative financing facilities that can be accessed by students, and the perception that the tuition fees paid by students are equivalent to the quality of private university services.

Eighth, the assumption that the tuition fees paid by students are equivalent to the quality of services of private universities is related to the students' assumption that the private university they are aiming for is an irreplaceable university, the students' perception of the urgency of studying at a private university, the assumption that the tuition fees set by the university are not a problem, the popularity of private universities, loyalty to private universities, and the uniqueness and advantages of private universities.

Ninth, this study revealed that there is a linear relationship between student perceptions related to 8 indicators that form elasticity towards student interest in studying at a private university. In order from the highest to the lowest, the 8 indicators that have a significant positive relationship towards student interest in studying at a private university are: the uniqueness and excellence of private universities, the popularity of private universities, the urgency of studying at a private university, private universities are perceived as not having an equivalent substitute, the cost of education paid by students is equivalent to the quality of private university services, the amount of education costs determined by private universities is not a problem, and financing facilities, such as the availability of scholarships and fee relief that can be accessed by students. In other words, the more inelastic the demand for students for private universities, the higher the interest of students to study at the private university; and vice versa.

This study revealed that the 8 indicators of elasticity as explained in table 2 are factors that influence the elasticity of demand for private universities that are inelastic. How do these eight indicators cause the elasticity of student demand for private universities to be inelastic? can be explained as follows:

First, the elasticity of demand for private universities in the inelastic category is indicated by the existence of private universities as the main choice that cannot be replaced. This shows the large demand for students for private universities, thus triggering the increasing tuition fees charged by private universities. When tuition fees at private universities increase, and at the same time the number of students interested in studying at private universities increases, the amount of tuition fees does not affect students' enthusiasm for private universities. In other words, the elasticity of demand for private universities becomes inelastic.

Second, the elasticity of demand for private universities in the inelastic category is indicated by the assumption of students who state that studying at private universities is a very urgent choice. The high urgency to study at private universities will increase students' willingness to pay the tuition fees set by private universities. Students will tend to accept the decision of private universities regarding the amount of tuition fees they must pay. In other words, the elasticity of demand for private universities becomes inelastic.

Third, this study reveals that for students, tuition fees imposed by private universities are not considered a problem. This proves that students have the willingness to pay tuition fees at private universities in a very high category. Students' willingness to pay tuition fees as imposed by private universities is basically a recognition of the students' recognition of the superiority of a private university. The high cost of education at private universities does not reduce students' interest in studying at private universities. In other words, the elasticity of demand for private universities is in the inelastic category.

Fourth, this study reveals that the popularity of private universities is at a very high level. The high popularity of private universities has a positive effect on students' confidence in determining private universities as their main choice, so that demand for universities is at a high level. The high demand for private universities causes the elasticity of demand for private universities to be inelastic.

Fifth, student loyalty to private universities makes private universities the main choice for students. This causes the demand for private universities to be at a very high level. The high demand for private universities causes the elasticity of demand for private universities to be inelastic.

Sixth, alternative financing facilities that can be accessed by students, such as the availability of various scholarships, cause student demand for private universities to be at a very high level. The high demand for private universities causes the elasticity of demand for private universities to be inelastic.

Seventh, the uniqueness and superiority of private universities cause private universities to have strong bargaining power, which cannot be replaced by other universities. This causes student demand for private universities to be at a very high level. The high demand for private universities causes the elasticity of demand for private universities to be inelastic.

Eighth, students' perception that the tuition fees paid by students are considered equivalent to the quality of private university services. This condition triggers the growth of willingness to pay tuition fees at universities at a very high level. High willingness to pay causes the elasticity of demand for private universities to be inelastic.

The data in table 2 also shows that the tuition fees paid by students are considered equivalent to the quality of services provided by private universities. This indicator is inversely proportional to the indicator of financing facilities provided by private universities. This phenomenon shows that if private universities do not provide alternative financing, then any education costs that must be paid by students are considered equivalent to the quality of services provided by private universities.

This study also revealed that the amount of tuition fees at private universities is not considered a problem by students. This study revealed that this indicator is inversely proportional to the indicator of financing facilities provided by private universities. This means that regardless of the amount of tuition fees charged by private universities, and the availability or absence of alternative financing provided by private universities, it does not hinder students' interest in studying at private universities. Theoretically, the elasticity of demand for goods or services is in the inelastic category if the percentage change in price is much higher than the percentage change in goods and services requested (Mankiw, 2008, Prianto, 2016). Thus, if student demand for private universities is inelastic, then the increase in tuition fees will not greatly reduce students' interest in studying at the university.

The data in table 2 also reveal that all indicators of private university elasticity are positively correlated with students' interest in studying at private universities. Students' perceptions of private universities that are irreplaceable by other universities, the popularity of private universities, and the uniqueness and excellence of private universities are highly correlated with students' interest in studying at private universities.

The findings of this study prove that student demand for private universities is inelastic. The high tuition fees set by private universities do not hinder students' decisions to determine private universities as their main choice. This shows that there is public recognition of private universities as superior educational institutions. With their superior status, private universities have the freedom to set tuition fees. No matter how much tuition fees are set by private universities, the public will be willing to pay them.

The data in table 3 illustrates the level of elasticity of demand for private universities in East Java. The data in table 3 shows that there is a linear relationship between the accreditation status of private universities and the elasticity of the private universities. There are 4 private universities with "superior" accreditation status that have "very inelastic" elasticity. Meanwhile, 4 private universities with "very good" accreditation status have "inelastic" elasticity.

Data on the average elasticity of private universities also illustrate the bargaining power of private universities towards the community, especially prospective students. Private universities that have inelastic demand show that the bargaining power of private universities is getting higher; and vice versa. Data that can be accessed through the websites of 8 private universities (as stated in table 3) proves that the more inelastic the demand for private universities, the higher the tuition fees set by private universities; and vice versa. Thus, the high and low average elasticity scores of each private university can illustrate the high and low levels of excellence of the private university. Thus, this study proves that superior private universities are private universities that have inelastic elasticity, have "superior" accreditation status, and set high tuition fees. High tuition fees illustrate high quality education, and vice versa.

**Table 3:** Elasticity of demand for private universities in East Java

PTS	Average Elasticity Indicator								Average Elasticity	I
	A	B	C	D	E	F	G	H		
U1	4.54	4.54	4.70	4.62	4.62	4.12	4.70	4.41	4.53	4.49
U2	4.41	4.50	4.62	4.58	4.62	4.58	4.70	4.41	4.55	4.62
U3	4.41	4.50	4.70	4.62	4.50	3.79	4.79	4.37	4.46	4.55
U4	4.29	4.38	4.40	4.32	4.20	4.20	4.41	4.41	4.32	5.43
BS1	3.27	3.28	3.29	4.07	3.29	3.87	3.16	4.00	3.52	3.61
BS2	3.83	3.75	4.00	4.08	3.87	4.29	4.00	4.00	3.97	4.01
BS3	3.75	3.75	4.00	4.00	3.79	4.41	3.79	4.12	3.95	4.05

BS4	3.20	3.33	3.25	4.00	3.08	3.75	3.45	4.00	3.50	3.59
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**Source:** Data processed by researchers

**Note:**

- A. Private universities do not have equivalent substitutes
- B. Urgency of study at the targeted private university
- C. Willingness of the community to pay the education costs determined by the private university
- D. Popularity of private universities
- E. Loyalty to private universities as the main choice
- F. Accessible financing facilities
- G. Uniqueness and advantages of private universities
- H. Education costs paid by students are considered equivalent to the quality of services of private universities
- I. Interest in continuing studies at the targeted private university

This study revealed that the elasticity of demand for 4 PTS accredited as “Excellent” is in the “very inelastic” category, namely: U1, U2, U3, and U4. The interest of students to study at private universities in this group is also in the “very high” category. This means that students have had a very strong desire to choose this group of private universities from the start. The very strong desire to study at this group of private universities causes students not to question the education costs they must pay. This can be seen from indicators C (the amount of education costs determined by private universities is not a problem) and H (the education costs paid by students are equivalent to the quality of services of private universities). In other words, private universities in this group actually have the flexibility to determine the amount of education costs according to the specifications of the services they offer to students. This is in line with the characteristics of inelastic demand, where consumer demand for goods and services is not greatly influenced by the amount of price.

The elasticity of demand for U1 is very inelastic, especially when measured from 6 indicators, namely the willingness to pay tuition fees determined by private universities, the uniqueness and excellence of private universities, the popularity of private universities, loyalty to private universities as the main choice, private universities do not have equivalent substitutes, and the urgency of studying at the targeted private university. The elasticity of demand for U2 is very inelastic, especially when measured from 3 indicators, namely private universities do not have equivalent substitutes, the uniqueness and excellence of private universities, and the tuition fees paid by students are equivalent to the quality of private university services.

The elasticity of demand for U3 is very inelastic, especially when measured from 5 indicators, namely: the uniqueness and excellence of private universities, the willingness to pay tuition fees determined by private universities, the popularity of private universities, accessible financing facilities, and the urgency of studying at the targeted university.

The elasticity of demand for U4 is very inelastic, most prominently measured by 5 indicators, namely: the uniqueness and excellence of higher education, willingness to pay tuition fees determined by private higher education institutions, the popularity of private higher education institutions, the urgency of studying at the intended higher education institution, and loyalty to private higher education institutions as the main choice.

In private higher education institutions with “Excellent” accreditation status, all indicators that affect the elasticity of student demand for private higher education institutions are in the “very inelastic” category; with the exception of a small number of indicators that are in the “inelastic” category (see table 3). This shows that private higher education institutions with “Excellent” accreditation status have truly become the main choice for students, especially for students who are not accepted in the selection at state universities.

The study also showed that the elasticity of demand for “Good” and “Very Good” accredited private higher education institutions is in the “inelastic” category, namely BS1, BS2, BS3, and BS4. This study reveals that the accreditation status of higher education institutions affects the level of elasticity of student demand for private higher education institutions. In private universities with “Excellent” accreditation status, the elasticity of student demand is in the “very inelastic” category. Meanwhile, in private universities with “Very Good” accreditation status, the elasticity of student demand for private universities is in a lower category, namely “inelastic”. This illustrates that the accreditation ranking of higher education institutions is a variable that is highly considered by students in choosing a university.

BS1 and BS2 are 2 PTS that were the first to change into universities. BS1 became a university in 2017, while BS2 became a university in 1998. BS3 changed into a university in 2020, while BS4 changed into a university in 2023. This study reveals that the elasticity of student demand for BS1, BS2, BS3, and BS4 is in the “inelastic” category with average scores of: 3.97; 3.95; 3.52; and 3.50, respectively.

This study reveals a phenomenon of saturated demand in higher education institutions. BS3 and BS4 are two newly established universities, previously in the form of colleges. The results of the study show that the coefficient of elasticity of demand for these two universities is almost the same, respectively 3.52 and 3.50



(inelastic in the lower limit). The data in table 3 reveals that there are 5 indicators that form the elasticity of demand that are in the "moderate" category, namely indicators: A (private universities do not have equivalent substitutes), B (urgency of study at the targeted private university), C (willingness to pay tuition fees determined by private universities), E (loyalty to private universities as the main choice), and G (uniqueness and excellence of private universities). This shows that students view the private universities where they are studying as not the main choice because they are considered not to have strong uniqueness and excellence. Students are prone to moving to other private universities, or resigning as students. Students also view that the amount of tuition fees set by private universities will be greatly considered in determining private universities as a place of study. Private university managers in this group are challenged to build uniqueness and strong advantages, need to continue to improve their positive image; so that public trust will continue to increase. Student interest in studying at these two universities is in the "high" category, although it is at the lower limit score; each with an interest score of 3.59 and 3.61.

In BS3 and BS4, several elasticity indicators are seen that are in the "moderate" category. There are 5 indicators that are in the "moderate" category, which include the indicators: private universities do not have equivalent substitutes, the urgency of studying at the private university in question, willingness to pay the tuition fees determined by the private university, loyalty to private universities as the main choice, and the uniqueness and advantages of private universities. Thus, these five indicators describe 5 main aspects that have the potential to reduce public trust in the institution. In other words, both BS3 and BS4 have not become the main choice of the community as a place to study.

Meanwhile, for the two higher education institutions that were previously converted into universities, namely BS1 and BS2, they have stronger demand elasticity (inelastic). There are 7 indicators that form the elasticity of demand that are in the "inelastic" category. Even for indicator F (accessible financing facilities, such as various financing schemes and scholarship facilities) it is a factor that is perceived very positively by students, thus forming the elasticity of student demand for these two universities to be stronger. This illustrates that these two private universities provide payment service facilities that are highly considered by students as a basis for determining their choice to study at BS1 and BS2. While for the other 7 indicators in the "inelastic" category. This illustrates the strong bargaining power of BS1 and BS2, which makes these two private universities considered by students as a place to study. Student interest in studying at these two universities is in the "high" category, with interest scores of 4.01 and 4.05.

This study reveals that the bargaining power of private universities with low demand elasticity coefficients needs to be continuously strengthened. Private universities in this category are still vulnerable when facing external challenges, for example with the presence of similar private universities that offer educational services with cheaper tuition fees. Although respondents have decided to study at private universities, they still believe that the existence of private universities can be replaced by other universities, the urgency of studying at private universities is not yet strong, the amount of tuition fees is still questionable, loyalty to continue studying at private universities is not yet strong, and the uniqueness and advantages of private universities are considered not yet strong. The high cost of education is a consideration for students to postpone the decision to study at private universities. Private universities in this group still face the problem of public image as superior private universities that must continue to be improved.

The results of this study are in line with the recommendations of Weber (2003), Yarmohammadian (2004) and Sa (2014) who emphasized the importance for university managers to continue to improve the quality of educational services to the community. Private university managers with elastic demand characteristics are challenged to continue to strengthen the quality of services and the quality of graduates. Improving the quality of academic services in universities will greatly affect the quality of graduates. Policies on improving the quality of educational services and the quality of graduates have currently been considered in many universities around the world. In a world that is constantly changing and increasingly creating uncertainty, all universities must adapt to the needs of the community (Yarmohammadian, Mozaffary, & Esfahani, 2011).

The results of this study are also in line with the recommendations of Yarmohammadian et al. (2011) which emphasizes the importance for PT managers to identify their weaknesses and strengths and the importance of accelerating the development of science and being responsible for educational needs at the national and global levels, as well as improving the quality of higher education development processes and programs in a sustainable manner. The results of this study are also in line with the recommendations of Sa (2014) and Vykydal, Foltá, & Nenadál (2020) which emphasize the importance for PT managers to continue to make changes and improve the quality of education services in order to win the competition.

Previous studies conducted by Dwenger, Storck, & Wrohlich (2011) reminded that the amount of education costs that are perceived as not equivalent to the quality of higher education will trigger students to move elsewhere. In this regard, it is recommended that higher education managers continue to strengthen the quality assurance of education in each higher education institution. With strong quality assurance, it is hoped that a culture of quality will grow so that the public image of higher education can continue to be strengthened.

## IV. CONCLUSIONS AND SUGGESTIONS

### 1. Conclusions

The study found various new variables that affect the nature of the elasticity of student demand for private university, while also answering various research questions, namely:

First, the elasticity of student demand for 4 private universities accredited "Excellent" is in the "very inelastic" category. Private universities accredited superior are perceived by students as private universities that are irreplaceable and have uniqueness and excellence so that the amount of tuition fees set is not the main consideration by students in determining their choice of study location. The amount of tuition fees paid by students is considered equivalent to the quality of services provided by "excellent" private universities. Students are of the view that studying at a private university accredited "excellent" is considered to have a very high urgency value.

Second, the elasticity of student demand for 4 private universities accredited "Good" and "Very Good" is in the "inelastic" category. Private universities in this group are still vulnerable to being replaced by similar private universities, especially related to the amount of tuition fees charged to students. This type of private college is perceived by students as not having very strong uniqueness and excellence, so it is necessary to continue to improve the quality of service and positive image in the community.

Third, Student interest in studying at a private college accredited as "superior" is in the "very high" category. Meanwhile, student interest in studying at a private college accredited as "good" and "very good" is in the "high" category. The status of excellence of a private college greatly determines the level of student interest in studying at that private college.

Fourth, there are 8 indicators that form elasticity that correlate with students' interest in studying at private universities, namely: (a) students' perceptions about the existence of other PTS that are equivalent to the private university where they are studying, (b) students' views on the urgency of studying at the targeted private university, (c) students' willingness to pay the tuition fees set by the private university, (d) students' views on the popularity of the targeted private university, (e) students' loyalty to the targeted private university, (f) financing facilities that can be accessed by students, such as access to scholarships, (g) students' perceptions about the uniqueness and excellence of the targeted private university, and (h) students' views on whether the tuition fees they pay are considered equivalent to the quality of the private university's services. There are 3 indicators that form elasticity that correlate very strongly with students' interest in studying at private universities, namely: students' perceptions that the targeted private university does not have an equivalent substitute, the popularity of the private university, and the uniqueness and excellence of the private university. This shows that the uniqueness, excellence, and popularity of a university are the main variables that increase students' interest in studying at private universities.

### 2. Suggestions

Based on the conclusions of this study, several suggestions are proposed as follows:

First, every manager of a private university needs to routinely evaluate the elasticity of student demand for their institution. The results of the evaluation of the elasticity of demand for private universities can be used as a basis for making policies to improve the quality and promotion strategies of the institution to prospective students.

Second, for private universities that already have very strong advantages, they need to continue to improve the quality of their services because they are supported by adequate funding sources. This is very possible because they have the flexibility to determine the education costs that will be charged to prospective students.

Third, for private universities that do not yet have very strong advantages, careful consideration is needed in determining the amount of education costs. This is due to the assumption of students that the existence of private universities in this group is still very vulnerable to being replaced by other similar private universities, especially those that set the amount of education costs with a more flexible financing scheme.

Fourth, the assessment of the excellence of a university can be done by measuring the elasticity of demand for private universities. There are as many as 8 indicators that can be used to measure the elasticity of demand for private universities, as found in this study. Therefore, further studies are needed to test how consistent these 8 indicators are as factors forming the elasticity of demand for private universities. Fifth, other researchers need to conduct studies related to the elasticity of demand for universities. For private university managers, the results of this study can be used as a reference to improve public image, so that the existence of private universities will be the main alternative for those who are not accepted at private universities.

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