

Finding the Recipe to Improve the Enrolment Rate of Higher Education Institution (HEI) in Garut Regency, Indonesia

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ABSTRACT

The proportion of prospective students in Garut Regency who are willing to study in higher education institution (HEI) in Garut Regency had raised some concern regarding the growth and sustainability of HEI in Garut Regency. A significant portion of prospective students seems to be more interested in continuing their undergraduate study outside Garut Regency. Therefore, this study is carried out to investigate the factors that contribute to the attractiveness of HEI from the perspective of students in Garut. In order to satisfy its purpose, this study uses exploratory factor analysis (EFA) that consists of two major stages. In the first stage, a series of interviews are conducted to 30 informants to ensure that all possible factors are included in this study. This stage is also found to be valuable in obtaining some insights regarding the reasons behind a HEI selection. In the second stage, a survey that involves 400 respondents is carried out to test 10 factors that initially obtained in the first stage. As a result, three factors emerged from this study, namely HEI Program, HEI Achievement, and HEI Location. Moreover, strategic location is found to be the most dominant variable of HEI attractiveness in Garut Regency. These findings are expected to provide major contribution in the formulation of strategies conducted by educational policy maker of Garut Regency to improve the attractiveness of HEI. The findings are also useful for HEI to better position their value proposition from the perspective of students.

Keywords: higher education, attractiveness, factor analysis, Garut Regency.

1. INTRODUCTION

According to World Bank, the quality of education in Indonesia is still poor despite of significant increased in recent expansion of access to education (Fauzie, 2018). Based on the data of Directorate General of Higher Education (Dirjen Dikti), the number of higher education institution (HEI) in Indonesia has reached 4.586 which consist of 400 public institutions and 4.186 private institutions (DIKTI, 2018). Garut Regency is one of the most geographically extensive regency in The West Java Province of Indonesia.

School enrolment rate (angka partisipasi sekolah) in Garut Regency for 13 to 15 age group is only 76,58%. This figure shows that there is a 23.42% of children within the age of compulsory education (13 to 15 years old) that have not received formal education. School enrolment rate of 16 to 18 age group and 19 to 24 age group has only reached 37,79% and 7,33% consecutively. Based on the census conducted by Indonesian Central Bureau of Statistics (BPS) in 2018, the citizens of Garut Regency who have graduated from high school and its equivalent, possess diploma degree (DI/DII/DIII), bachelor degree (DIV/SI), and master and doctoral degree (S2/S3) is 10,63%, 0,89%, 1,42%, and 0,09% consecutively (BPS, 2018).

In 2018, there are 14 higher education institutions (HEI) that still exist in Garut Regency. From all of HEI in Garut Regency, Garut University possess the highest number of students that is 5.921 students in the academic year of 2016/2017. Compared to the gross participation rate (angka partisipasi kasar) of Garut's citizens that proceed to college, which is 32.523 people, the statistics shows that there are a lot of Garut's citizens that enrol in HEI outside Garut Regency. This phenomenon indicates that location is not the only defining factor to attract the interest of prospective students in Garut Regency. To that purpose, this study aims to determine the factors that contribute to the attractiveness of HEI in Garut Regency from the perspective of prospective students.

2. LITERATURE REVIEW

2.1 Consumer Behavior

Consumer behaviour is the behaviour display by consumer in finding, buying, using, evaluating, and disposing product and services that are expected to satisfy their needs (Schiffman et al., 2014). According to Kotler & Armstrong (2007), consumer behaviour is influenced by culture, social, personal, or psychological factors. Those factors influence consumer in their decision-making process to purchase a product, including the higher education service from universities (Schinaider et al., 2016; Kotler & Armstrong, 2010). The study of Mulyani et al. (2018) shows that the factors that influence consumer education behaviour in Indonesia including level of knowledge, socio-economy status of parents, and level of education of parents.

2.2 University Choice Process

Choosing higher education institution (HEI) is a decision-making process that can be categorized into career decision-making. There are 4 (four) models that are stated by Aydin (2015) regarding the educational decision-making process, namely: economy model, sociology model, marketing model, and combined model. The stages of decision-making process to enrol in a HEI are also discussed by Eidimtas & Juceviciene (2014). Eidimtas & Juceviciene (2014) reveals four factors that can be further categorize into 12 sub factors namely educational factors (at the family: style of education, at school: recommendation of teachers and career counsellors), information factors (open days, exhibitions, the mass media), economic factors (study fees, career prospect), other factors (geographical location, ratings, personal skills and demography).

Based on Schinaider et al. (2016), the decision-making process of prospective students at Uninter is as follows:

- a. Initial condition: desire to purchase educational service at university.
- b. Recognition: searching for information, employment availability, and satisfaction yielded from the possession of higher degree.
- c. Information: gathering information through website, acquaintances, social media, newspaper, students and alumni of the preferred university.
- d. Alternatives: evaluation of alternatives such as schedule flexibility, the availability of distant learning, the availability of program of interest, and location.
- e. Choice: purchase carried out by acquaintances, other institutions that are related to higher education institutions, or directly contacting the university.
- f. Post purchase: evaluate the purchase experience and decide it as a satisfactory experience or the otherwise.

2.3 Factors Influence Customer Decision Making Process in Choosing University

In Malaysia, Zain et al. (2013) shows that the factors that influence the decision to choose a private university namely the availability of experienced faculty members, the suitability of syllabus, the quality of lecturers, insightful lecturers. Dao & Thorpe (2015) reveals a finding that services and facilities, study program, price, online and offline information, opinion about the campus, means of communication, extracurricular activities, and advertising affect the decision to choose a campus in Vietnam. In Albania, factors that influence students' consideration in choosing university consecutively are the cost of studying and living, the quality of lecturers and supporting staff, university reputation, faculty facilities, accreditation, location, perspective after graduation, minimum passing grade of entry (Manoku, 2015).

Different findings found in Botswana. Rudhumbu et al. (2017) found that academic program, university image and reputation, advertising, quality of staff, career fairs, job prospect after graduation as the factors that influence university decision making. Tereza (2013) reveals that someone who choose engineering program is motivated by personal interest meanwhile someone who choose economics program is motivated by job prospect.

In Indonesia, Kusumawati (2013) found 5 factors that influence someone to choose public universities including reputation, cost, job prospect, family, and distance. In more detail, Proboyo & Soedarsono (2015) proposes 12 factors that influence the attractiveness of higher education institutions in Indonesia, namely: (1) reputation; (2) values; (3) success of alumni; (4) student achievements; (5) affordability; (6) quality of educators; (7) physical facilities; (8) supporting facilities; (9) non-academic activities; (10) location accessibility; (11) environment convenience; (12) campus security.

3. METHODOLOGY

This study uses exploratory quantitative approach with two primary phases that is exploration stage and survey. In exploration phase, interviews toward 30 informants are

conducted. In survey phase, questionnaires are deployed to 400 respondents. Based on its time setting, this study can be categorized as cross-section research which all of the phases are completed within six months (July 2018 to January 2019).

In the first phase, the results of interview undergo reduction and manual coding so that 10 factors are found and suspected as the factors that motivate prospective students to choose college in Garut Regency. Then, a questionnaire is made to test those 10 factors by using 20 items. Those 20 items that are tested in the survey phase are: (1) cost consideration (X1); (2) ability to pay (affordability) (X2); (3) advertising (X3); campus visit (X4); (5) strategic location (X5); (6) location accessibility (X6); (7) support from parents (X7); (8) environment and influence of friends (X8); (9) popularity (X9); (10) good reputation (X10); (11) number of scholarship (X11); (12) pursuing achievement scholarship (X12); (13) number of options of study program (X13); (14) study program of interest (X14); (15) accreditation rank of university (X15); (16) accreditation rank of program study (XVI); (17) physical evidence (XVII); (18) supporting facilities (X18); (19) job prospect (X19); (20) career opportunity (X20).

After the questionnaire are deployed, the results are analysed by using exploratory factor analysis with the aid of statistical software (SPSS 23). Exploratory factor analysis is chosen because the study on factors that motivate prospective students in choosing a HEI produce unique findings in each geographical area. Geography, social, culture, and number of universities in an area are suspected to have significant influence over the response of respondents.

Out of 400 respondents, 53% of them is female and 47% of them is male. Moreover, based on education strata, 58% of them consist of high school graduates, 10% consist of vocational high school graduates, 3% consist of madrasa graduates, 26% consist of bachelors, 1% consist of masters, and the other 2% is diploma graduates.

4. FINDING AND DISCUSSION

4.1 Factors Exploration

Based on the result of interviews toward high school students, undergraduate students, and employees that have been undergone higher education in Garut Regency, several factors are identified as the attraction for people in choosing higher education institutions (HEI) in Garut Regency as follows:

- a. Cost factor: cost that must be incurred from the beginning until the end of study is a criterion used by prospective students in choosing HEI.
- b. Promotion factor: communication or promotional efforts from public and private HEI is a criterion used by students in making a choice.
- c. Location factor: HEI that are located near the residence of prospective students and its accessibility become a reason for prospective students to choose a HEI.
- d. Motivation factor: the presence of motivation from parents, environment, and influence from a friend become a reason for prospective students to choose a HEI.

- e. Reputation factor: public or private HEI that are popular and reputable become a reason for prospective students to choose a HEI.
- f. Scholarship factor: number of scholarship option offered by a public or private HEI is a reason for prospective students to choose a HEI.
- g. Study program factor: public or private HEI that has many alternatives of study program become a consideration for prospective students in choosing a HEI. Moreover, the availability of study program that suitable with their talent and interest become a reason for prospective students to choose a HEI.
- h. Accreditation factor: accreditation of public or private HEI either it is on the level of institution of study program with good rank become a reason to choose a HEI.
- i. Facility factor: the completeness of facilities that able to support prospective students during their study become a reason to choose a HEI.
- j. Job prospect factor: prospective students expect themselves to have a descent job and career development in the future and this expectation become a reason to choose a HEI.

4.2 Factor Analysis

4.2.1 Feasibility Testing

Factor analysis begin with the determination of correlation matrix of all pair of variables in this study. The testing tool is used at the beginning to assess which variable that can be properly inserted in the next analysis. Furthermore, KMO (Kaiser-Meyers-Okin measure of sampling adequacy) & Bartlett Test of Sphericity produce a score of 0,617 within 0,000 of significance value. This score is beyond 0,5 with significance value under 0,05 and thus the existing variable and sample are deemed to be proper to be analysed by using factor analysis. As the next step, Anti-Image is used to reduce the number of variables based on their correlation coefficient ($< 0,500$). From 20 variables, only 11 of them that are considered as able to meet the criterion. The eliminated factors that are being removed from the matrix are cost consideration (0,482); advertising media (0,487), campus visit (0,460), environment and influence of friends (0,426), popularity (0,327), good reputation (0,465), physical evidence (0,389), job prospect (0,481), and career opportunity (0,353).

4.2.2 Factors Extraction

After the result of KMO & Bartlett's Test is obtained, factoring as the primary phase of factor analysis is conducted. Factoring is the extraction of a group of variables until a new factor or factors emerge. Referring to Table 1, it can be seen that strategic location has a value of 0,645 which means 65,4% of variance of strategic location can be explained by newly formed factor.

Table 1. Communalities

	Initial	Extraction
Strategic Location	1.000	.654
Location Accessibility	1.000	.703
Parental Support	1.000	.413
Number of Scholarship Alternatives	1.000	.816
The Pursuit of Achievement-based Scholarship	1.000	.848
Number of Study Program	1.000	.561
Study Program of Interest	1.000	.526
Accreditation rank of HEI	1.000	.845
Accreditation rank of Study Program	1.000	.860

Source: the output of data processing by using IBM SPSS 23

4.2.3 The Analysis of Total Variance Explained

In the next phase, the analysis on total variance explained is conducted as showed in Table 2. Table 2 shows 9 variables that are inserted in factor analysis which are strategic location, accessibility, parent support, number of scholarship alternatives, the pursue of achievement scholarship, number of study program, study program of interest, accreditation rank of HEI, and accreditation rank of study program. From those 9 variables, there are 3 factors emerge. It indicates that the eigenvalue of factor 1 to 3 is above 1.0 meanwhile the factor of 4 to 9 has eigenvalue below 1.0. Therefore, the factoring process stop at 3 factors only. If the nine variables summarized into 1 factor, then the variance can be explained by that 1 factor is $(2,747/9) \times 100 = 27,47\%$. The column of cumulative % in the initial eigenvalue shows the accumulation of variance from each variable that become the factors. If those 9 variables extracted into 3 factors, then:

- Variance of the first factor = 27,47%.
- Variance of the second factor = $(2,133/9) \times 100\% = 21,33\%$
- Variance of the third factor = $(1,346/9) \times 100\% = 13,46\%$

Table 2. Total Variance Explained

Component	Total Variance Explained								
	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2,747	30,527	30,527	2,747	30,527	30,527	2,288	25,423	25,423
2	2,133	23,697	54,224	2,133	23,697	54,224	2,257	25,078	50,501
3	1,346	14,954	69,178	1,346	14,954	69,178	1,681	18,678	69,178
4	,822	9,133	78,312						
5	,669	7,434	85,745						
6	,582	6,464	92,209						
7	,401	4,454	96,663						
8	,174	1,939	98,602						
9	,126	1,398	100,000						

Source: the output of data processing by using IBM SPSS 23

Therefore, the total of those three factors are able to explain 62,26% (i.e. the accumulation of variance of those three factors) of those nine variables. Furthermore, eigenvalue shows the relative importance of each factor in respect to the variance of those 9 variables. The arrangement of eigenvalue always sorted from the largest to the smallest with the criterion that eigenvalue below 1.0 would not be used to calculate the number of factors formed.

4.2.4 The Stages of Factoring

After the optimum number of factors formed is known (i.e. 3 factors), the next step is to determine which variable form which factor. To that purpose, component matrix table is used as displayed in Table 3.

Table 3. Component Matrix^a

	Component		
	1	2	3
Strategic Location	-.412	.380	.583
Location Accessibility	-.614	.241	.517
Parental Support	-.130	.285	.561
Number of Scholarship Alternatives	.740	-.404	.325
The Pursuit of Achievement-based Scholarship	.780	-.333	.359
Number of Program Study	.636	-.088	.386
Program Study of Interest	.476	.533	-.124
Accreditation rank of HEI	.375	.825	-.155
Accreditation rank of Study Program	.507	.776	-.035

Source: the output of data processing by using IBM SPSS 23

Table 3 display the distribution of those nine variables into the 3 factors formed. Moreover, the values, also called loading factor, show the magnitude of correlation between each variable with the factors formed. The process to determine which variable is belong to which factor is conducted by comparing the magnitude of correlation of each variable. Table 4 shows rotated component matrix that aim to identify variable distribution in which small factor loading is minimized and large factor loading is enlarge.

Table 4. Newly Formed Factors

Factors	Variable	Label	Factor Loading
Factor 1	Number of Scholarship Alternatives (X11)	HEI Program	0,885
	The Pursuit of Achievement-based Scholarship (X12)		0,910
	Number of Study Program (X13)		0,728

Factor 2	Study Program of Interest (X14)	HEI Achievement	0,710
	Accreditation Rank of HEI (X15)		0,916
	Accreditation Rank of Study Program (X16)		0,918
Factor 3	Strategic Location (X5)	HEI Location	0,795
	Location Accessibility (X6)		0,767
	Parental Support (X7)		0,629

Source: the output of processed primary data collected in 2018

Tabel 5. Component Transformation Matrix

Component	1	2	3
1	.779	.487	-.395
2	-.341	.857	.385
3	.526	-.166	.834

Source: the output of data processing by using IBM SPSS 23

In Table 5, component transformation matrix shows that the values of all components diagonally are above 0,500. This indicates that the formation of the three factors are already correct because they possess high correlation coefficient both before and after the rotation.

4. 3 Discussion

Based on the result of data testing by using factor analysis, the factors that attract prospective students to choose HEI in Garut Regency are HEI program, HEI achievement, and HEI location. The most dominant factor is strategic location because it has the largest eigenvalue compared to other factors, that is 2,747.

The factor of HEI program consist of the Number of Scholarship Alternatives (X11), the Pursuit of Achievement-based Scholarship (X12), and the Number of Study Program (X13). Therefore, scholarship to outstanding students provided become the motivation for prospective students to choose program study in a HEI. Based on the interview, informants admit that the availability of scholarship, including achievement-based scholarship, become the major reason for prospective students to choose a HEI outside Garut Regency. Moreover, the number of study program become a major consideration for prospective students to choose a HEI that can accommodate their talents and interest.

The factor of HEI achievement consists of Study Program of Interest (X13), Accreditation Rank of HEI (X14), and Accreditation Rank of Study Program (X15). This is consistent with the study of Anggraeni (2016) that reveal study program as the factor that contribute in choosing a major. In general, prospective students consider a study program before they consider which HEI to enrol. Beside that, accreditation rank become one consideration in choosing a study program because it is a signal of quality.

In the study of Ary (2016), the size of HEI is a part of value proposition of HEI offered to prospective students and this includes accreditation rank.

The factor of location consists of strategic location (X5), location accessibility (X6), and parental support (X7). These findings are consistent with the study of Fakhri et al. (2017). The factor of campus location consists of convenient location and ease of access. The importance of location is also supported by the testimony of an informant that has decided to choose a HEI that located in Garut Regency. The basis of this decision is because HEI in Garut Regency are easily accessible, do not take too much time to be reached, adequate transportation facilities are also available, and the distance between HEI location and residence would reduce the anxiety of parent and necessary in obtaining parental support.

5. CONCLUSION AND RECOMMENDATION

From the factor analysis, this study found 3 factors that are newly formed, namely: HEI Program (Factor 1) that consist of Number of Scholarship Alternatives (X11), the Pursuit of Achievement-based Scholarship (X12), and the Number of Study Program (X13). As Factor 2, HEI Achievement consists of Study Program of Interest (X14), HEI Accreditation Rank (X15), and Accreditation Rank of Study Program (X16). Factor 3, that is HEI Location, consist of Strategic Location (X5), Location Accessibility (X6), and Parental Support (X7). Furthermore, the most dominant variable that contribute to HEI attractiveness from the perspective of prospective students in Garut Regency is Strategic Location.

Based on the findings and corresponding discussion, there are some suggestions that can be offered to every HEI in Garut Regency and future studies:

- a. In respect to HEI in Garut Regency, they are suggested to improve their accreditation rank, in both institutional accreditation and study program accreditation level. Moreover, they are also suggested to occupy a strategic location that could be easily accessed by prospective students and also close in proximity with the residence of prospective students. However, moving to another location might involve substantial commitment of resources either in term of financial, time, and psychological resources. Therefore, at the very least, HEI in Garut Regency should be able to expand the number of their Study Program.
- b. In respect to future research, this study is expected to be followed up by studies to analysed the factors found by using confirmatory factor analysis. If the factors that influence the attraction of HEI in Garut Regency have been adequately confirmed, corresponding strategies could be formulated by educational policy maker in the effort to improve the attractiveness of HEI in Garut Regency. Another stream of studies can also be conducted in order to improve the attractiveness of HEI in Garut Regency from the eyes of prospective students outside Garut Regency.
- c. As a campus located in a developing district, UNIGA has the potential to attract prospective students by carrying out social responsibility program on high

schools in Garut regency as part of a marketing strategy, as done by Harjanto (2019).

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