

# Determinants of Willingness-to-Pay for Tuition Fee of a Private Technical Higher Education Institution in Indonesia

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**Abstract:** Tuition fee is a critical decision variable for families who plan to send their children for college. For any purchase decision, there is a difference between the ability to pay (ATP) and the willingness to pay (WTP). While ATP depends on income, families' assets, and other information related to families' wealth, WTP is determined by how families' perceived the value proposition provided. In Indonesia, no studies has been published in identifying factors that affect the WTP for tuition of higher education institution. Such information, however, is essential for higher institution, particularly private institutions, to pursue a pricing strategy that is tailored to the target students. This study is aimed to measure the WTP and to identify factors affecting the WTP of prospective students' parents for tuition fee of a private technical higher education institution in Indonesia (PT X). This study was conducted between January and March 2018. Using questionnaire that was distributed in several districts and cities that became target area of PT X, 215 respondents who have the potential to send their children to PT X have been queried about their WTP and factors that affect the WTP. The median of WTP found in this study is Rp 5.000.000,-. Over seven hypothetical variables, this study found that family income is the only significant variable that affects the WTP. The outcome of this study will be used for better formulate both pricing strategy and financial planning for governing bodies of PT X.

## 1 INTRODUCTION

Education is one of the important things for the society. One of the education that can be taken is higher education. Based on Law No. 12 of 2012 about higher education, higher education is the level of education after secondary education that includes diploma and programs, undergraduate programs, master programs, and professional programs, as well as specialist programs, organized by universities based on Indonesian culture.

For students who are still in third grade of Senior High School in Indonesia, universities become a dilemma because the will be dealing with various considerations that must be considered. One of the things to consider is the tuition fee of higher education in college. The tuition fee is important for the continuity of the education cycle in universities.

Talking about the tuition fee for higher education in college, there are two things that cannot be separated and have an impact on tuition fee in institution, namely ability to pay (ATP) and willingness to pay (WTP). Ability to pay is defined as

the actual allocation or distribution of its revenue to purchase services that limit the ability to purchase, such as services (Joewono, 2009).

Willingness to pay is the highest price of a product where a person is willing to pay for goods or services (Bredert, et al., 2006). According to Pantari and Saptutyingsih (2014), the willingness to pay is closely related to income level, a person with high income is likely to have a higher willingness to pay than a person who have a lower income.

ATP is the ability of a person to pay for a product (good or service) based on income earned. From various studies (Kurz, et al., 2008), ATP is affected by income, assets, family size, tuition fee of college and other important information obtained from the Free Application for Federal Student Aid.

Within the geographical context of Indonesia, there are still few studies conducted in measuring the willingness to pay of universities and their determinants. Therefore, this study is important for PT X to understand the WTP of its prospective students so that its governing body can set appropriate strategies in determining the operational policies. The

purpose of the study is to determine the tuition fee for education in PT X by prospective students, to identify factors affecting the prospective student's WTP to PT X, and to find out the recommendation of the strategy of determining the tuition fee for decision maker in PT X.

## 2 CONTEXT OF THE STUDY OBJECT

PT X was established in 2001 aimed at providing access to quality education in remote areas for outstanding students with economically disadvantaged backgrounds, particularly those from surrounding areas where PT X is located. PT X was established with the vision of being a center of excellence that plays a role in harnessing technology for the development of the nation. Since its establishment, the number of students in PT X has increased significantly from year to year (Fig. 1).

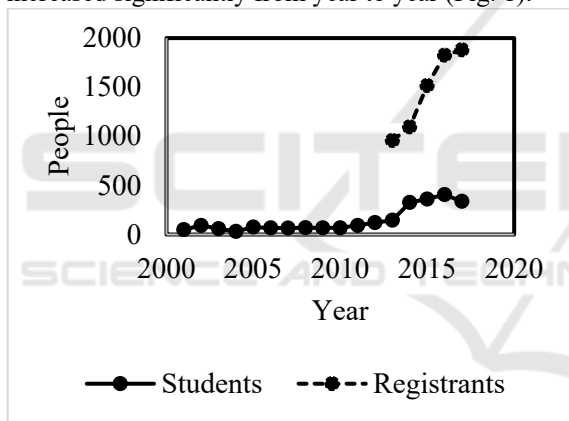


Figure 1: The Number of Students and Registrants in PT X.

From the graph above, it can be seen that the competition level of senior high school students registering to PT X increases year by year. PT X is committed to improving facilities and services that support its academic and operational activities. This commitment drives interest of prospective students to enroll in PT X.

## 3 METHODOLOGY

In conducting this study, the following methodology is employed (Fig. 2).

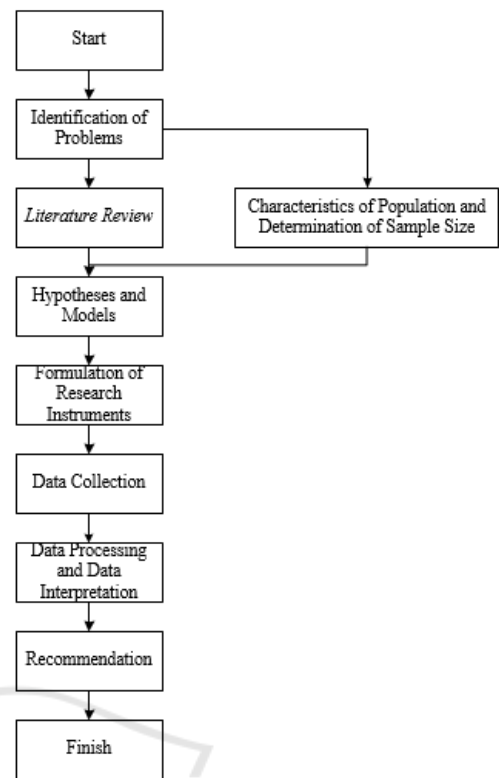


Figure 2: Methodology of Study.

This study begins by conducting a literature review of ATP and WTP to understand to which extend the context of the study has been discussed elsewhere. Several literatures have been reviewed and the result reveals that:

1. There is no study of WTP for level in Indonesia has been conducted, but there is a study of WTP for middle school in Malang (Rosyadi, et al., 2016). The determinants are household income, the number of children, parental education and access toward school.
2. There are several studies of WTP for higher education in other places in the world (Hu & Hossler, 2000; Li & Min, 2001; Blomquist, et al., 2009; Ke, 2012; Bruckmeier, et al., 2014). The common determinants for WTP found by those studies are:
  - Educational background and income of parents.
  - Family education background, students with good academic preparation, and financial factors
  - Value proposition of the college.
  - The estimated tuition fee and the number of students willing to pay.

After conducting the literature study, analysis the characteristic of the population also conducted in parallel. The intended population is the parents of prospective students who have an interest to continue studying in PT X. From the analysis of population, the facts about the characteristic and attributes of registrant PT X is obtained, which includes the characteristic demographics and preferences.

Based on the information from literature review and population analysis, modeling is done that connects independent and dependent variables. This research uses multiple regression method to estimate the influence of independent variable to dependent variable. Here is the estimation model used to determine the value of the independent variables that affect the dependent variable (Eq. 1).

$$WTP = \beta_0 + \beta_1 X_1, \dots, \beta_n X_n + e \quad (1)$$

WTP = Willingness to pay

$\beta$  = Intercept

$X_1 \dots X_n$  = Factors affecting WTP

$X_1$  = Family income level

$X_2$  = Parent's age

$X_3$  = Parent's education level

$X_4$  = Geographical location of domicile

$X_5$  = Number of family members

$X_6$  = Perception on PT X's value proposition

$X_7$  = Perception of PT X's image

$X_8$  = Ability-to-Pay

e = Standar error

## 4 DATA AND DATA ANALYSIS

### 4.1 Characteristics of Sample

Data collection has been conducted in the period of January until March 2018. A total of 215 respondents have been queried through a series of interviews and questionnaires. These respondents are parents who have children who are still in high school and have interest to enroll in PT X. Domicile of these respondents spread over several districts and cities that became the main target of prospective students of PT X in the last 10 years. These respondents have earnings in the range between Rp 2,000,000.- and Rp 10,000,000.- per month. Age of respondents are in the range of 30 to 50 year olds with varied professions such as farmers, civil servants, traders and private employees. The educational background of the respondents vary from low education (elementary and junior high school) to higher education (Diploma / S1 / S2 / S3).

### 4.2 Willingness-to-Pay

From the results of data analysis, it is obtained that the range of WTP falls between Rp 1,000,000.- and Rp 10,000,000.- per semester with the mode value of Rp 5,000,000.- per semester and mean value of Rp 4,500,000.- per semester. Less than half of the sample surveyed are willing to pay tuition fee of more than Rp 5,000,000.- or more per semester. However, about 4% of the sample said they are willing to pay tuition fee for Rp 10,000,000.- per semester (Fig. 3).

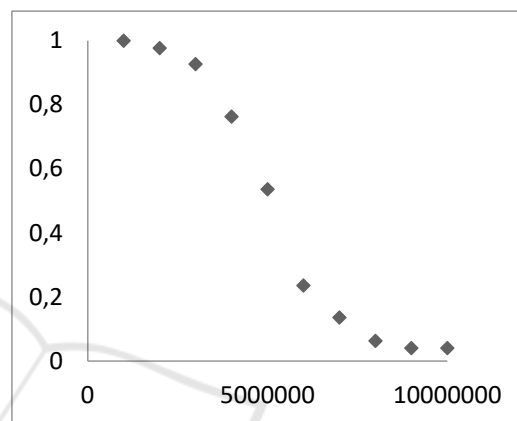


Figure 3: The Willingness-to-Pay of Tuition Fee in PT X.

### 4.3 Correlation Analysis between Independent Variables and WTP

The correlation between independent variables with WTP has been tested by multiple linear regression method, that is a method of data analysis by using assumption of OLS (Ordinary Least Square). The correlation is tested on the significant level of alpha = 0.05. The result of statistic test to the model is shown in Table 1.

Table 1: Correlation between Independent Variables and WTP.

Variable	Coefficients	P-Value
Intercept	4,685,765	0.170412
Income Level (X1)	Positive	0.013333
Age (X2)	Negative	0.753862
Educational Level (X3)	Negative	0.165371
Location of domicile (X4)	Positive	0.576056
Number of family members (X5)	Negative	0.47505
Perceptions of PT X's value proposition (X6)	Negative	0.640593
Perception of PT X's image (X7)	Positive	0.501938
Ability to Pay (X8)	Positive	0.366728

Table 1 shows that the only variable that significantly affects WTP ( $p\text{-value} \leq \alpha$ ) is the income level variable (X1). This variable shows a positive correlation with WTP which means the higher the income level of the respondent the higher the willingness to pay. Meanwhile, other variables did not show significant correlation.

## 5 CONCLUSIONS

Based on the results obtained, it can be concluded that the independent variable affecting the WTP of tuition fee in PT X is the income level. The per capita income level around of PT X is categorized into two categories, there are high income and low income. Thus, if PT X wants to increase tuition fee, but the per capita income around the PT X is a low-income category, then PT X requires a source of subsidies derived from the government and sponsors, such as college operational support. If PT X still wants to increase tuition fee, but per capita income is low income category, then PT X needs to do promotion outside the region of PT X which has high income and high willingness to pay. However, it should be noted that, if this scenario is implemented then the risk is one of the missions of PT X, which is to provide access to quality education in remote areas for outstanding students with economically disadvantaged backgrounds, especially those from surrounding areas where PT X is located, become unfulfilled. In addition, other things that can be done is to establish cooperation with local governments in making scholarship bonding services with higher tuition fee value.

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