# FACTOR ANALYSIS OF STUDENT PERCEPTION ON UNIVERSITAS ADVENT INDONESIA AS FAVORITE HIGHER EDUCATION INSTITUTION

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## Abstract

This purpose of the study is to look on factors of in student perception on their reason why Universitas Advent Indonesia is their favorite higher education institution. By knowing these factors could help the stakeholder of the university in their plan. A set of the instrument of the questionnaire was acquired and distributed to 100 students respondent at Universitas Advent Indonesia (UNAI). Exploratory factor analysis was used to distinguish the underlying dimensions that drive student satisfaction. Factor analysis pertaining to analysis on dimensions of Favorite University. The results show that the KMO test is valued at 0.741 which is > 0.5; hence, the sample size is adequate for the analysis. On the other hand, the commonalities of **all the variables are exceeding** .4; consequently, **all the variables are useful in the model**. The results show that factors in the analysis of student satisfaction on academic courses at UNAI are that the factor of student perception on UNAI as their favorite higher education institution is Facility and Quality of Education.

**Keyword:** Factor Analysis, Favorite, Higher Education Institution

## Introduction

Education is one of the factors that can improve the quality of life of a society, improve their thinking and behavior together with it society can improve their lives to be better. With education, someone is expected to have the capital to support the work-life better and or open employment opportunities to improve their standard of living and the lives of others around them. In the world of education, there are very many places to study both universities and high schools, but each person has their own reasons for choosing where he will explore science. With the many factors that influence, the most common factors that occur in choosing an education place are the quality of education, location, facilities, there are also because of costs, promotions used. The role of the closest people in the promotion also has its own values such as the experience of parents, friends or other families. From these various factors, one can determine his favorite place of education for himself. By determining their favorite place study, one can assume that the person involved believe that they can improve the quality of their own life. The person itself also can be assumed to have goals that he or she can attain by attending his or her favorite university. The researcher also can study the reason behind this choice, since the choice can help any person in society to improve their thinking and

behavior as well to improve their lives to be better. This study used Universitas Advent Indonesia (UNAI) students as respondents and wanted to see why students at UNAI chose their favorite universities before they entered UNAI.

## Theoretical Foundation

The researcher gives a various opinion regarding study on student and the higher education institution involved. Bernouli, von Neumann, and Morgenstern around 300 years ago identified the various reason for customer decision. Yusoff et al (2013, Direkvand-Moghadam et al (2014) look at various customer satisfaction in a various institution. Other studies see satisfaction as the reason for customer decision making (Shirazi, 2017; Parahoo, 2013; Tahar et al, 2013; Khosravi, 2013), these studies look on student satisfaction and their decision. Therefore it can be seen that satisfaction is important for one decision-making process. Based on various literature, student decision making are found for various reasons. Umbach & Porter (2002) revealed that communication is one factor for student decision. Shirazi (2017) see satisfaction in academic in terms of quality of education gives the student the basis of their decision. Kuo (2010) claim that learning experience is one basis for student decision. Further, there are many studies regarding higher education institution and their student experience, satisfaction and decision making (Chua, 2004; Athanassopoulos et al, 2001, James, 2001; Deshields et al, 2005; Helgesen & Nesset, 2007).

## Methodology

A questionnaire was developed and will be distributed to students at one of the higher education institutions (HEI) at the South Asia Pacific Division of Higher Education Institutions namely Universitas Advent Indonesia (UNAI). There are around 100 sample of students respondent at UNAI and the results were tested and cleaned using KMO and Barlett test. The factor analysis method is used related to the analysis of the Student Perception on Universitas Advent Indonesia as Favorite Higher Education Institution. The following relevant outputs have been selected for discussion: Descriptive statistics, Communalities variables, total variances, and component matrices: non-rotated factor solutions, and component matrices rotated by varimax solutions are played. By applying factor analysis, this study will decide on the number of factors to be maintained and the total variance explained by these factors; this study can identify variables in each factor explained by these factors; this study can identify variables in each factor that is maintained in the final solution, based on the burden of the factors; this research can give a name for each factor that is maintained based on the nature of the variables included in it; this study can suggest a battery test to assess student perception on UNAI as favorite higher education institution.

## Result and Discussion

The results of the study provide answers to various research-related problems. This study uses statistical software to process relevant outputs that have been selected for discussion.

*Descriptive Statistic*

This study uses the mean and standard deviation (SD) to describe descriptively on the variables in this study. Table 1 shows the mean and SD for all variables in this study. The results showed that from the questions given, respondents indicated that they strongly disagreed or strongly agreed that they were satisfied with the choice of a favorite university based on respondents' satisfaction with selected factors that showed their satisfaction with facilities, location, promotion, tuition, quality education, reference, brand image, and ideals.

Table 1. Descriptive Statistic

**Descriptive Statistics**

| | N | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|---|
| X1 | 100 | 1.00 | 5.00 | 3.7500 | .95743 |
| X2 | 100 | 1.00 | 5.00 | 3.5800 | 1.02671 |
| X3 | 100 | 1.00 | 5.00 | 4.1500 | .78335 |
| X4 | 100 | 1.00 | 5.00 | 3.7000 | 1.06837 |
| X5 | 100 | 1.00 | 5.00 | 2.9100 | 1.60866 |
| X6 | 100 | 1.00 | 5.00 | 3.5600 | .92463 |
| X7 | 100 | 1.00 | 5.00 | 3.3900 | 1.00398 |
| X8 | 100 | 1.00 | 5.00 | 3.1300 | 1.17770 |
| X9 | 100 | 1.00 | 5.00 | 2.7600 | 1.20705 |
| X10 | 100 | 2.00 | 5.00 | 3.8300 | .73930 |
| X11 | 100 | 2.00 | 5.00 | 3.8800 | .81995 |
| X12 | 100 | 2.00 | 5.00 | 3.8600 | .81674 |
| X13 | 100 | 1.00 | 5.00 | 2.2600 | 1.16011 |
| X14 | 100 | 1.00 | 5.00 | 2.1500 | .89188 |
| X15 | 100 | 1.00 | 5.00 | 3.5300 | 1.24280 |
| X16 | 100 | 1.00 | 5.00 | 3.0000 | 1.12815 |
| X17 | 100 | 1.00 | 5.00 | 3.2300 | 1.23791 |
| X18 | 100 | 1.00 | 5.00 | 3.3100 | 1.28468 |
| Valid N (listwise) | 100 | | | | |

*KMO and Bartlett's Test*

Table 2. KMO and Bartlett's Test

**KMO and Bartlett's Test**

| | | |
|---|---|---|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. | | .741 |
| Bartlett's Test of Sphericity | Approx. Chi-Square | 683.358 |
| | Df | 153 |
| | Sig. | .000 |

Based on the output of 'KMO and Bartlett's Test', the result shows that the value of KMO-MSA is 0.741 and the significant level is 0.000. Therefore the data can be used for further analysis since the KMO MSA is above 0.500.

## Table 3. Communalities

**Communalities**

| | Initial | Extraction |
|---|---|---|
| X1 | 1.000 | .738 |
| X2 | 1.000 | .606 |
| X3 | 1.000 | .668 |
| X4 | 1.000 | .678 |
| X5 | 1.000 | .748 |
| X6 | 1.000 | .543 |
| X7 | 1.000 | .632 |
| X8 | 1.000 | .771 |
| X9 | 1.000 | .806 |
| X10 | 1.000 | .749 |
| X11 | 1.000 | .650 |
| X12 | 1.000 | .701 |
| X13 | 1.000 | .805 |
| X14 | 1.000 | .772 |
| X15 | 1.000 | .628 |
| X16 | 1.000 | .753 |
| X17 | 1.000 | .645 |
| X18 | 1.000 | .681 |

Extraction Method: Principal Component Analysis.

Initial communalities are estimates of the variance in each variable accounted for by all components or factors. Extraction communalities are estimates of the variance in each variable accounted for by the factors or components in the factor solution. Small vales indicate variables that do not fit well with the factor solution, and should possibly be dropped from the analysis. The table shows that the communalities is above .4 therefore all variables are used in the study.

Table 4. Total Variance Explained

**Total Variance Explained**

| Component | Initial Eigenvalues | | | Extraction Sums of Squared Loadings | | |
|---|---|---|---|---|---|---|
| | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % |
| 1 | 5.108 | 28.377 | 28.377 | 5.108 | 28.377 | 28.377 |
| 2 | 1.973 | 10.962 | 39.339 | 1.973 | 10.962 | 39.339 |
| 3 | 1.651 | 9.173 | 48.512 | 1.651 | 9.173 | 48.512 |
| 4 | 1.572 | 8.735 | 57.247 | 1.572 | 8.735 | 57.247 |
| 5 | 1.257 | 6.982 | 64.229 | 1.257 | 6.982 | 64.229 |
| 6 | 1.010 | 5.613 | 69.842 | 1.010 | 5.613 | 69.842 |
| 7 | .828 | 4.600 | 74.443 | | | |
| 8 | .731 | 4.064 | 78.506 | | | |
| 9 | .689 | 3.826 | 82.332 | | | |
| 10 | .651 | 3.619 | 85.952 | | | |
| 11 | .495 | 2.750 | 88.702 | | | |
| 12 | .427 | 2.374 | 91.076 | | | |
| 13 | .357 | 1.983 | 93.059 | | | |
| 14 | .312 | 1.731 | 94.789 | | | |
| 15 | .281 | 1.559 | 96.348 | | | |
| 16 | .253 | 1.408 | 97.756 | | | |
| 17 | .232 | 1.287 | 99.043 | | | |
| 18 | .172 | .957 | 100.000 | | | |

Extraction Method: Principal Component Analysis.

Initial communalities are estimates of the variance in each variable accounted for by all components or factors. Extraction communalities are estimates of the variance in each variable accounted for by the factors or components in the factor solution. Table shows that after rotation, the first factor can explained 28.377%, followed by the second factor with 10.962%, the third up to sixth factor comprised of 5.613% - 9.173% percentage of explanation with total 69.842% factor can explained reason for Universitas Advent Indonesia as their favorite place.

Table 5. Component Matrix

**Component Matrix[a]**

| | Component | | | | | |
|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 |
| X1 | .761 | -.324 | .123 | .037 | -.119 | -.151 |
| X2 | .695 | -.280 | .092 | .183 | .024 | .041 |
| X3 | .615 | -.382 | .287 | .023 | .045 | .242 |
| X4 | .280 | .233 | .648 | -.170 | .292 | -.102 |
| X5 | .209 | .099 | .583 | -.333 | .494 | -.014 |
| X6 | .488 | -.139 | .116 | .247 | .257 | .380 |
| X7 | .609 | .094 | -.337 | -.025 | .351 | .122 |
| X8 | .570 | .287 | -.163 | .532 | .221 | .074 |
| X9 | .195 | .482 | -.244 | .600 | .244 | -.238 |
| X10 | .758 | -.265 | -.130 | .100 | -.278 | .031 |
| X11 | .668 | -.097 | .200 | .079 | -.351 | -.159 |
| X12 | .765 | -.066 | -.001 | -.037 | -.245 | -.223 |
| X13 | .050 | .632 | .302 | .315 | -.256 | .384 |
| X14 | .195 | .504 | .077 | -.284 | -.477 | .406 |
| X15 | .066 | .476 | .362 | .144 | -.188 | -.458 |
| X16 | .486 | .305 | -.406 | -.458 | .148 | .167 |
| X17 | .625 | .344 | -.089 | -.350 | .001 | -.072 |
| X18 | .544 | .247 | -.337 | -.378 | .051 | -.254 |

Extraction Method: Principal Component Analysis.
a. 6 components extracted.

When trying to interpret the first factor, we can see that all variables that measure the component in one way or another, are highly correlated with this factor. Table shows that factor above 0.7 is identified as factor for the study. Based on the table, factor X1, X10 as factors that contributed for Universitas Advent Indonesia as reason for their favorite choice.

## Conclusion and Recommendations

Students is an important element in an academic institution since student is a customers and recipients of academic services which hold an important key for the continuity of a higher education institutions. Therefore, ongoing monitoring of their academic satisfaction and is considered important. A battery test to measure reason student satisfaction on an academic course, one can choose variables from these identified factors. Because the contribution of each factor in the measurement of total variability is more or less the same, then one variable from each factor that has the highest burden on these factors can be taken to develop a test battery to measure student perception on UNAI as favorite higher education institution. Thus, the test battery show that Facility and Quality of Education as reason for UNAI as their favorite higher education institution.

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