

Research Article

Analysis of Factors Influencing The Decision to Choose The Department in The Natural Science Campus

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Abstract: Education is very important thing for everyone. Parents tend to choose high-quality school or campus, to ensure their children's education. One thing which determined parents to choose the campus for their children is the prospect for work. Faculty of Natural Science UII have high-quality departments. Some of them already had the highest accreditation level and even Internationally accredited. But some people in Indonesia often asked about what their children will become after graduating from the faculty of natural science or what is a suitable job for their children. The department of that faculty often not become the first choice when choosing campus. Therefore, the research to study factors that determine people to choose their college department is needed. In this paper, the study is focused on factors which influence people's decision score to choose the department in the faculty of natural science. We are using correlation and regression analysis. The results show that factors that influence people's decisions are different between one department with another. Those factors consist of: product, promotion, and price or cost.

Keywords: department, natural science, correlation, regression

Introduction

The development of education and science, nowadays, is vast and consists of a wide area. Many theories that in the past yet to be proven, nowadays already proven. That development not only in theoretical things, but also in its application in daily life. Therefore some universities updated their curriculums to adapt to the development of the science. The impact of that development also influenced the change of the curriculums in the natural science field. Therefore, some universities already had a good quality faculty about natural science. Some of the department under that faculty already had the highest accreditation level, even Internationally accredited. Despite that fact, departments of the faculty of natural science often not become number one for peoples when choosing their destination in the college. Many factors that influence people in choosing their department and their satisfaction [1] [2]. Nowadays, educational institutions must attract candidates of the student because the candidates have many available options to choose where they will attend a college. That problem should seriously studied [3]. In this study, we will measure the decision's score of the candidates and correlate them with the factors that may influence it. It was is that one of the factors which influence the decision is price [4]. Also, it is mentioned that the student's satisfaction based on university factors, such as its service, curriculum, price, and the product that offered by the department [5] [6]. Therefore, we summarize and conclude the factors we will discuss are: Product, Place, and Price. We include the Place factor because the campus climate and condition had a strong impact on the student's satisfaction level [7]. We will also include the promotion factor to evaluate whether the promotion already influences the decision significantly to choose that department or not. The samples of this study are the students in the faculty of science which spread in five departments. Therefore We consider the year factor. The year factor is the time when student candidates decide to choose one of the departments in the faculty of science. We will measure their decision score to measure their satisfaction with what their department offered.

Generally, the aim of this research is to know the factors influencing the student candidates decision to choose the department in Natural Science campus. The results should be considered important for all science departments. By knowing the factors, the evaluation about student candidates recruitment should be done. The evaluation should be focused on the factors included in this research, especially about promotion factors. The quality of the learning system and the service are also important to be evaluated.

Research Methodology

This study using primary data which is collected using a questionnaire. The questionnaire is not about “yes” or “no” question because that type of question is not thoroughly reflect upon the student’s satisfaction level [8]. The population of this study is all of the students in the faculty of natural science. We divided the sample into five groups, based on the department available on the faculty. We collected 921 observations and measured their decision score about ‘why they chose that department?’. We also measured from their point of view about the promotion, product, place, and price. The scores range is between 1 to 4, which 1 describe Bad and 4 describe Very Good. The first step of this research is to estimate the correlation between the decision score and the factors, respectively. The correlations are estimated using standard Pearson Correlation (eq 1).

$$C = \frac{N \sum AB - (\sum A)(\sum B)}{\sqrt{\{N \sum A^2 - (\sum A)^2\}\{N \sum B^2 - (\sum B)^2\}}} \tag{1}$$

From the equation (1), A and B denote the variables. In this research, we set that variable A is the decision score, and variable B consist of the factors. We will measure the correlation to conduct the hypothesis whether the decision score and the factors have a high correlation univariately or not. To analyze whether the factors, together, influence the decision, we will use the linear regression analysis. The choosing of the regression analysis is used to discuss about the correlation between self-efficacy and college student satisfaction [9].

$$A = Bb + E \tag{2}$$

A is dependent variable, which is in this research denote as the decision score. B and b are the covariate matrixe which consist of the factors and the regression coefficients, respectively. E is the vector of errors [10]. We will estimate b using OLS method.

$$b = (B^T B)^{-1} B^T A \tag{3}$$

Based on the result of the regression, we will determine whether the factors influence the decision or not. The flow-chart in this research is pictured in Figure 1.

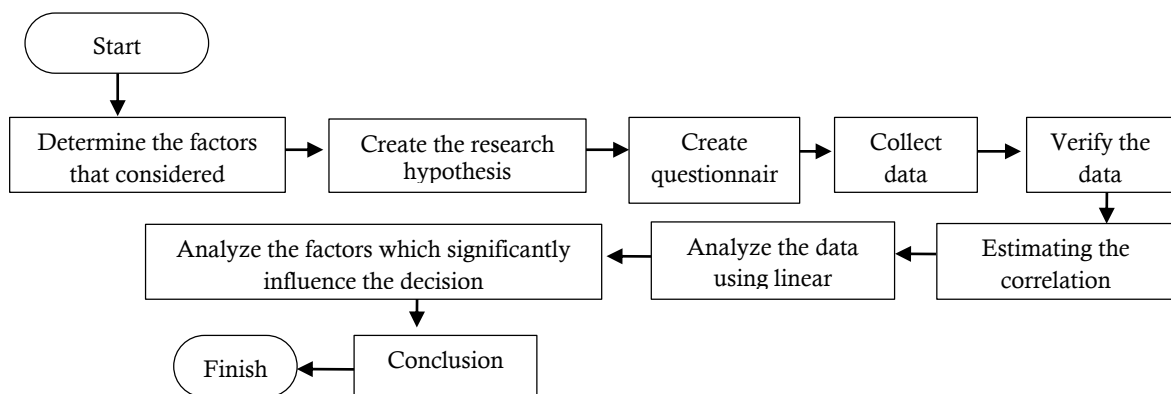


Figure 1. The flow-chart of the research

Results and Discussion

First, we will estimate the correlation between the factors and the decision score using Pearson's correlation. The results are shown in Table 1.

Table 1. Correlation Estimation

Factors	Promotion	Product	Place	Price
Correlation	0.21187	0.17951	0.156045	0.0355

All of the correlation coefficients are very low. Despite that fact, the highest correlation with the decision score is the Promotion factor and the lowest one is Price. Then we can make a hypothesis that price is the most unrelated factor with the decision score and promotion is the most related factor. That hypothesis will be the basis of the next step. We will analyze using the Linear Regression analysis. We will include the year when the students enter into campus. Also, we will divide the analysis based on the department. The results are shown in Table 2.

Table 2. The Results of The Linear Regression

Department	Year Enter	Promotion	Product	Place	Price
Statistics	×	√ 7.752	×	×	×
Chemistry	×	√ 7.754	√ 12.126	×	×
Pharmacy	×	√ 7.003	√ 5.862	×	×
Chemical Analyst	√ -	×	√ 6.994	×	×
Chemistry Educations	×	×	√ 14.872	×	√ -
	2.685				8.539

Table 2. consist of the result, whether the factors significant or not in influencing the decision score. For the factors that significantly influence, are marked with the checklist symbol. Otherwise are marked with the x sign. The most significant factor which influenced the students to choose the department of statistics is The Promotion. In the chemistry department, The Promotion and The Product are the most significant factors. Same goes with the department of pharmacy. The Product factor is significantly influencing the decision's score on almost every department, except for statistics. The place become the most insignificant factor in every department. The main discussion should be focused on The Year Enter on Chemical Analysis department. It has a minus coefficient. In other words, year after year the decision's score to choose the Chemical Analysis department is decreasing. In Chemistry Education, The Price factor become an issue to discuss, because it also has both minus coefficient and significantly influence the decision's score. In other words, the price may be a little bit too high for the Chemistry Education student, aside that we ignore the background of the students included in this research.

Conclusion

Based on the analysis, we can conclude that the factors influencing the decision's score to choose the departments in Natural Science Faculty mostly the Promotion and The Product. But on Chemical Analysis department, the younger the students, the less their decision's score. Also on Chemistry Education, we can

say that the price factor significantly influenced the decrease of the decision's score. The Promotion factor in both departments is not significant. Therefore the promotion effort should be enhanced.

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