# PREFERENCES PROSPECTIVE STUDENTS IN CHOOSING THE STUDY PROGRAM
## (University X In Bandar Lampung)

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**ABSTRACT -** *The existence of a material consideration or reference in taking decisions be important for management; where one of them is to bridge between supply manufacturers to match consumer demand. Many factors behind a prospective students in choosing courses be quite important for the management of the University in preparing the draft strategy right. Factors election so many courses that need to be grouped, in addition to ease, as well as to structuring elements such varied. AHP, or the Analytical Hierarchy Process Model is a model that can be used to provide structuring a good direction, so that the complexity of factors will become more structured and taken into consideration in the decision.*

**keywords**: *Consumer behavior, preferences, Analytical Hierarchy Process, Purchase Decision Making, Management Decision Making*

## 1. INTRODUCTION

The development of technology, business and market characteristics change, making a lot of factors for consumers in making purchasing decisions. Competition in various ways, making the business strives to provide all that is needed by the consumer. Sometimes the availability requirements for a product to confuse consumers and producers in making decisions. As with other businesses, universities also have the concept and strategy of its own if you want to survive and thrive, one of which is trying to find models or patterns of thinking of consumers in choosing the products offered, so that the gap in supply is not too far from the request. One of which can be observed by the College is to know the preferences of prospective customers when deciding to purchase. Universities which have a number of faculty even study program should define the preferences of prospective students towards product offerings, so that some of the concepts and strategies can be appropriate. Consumer preference is consumer behavior which has an output or output is action, so that when the preference has been formed in the minds of potential customers, then the election will be a product of action will occur. Consumers in the selection of a product, is influenced by several factors, including cultural, social, personal and psychological (Kotler, 2011). Observing the phenomenon of the number of prospective students and interest in the election program of study at the University of X, Bandar Lampung; thus required a study to define the reasons prospective students in deciding to enter or choose one of the courses. This study using Cochran Q test and Analytical Hierarchy Process (AHP) to determine what factors are a priority in the selection of courses at the University of X, Bandar Lampung.

## 2. MATERIALS AND METHOD

### 2.1 Consumer Preferences

Consumer preferences are part of the consumer behavior behind the actions in decision making. According Sunyoto (2012), consumer behavior can be defined as the activities of individuals directly involved in the obtaining and use of goods or services, including the decision-making process of preparation and determination of the activity.

Consumer preferences according to Porteus (1977), is part of the decision-making of individual components, with the components in it, among others, perceptions, attitudes, values and tendencies. Porteus also explained that the study of individual behavior can be used to assess the desire of users to an object to be planned, so as to see the preference it can provide input to the form of participation in the planning process

### 2.2 Cochran Q Test

Cochran Q test was used to obtain the similarity of the respondents about the factors considered in determining the choice of purchase.

Cochran test will be carried out continuously until the value obtained $\chi count < \chi table$, if not then testing is done continuously by removing the attributes that have the answers "yes" at least.

Step in determining factor with the Cochran Q test:

a. Determine the assumptions

In determining assumptions, is obtained based on the factors raised by the respondents as a reason to choice of a product. The reactions were expressed by one of the "success" or 0 for "failed". The results of these observations can be exhibited in a table kotingensi with Xij which states 0 or 1.

b. Determine hypotheses

c. Determining the real level (α)

d. Statistical calculation formula

$$Q = \frac{\left(c(c-1)\sum_{j=1}^{c}C_j^2\right)-((c-1)N^2)}{cN-\sum_{i=1}^{r}R_i^2}$$

Cochran Q test showed that with increasing r the distribution Q approaching kadrat chi distribution with degrees of freedom c - 1, then the critical values for Cochran Q test can be obtained using the table values for the degrees of freedom chi kadrat c - 1 ($\chi2$ table = $\chi2$ 1-$\alpha$; c-1). Reject H0, if Q is greater than or equal to $\chi2$ 1-$\alpha$; c-1 (Sugiyono, 2001).

**2.3 Sampling**

Due to population size is unknown, and sampling will be carried out at the time of prospective students to register, then the calculation of the number of samples by using Bernoulli calculation on a significance level of 10% and $\alpha$ = 0.1 then obtained a total sample of 79 people. Data collection techniques using accidental sampling method (Sugiyono, 2001)

**2.4 Analytical Hierarchy Process (AHP)**

Analytical Hierarchy Process (AHP) is a decision support models developed by Thomas L. Saaty. According to Saaty (1993), the hierarchy is defined as a representation of a complex problem in a multi-level structure, where the first level is the goal, which is followed by the level of factors, criteria, sub-criteria, and so on down to the last level of the alternatives. By hierarchy, a complex problem can be decomposed into their groups are then arranged into a form of hierarchy so that the problem would appear more structured and systematic.

AHP is often used as a method of solving problems compared with other methods for several reasons, namely:

a. The structure of the hierarchy, as a consequence of the chosen criteria, sub-criteria until the deepest,

b. Taking into account the tolerance limit of validity until the inconsistency of various criteria and alternatives are selected by decision makers,

c. Taking into account the durability of the sensitivity analysis output decision.

Besides the reasons mentioned above, AHP also has some advantages in systems analysis, namely:

a. Unity: make extensive problems and unstructured become a model that is flexible and easy to understand,

b. Complexity: solving complex problems through a system approach and the integration of deductively,

c. Inter Dependent: can be used on the system elements mutually bebsa and does not require a linear relationship,

d. Hierarchy Structuring: represents the natural thoughts that tend to classify elements of the system to the different levels of each level contains similar elements,

e. Measurement: providing measurement scale and the method to get priority,

f. Consistency: consider logical consistency in the assessment used to determine the priority,

g. Synthesis: leads to an overall estimate of how he wanted each alternative

h. Trade Off: mempertimbangkang relative priority of the factors in the system, so that people are able to choose the best alternative based on their goals

i. Judgement and Consensus: it does not require the existence of a consensus, but combining the results of different assessment,

j. Process Repetition: the filter is able to make the definition of a problem and develop assessment and understanding them through the process of repetition.

But as proper analysis system, AHP also has the disadvantage of:

a. AHP model dependence on its main input. The main input in the form of an expert perception that in the case involving subjectivity.

b. Only using mathematical methods without any statistical testing so no confidence limits of the truth of the model is formed.

According to Suryadi, et.al (1998) there are several steps in conducting AHP, namely;

a. Defining the problem and determine the desired solution.

b. Make a hierarchical structure that begins with the main goal.

c. Make a pairwise comparison matrix that describes the elements of the relative contribution or influence of each element of the destination or the criteria level above it.

d. Perform defining pairwise comparisons in order to obtain the number of votes as much entirely nx [(n-1) / 2] pieces, where n is the number of elements being compared

e. Calculate the eigenvalues and test consistency.

f. Repeat steps 3, 4 and 5 for all levels of the hierarchy.

g. Calculating the eigenvectors of each pairwise comparison matrices.

h. Check the consistency of the hierarchy.

## 3. RESULT/ DISCUSSION

**3.1 Cochran Q Test: Determination of the whole factor**

From the results respondensi to 79 students, obtained the 27 items that factor into consideration prospective students in choosing a college (Table 3.1).

**Table 1: Factors in selecting courses**

| No | Factors |
|----|---------|
| 1 | Accreditation |
| 2 | Pass Speed |
| 3 | Tuition fee |
| 4 | Other Costs |
| 5 | Join the Friends |
| 6 | In accordance with the Department of SMA / SMK |
| 7 | Own's dream |
| 8 | Parents's dream |
| 9 | Job Prospects |
| 10 | Reputation of Studies |
| 11 | Reputationof Students |
| 12 | Reputation of Lecturer |
| 13 | Number of Cooperation in Studies |
| 14 | Reputation of Graduates |
| 15 | Recommendations of Others |
| 16 | Activities Program |
| 17 | Competition when the entrance test |
| 18 | In accordance with interests and talents |
| 19 | Availability of information about the Program |
| 20 | Prestige or pride when entering the course |
| 21 | Time Lecturing |
| 22 | Admissions Procedure |
| 23 | Building Program |
| 24 | Laboratory Building |
| 25 | There is a friend in the study program objectives |
| 26 | There is a sibling in the study program objectives |
| 27 | Availability of Scholarships |

### 3.2 Cochran Q Test: Phase IV, retesting

In accordance with the nature of the Cochran Q test models, then made a number of attempts to equate making respondensi with consideration in the form factor of the selection factors consistency study program, and after going through 4 times of testing and found 17 factors in the selection of study programs (Table 2).

**Table.2: Repetition factor in Level 4**

| No | Factors |
|----|---------|
| 1 | Accreditation |
| 2 | Pass Speed |
| 3 | Tuition fee |
| 4 | In accordance with the Department of SMA / SMK |
| 5 | Own's dream |
| 6 | Job Prospects |
| 7 | Recommendations of Others |
| 8 | There is a friend in the study program objectives |
| 9 | There is a sibling in the study program objectives |
| 10 | Join the Friends |
| 11 | Parents's dream |
| 12 | Reputation of Study Program |
| 13 | Number of Cooperation in Study Program |
| 14 | Activities Study Program |
| 15 | Availability of Scholarships |
| 16 | Competition when the entrance test |
| 17 | Other Costs |

### 3.3 Cochran Q Test: Determination of Factors and Sub-Factors

To make the structure factor in table 2 into a hierarchy, then make into 4 factors with 17 sub factors therein so as to provide an overview of the main factors and sub-factors in them (Table 3.3)

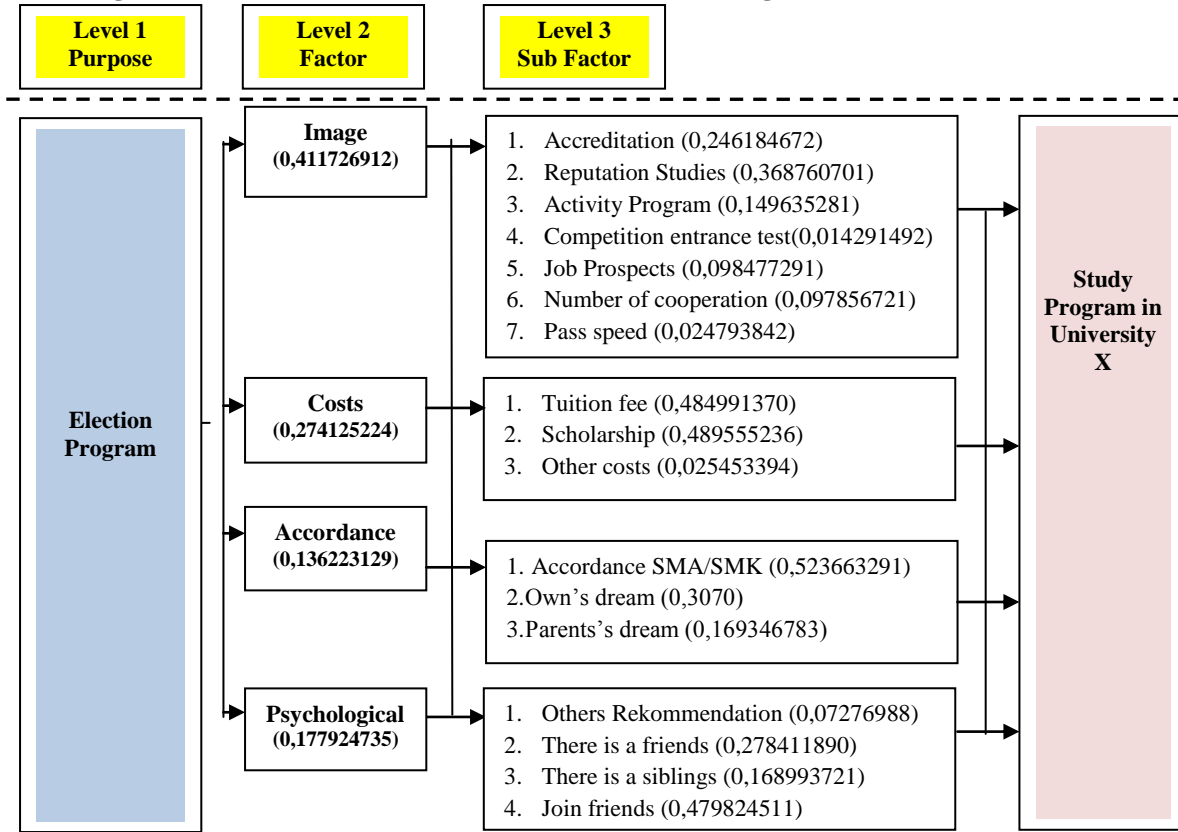**Table 3: Factors and Sub-Factors Selection Program**

| No | Faktor | Sub Faktor |
|----|--------|-----------|
| 1 | IMAGE | 1. Accreditation<br>2. Reputation Studies<br>3. Activity Program<br>4. Competition entrance test<br>5. Job Prospects<br>6. The number of co-operation in the Program<br>7. Pass Speed |
| 2 | COSTS | 1. Tuition fee<br>2. Scholarship<br>3. Other costs |
| 3 | ACCORDANCE | 1. In accordance with the Department of SMA / SMK<br>2. Own's dream<br>3. Parents' dream |
| 4 | PSYCHOLOGICAL | 1. Recommendations of Others<br>2. There is a friend in the study program objectives<br>3. There is a sibling in the study program objectives<br>4. Join the friends |

### 3.4 Analytical Hierarchy Process (AHP)

Measures undertaken in AHP are: geometric mean calculation, priority weighting calculation, calculation consistency, compiling a priority weighting all factors and sub factors and calculate the ratio of consistency at each level of hierarchy that can be described as follows:

**Pig. 1: Struktur Hirarki hearts Pembobotan Pemilihan Program Studi di Universitas X**

| Level 1 Purpose | Level 2 Factor | Level 3 Sub Factor |
|---|---|---|

**Election Program**

**Image (0,411726912)**
1. Accreditation (0,246184672)
2. Reputation Studies (0,368760701)
3. Activity Program (0,149635281)
4. Competition entrance test(0,014291492)
5. Job Prospects (0,098477291)
6. Number of cooperation (0,097856721)
7. Pass speed (0,024793842)

**Costs (0,274125224)**
1. Tuition fee (0,484991370)
2. Scholarship (0,489555236)
3. Other costs (0,025453394)

**Accordance (0,136223129)**
1. Accordance SMA/SMK (0,523663291)
2. Own's dream (0,3070)
3. Parents's dream (0,169346783)

**Psychological (0,177924735)**
1. Others Rekommendation (0,07276988)
2. There is a friends (0,278411890)
3. There is a siblings (0,168993721)
4. Join friends (0,479824511)

**Study Program in University X**

From the above results can be seen AHP priority structures at every level with the following description:

a. Level 1 (factors in choosing a course of study)

Of the 27 items on the result of factors respondence, pursed to 17 items and return factors grouped based on similar assumptions to only four factors. All four of these factors is the image, costs, and psychological suitability.

b. Level 2 (factor in choosing a course of study)

From the results obtained AHP priority consideration for choosing a course at University X Bandar Lampung, in 4 major factor in the order (1) image, (2) costs, (3) psychological and (4) suitability.

c. Level 3 (sub-factor of a factor in choosing a course of study)

In the image factor, sub factor has priority (1) the reputation of the study program, (2) accreditation, (3) the activity of the study program, (4) employment prospects, (5) the amount of co-operation, (6) the speed of pass and (7) the current competition entrance test.

On the cost factor, sub factor has priority (1) scholarship, (2) tuition fee and (3) other costs.

On the psychological factor, sub factor has priority (1) joined friends, (2) there has been a friend studying in the study program goals, (3) there who had been studying in the study program objectives and (4) the recommendation of others.

While the suitability factor, sub factor has priority (1) according to the majors in SMA / SMK, (2) represents the ideals themselves, and (3) represents the ideals of their parents.

d. Level 4 (alternative priorities in choosing a course of study)

In this level is expected to discovery of alternatives factors and sub-factors were taken into consideration from prospective students in choosing courses. Where the AHP model above there are a few main alternative, by looking at the

dominance of the sub factors in the existing factors, namely:

1. The first priority in choosing a course of study on factors sub-image with a dominant factor in the reputation study program,
2. The top priority in selecting a course at factor cost by sub dominant factor in their scholarship offers,
3. The main priority in choosing a course of study on psychological factors with sub dominant factor in the follow friends to jointly choose a course of study,
4. There is a top priority in choosing a course of study in conformity with sub-factor dominant factor in conformity with a major course of study at the time of prospective students in the level of SMA / SMK.

The dominance of the sub factor actually not be the most important thing to be done by the university management, in an effort to determine the consideration of prospective students in choosing courses. This is more of an alternative by considering the greatest value in an effort to sort the items sub factor. Basically all sub factors can contribute (although small) in consideration of a prospective students in choosing a course at University X in Bandar Lampung.

## 5. CONCLUSION

From all the discussion above, it can be concluded that:

a. Priority factor in the decision of prospective students choose courses at University X, Bandar Lampung is:
   1. Factors of image of the courses
   2. The cost factor of the study program
   3. psychological factors
   4. Factors suitability of courses

b. Priority sub factor in taking decisions of prospective students choose courses at University X, Bandar Lampung is:
   1. Sub reputation factor courses that are included in the image factor of the study program
   2. Sub factor for the scholarship offers courses in cost factors.
   3. Sub factor in the selection of a friend follow a course on psychological factors

4. Sub conformity with a major factor when prospective students at SMA / SMK suitability factors.

So that when viewed from both these conclusions it is suggested at University X Bandar Lampung, in an attempt to generalize the interest and the number of students on existing courses, then:

1. Improve imaging study program with the effort to improve the reputation of the study program in accordance with the field and the expertise fields of study, so that prospective students will increase confidence,
2. Promoting the offering scholarships or the like by offering both the type and the amount and terms of interest and pride impact for prospective scholarship recipients,
3. To educate the students, that the choice of study program must be tailored to the interests, talents and abilities of each prospective students, to avoid compulsion and ultimately be a failure in reaching the future.

4. Maintaining compliance with current majors in SMA / SMK to prospective students, to give confidence that the level of knowledge acquired in school / vocational school will provide a lot of convenience to pass on higher education.

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