



External Factors Affecting the Cumulative Achievement Index (Case Study of Nusa Putra University)

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Abstract. The Grade Point Average (GPA), which is based on the number of credits taken, is a measure of a student's ability to succeed within a certain period of time. There are many factors outlined in the research model that can influence GPA. Family circumstances, romantic relationships, and academic supervisors are several variables that can influence GPA. This study explores the possibility that there are additional (external) factors in this situation that contribute to the decline in student GPA at Nusa Putra University. 153 students who participated in a survey at Nusa Putra University in 2023 were used as samples for this research. Respondents to this survey were taken from three different groups (2019, 2020, and 2021) and ten different departments at Nusa Putra University. Research information was obtained from original data collected through questionnaires. The findings of this research are useful for students, lecturers and policy makers at Nusa Putra University in developing and improving aspects that influence students' intellectual property (IP) related to campus regulations so that they can contribute positively to students' GPA. According to the findings of the debate about the elements that influence GPA, namely: Relationships between lovers and family circumstances can have an impact on GPA, but not academic advisors.

Keywords: External Factors, Cumulative Achievement Index, Student Performance

1 Introduction

In The Current era of globalization, many businesses and organizations are looking for potential employees who fit the different requirements set by the business to hire

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them. Companies often ask for specific qualifications such as relevant work experience and a cumulative grade point average (GPA) that must be at least at a specified level.

The Grade Point Average (GPA), which is a final grade unit used to reflect the value of the learning process each semester, can also be understood as a quantity or number that shows a student's level of success in a particular semester (Nariza Wanti Wulan Sari, Suyitno, 2019).

This research only used Nusa Putra University students from different levels and semesters due to several limitations.

The family environment is an example of an external factor that influences learning achievement and comes from outside the student.

Based on the context above, the research question for this study is: What are the external factors that influence the achievement of the cumulative GPA of Nusa Putra University students? Student learning outcomes are mostly described by GPA. External influences are just one of many aspects that can influence GPA. Therefore, research is needed that can describe these external factors.

The specific aim of this research is to identify external variables that influence Nusa Putra University students in terms of achieving GPA.

2 Literature Review and Hypothesis Development

Universities are centers of higher education and research that award degrees in various fields of study. Various fields of industry, economics, health, and other special science sub-subjects in the form of faculties are taught at universities (Fauzi & Pahlevi, 2020).

Grade Point Average (GPA) is a metric used to assess a student's progress toward their educational goals within a specific testing period. A student's achievement after taking several courses is measured by their Grade Point Average (GPA).

Student success is influenced by various factors. These are divided into two categories: internal factors, or those that come from within the student, and external factors, or those that come from outside the student. Family environment (parents, home environment, and family economic conditions), school environmental factors (curriculum, social relationships between teachers and students, students and students, learning tools, implementation of school discipline, school conditions, and so on), as well as a way of life or environment in society.

An Academic Advisor (PA) is very important for students because having one allows faculty to manage their students and give them the support they need as they progress through their education.

Dating is a heterosexual activity that centers on providing and complementing a long-term partner while expressing love and affection (Haris, 2015).

Therefore, this study suggests the following:

HO: The cumulative GPA achievement of Nusa Putra University students is not influenced by external variables.

Ha: The cumulative GPA achievement of Nusa Putra University students is influenced by external variables.

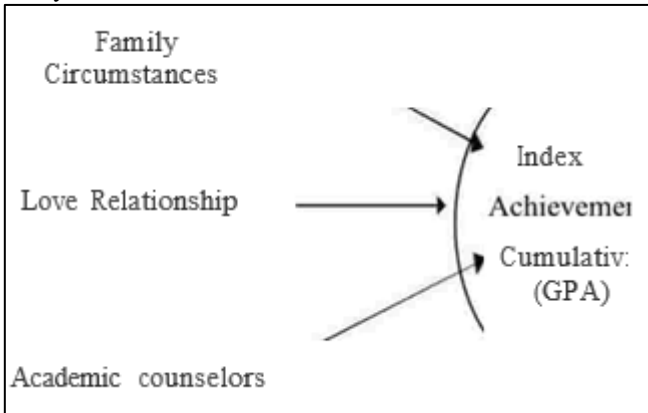


Fig. 1. Research Model

2.1 Sample and Data Collection

The research population used was 153 active students at Nusa Putra University in 2023. Participants in this research were taken from three different generations (2019, 2020, and 2021). This research uses respondents from various departments for research, especially from IO departments at Nusa Putra University, to ensure accuracy. Nonprobability sampling using incidental sampling is the sampling method used. A questionnaire designed for responses (Yes/No) served as a research tool.

2.2 Measurement and Definition of Variables

Structured questionnaires collect data about respondents' perceptions and opinions about construct indicators used to develop research models. Using Guitman's Yes-No scale, all variables are represented by indicators. Positive responses, such as "Yes", receive a score of 1, while negative responses, such as "No", receive a score of 0. The research model construct includes three latent variables, namely romantic relationships, family conditions and academic supervisors.

3 Data Analysis

Table 1. Convergent Validity and Reliability of Instruments

| Variable | Items | Factor Loading | C.A | C | AV |
|------------------------------|-------|----------------|-----|---|----|
| Cumulative Achievement Index | GPA 2 | | | | |

| | | | | | |
|-------------------|-------|-------|------|------|-------|
| Family Circumst | CC 13 | 0,774 | 0,77 | 0,85 | 0,59 |
| | CC 15 | 0,752 | | | |
| | CC 18 | 0,813 | | | |
| | KK 2 | 0,74 | | | |
| | PA 1 | 0,761 | | | |
| | PA 2 | 0,753 | | | |
| Academic Counsclo | PA 3 | 0,866 | 0,88 | 908 | 0,623 |
| | PA 4 | 0,825 | | | |
| | PA 6 | 0,777 | | | |
| | PA 9 | 0,748 | | | |
| | PC 1 | 0,816 | | | |
| | PC 10 | 0,799 | | | |
| Love Relationship | PC 2 | 0,772 | 0,89 | 92 | 0,65 |
| | PC 3 | 0,817 | | | |
| | PC 4 | 0,849 | | | |
| | PC 5 | 0,807 | | | |

The PLS-SEM analysis procedure was carried out using SMART PLS. The SMARTPLS he indicators of each latent variable in this study were built on a solid theoretical foundation from previous research using the Confirmatory Factor Analysis (CFA) approach as the model developed.

Research findings based on Table I show that all latent variables have good reliability, accuracy and consistency, The CR and CA values for each latent variable in this study are all > 0.70 , as shown in Table I. The AVE value for each latent variable in this study is also greater than 0.50. The ratio figures above show that the instruments used in this research which are made from latent variables and indicators are valid and dependable.

Based on Table 2, each HTMT ratio value for each latent variable is less than 0.90, indicating the validity of this research instrument for assessing the model created.

Table 2. Discriminant Validity (HTMT Ratio)

| | P.A | GPA | KK | PC |
|-----|-------|---------|-------|-------|
| P.A | 0.79 | | | |
| GPA | 0.081 | 1 | | |
| K.K | 0.027 | - 0.247 | 0.73 | |
| PC | 0.084 | - 0.108 | 0.022 | 0.811 |

Analysis of the capacity of the conceptual model to predict the variance of the dependent independent variable is the aim of measuring the inner model (structural model).

4 Results

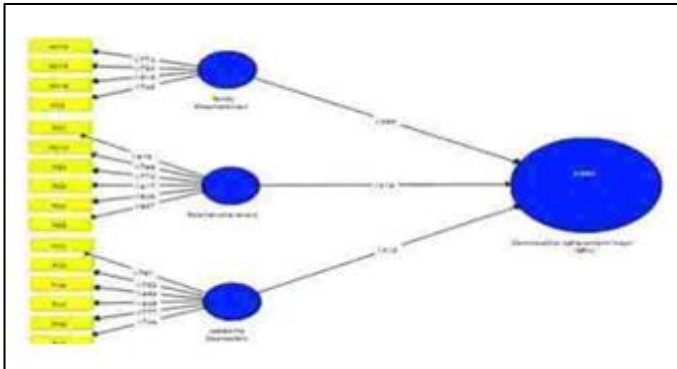


Fig. 2. Calculation

Information:

KK = Family Conditions

PC = Romantic Relationship

PA = Academic Advisor

4.1 Respondent Characteristics

The gender distribution of respondents is dominated by women, with 97 respondents (63.4%) exceeding the 56 respondents (36.6%) who are male. Taken from the IO majors listed above, management majors (38%) dominate respondents with a percentage that is very different from other majors. Here are three different batches consisting of 2019 (9.2%), 2020 (33.3%), and 2021 (57.5%). 153 students from the total number of applicants at Nusa Putra University were eligible to participate in this response.

4.2 PLS-SEM Analysis Requirements

For PLS-SEM analysis, at least three requirements must be met. First, outliers and missing values are not needed for the PLS-SEM test (Hair Jr. et al., 2017). Of the 46 surveys filled out by 153 respondents, there were missing surveys. After screening, 16 questionnaires became the final research sample.

The total sample used in this research was 153 samples. The minimum sample size required for this study was between 80 and 160 because there were 16 indications.

Table 3. VIF Values Between Variables

| | Cumulative Achievement Index (GPA) | Family Circumstances | Love Relationship |
|---|---|-----------------------------|--------------------------|
| Academic counselors | | | |
| Academy Advisor | 1,008 | | |
| Cumulative Achievement Index (GPA) | | | |
| Family Circumstances | 1,001 | | |
| Love Relationship | 1,008 | | |

PLS-SEM does not assume that construct and indicator variables are multicollinear. The inner VIF value between variables and indicators is less than 3, as shown in Table 3. As a result, this analysis concludes that multicollinearity is not assumed.

Third, model fit tests should be conducted to evaluate the effectiveness of the combined structural/inner and exterior models (Hair Jr. et al., 2017).

Table 4. Model Fit Test Results

| | Saturated Model | Model Estimation |
|------------|-----------------|------------------|
| SRMR | 0,069 | 0,069 |
| d ULS | 0,736 | 0,736 |
| d G | 0,297 | 0,297 |
| Chi-Square | 246,492 | 246,492 |
| NFI | 0,802 | 0,802 |

4.3 Structural Model (Deep Model)

Measuring the coefficient of determination is the first step in structural model analysis. The R² value obtained from the PLS algorithm technique is the basis for this test. Three levels of R² ratio are recognized: 0.75 (strong), 0.50 (moderate), and 0.25 (weak) (Hair et al. 2018).

Table 5 shows that the R² value of the Cumulative Achievement Index variable (0.083) which is less than 0.25 is weak. As many as 11-15% of endogenous

variables can be explained by a combination of exogenous variables (external influences). On the other hand, factors outside the model take into account the remaining data. This is due to the narrow focus of research in examining the three functions of external variables that determine the cumulative achievement index, making the research debate more focused.

Table 5. Determination Coefficient Test Results

| | Customized R square | R Square |
|--|----------------------------|-----------------|
| Commutative Achievement Index (GPA) | 0.0831 | 0.064 |

Analyzing the blindfold ratio data is the second step in testing the inner model. The Blindfolding test assesses the Q2 value to measure the level of predictive utility of the construct model (Hair Jr. et al., 2017). The model developed in this work is suitable to describe this phenomenon if Q2 is greater than 0.05. The Q2 value of the endogenous variable in this study is not significant according to Table 6 (-0.062). The exogenous factors used in research to predict endogenous variables are not accurate enough.

Table 6. Blindfolding Test Results

| | SSO | SSE | Q'(=1-SSE/SSO) |
|--------------------------------|------------|------------|-----------------------|
| Academic counselors | 900 | 900 | |
| Commutative | | | |
| Achievement Index (GPA) | 150 | 159,242 | -0,062 |
| Family Circumstances | 600 | 600 | |
| Relationship lover | 900 | 900 | |

5 Discussion

5.1 Discussion of Research Variables

Discussion of research variables:

1. Grade Point Average (GPA) is a metric used to assess students' progress toward their educational goals within a given testing period. Analysis was carried out on

153 observation data, which included 23 people with a GPA of $2,5 \leq 3$ (15%), 63 people with a GPA of $3 \leq 3,5$ (41,5%) and 66 people with a GPA of $3,5 \leq 4$ (43,5%). The completion index research findings show that of the 153 respondents, 52 had an unsatisfactory learning achievement index, namely $3.35 \leq$; GPA \leq ; 4, which is the majority of respondents, and IOI had a good learning achievement index, which is the majority of respondents (66%) overall.

2. External variables External factors are those that come from sources other than students. This study includes discussion of romantic relationships, family circumstances, and academic advisors as external factors. Most of the respondents, namely 84 respondents, had very good learning achievements. The P value for the relationship between dating behavior and academic achievement is 0.087. According to research findings, family circumstances have an impact on the overall average grades of Nusa Putra University students. The findings show that parental closeness has a P value of 0.086 which can have an impact on student learning achievement.

According to research data, 92 respondents (60.56%) reported having active academic supervisory duties, and 86 (56.2%) reported having achieved learning objectives satisfactorily. The results of statistical tests produce a value of $p = 0.265$. Because students are less active in visiting PA lecturers to ask for advice, this study shows that there is no correlation between the role of academic advisors and student achievement.

There are three external factor variables: romantic relationships, family situation, and academic supervisor. The relationship between lovers and family conditions have an impact on students' GPA at Nusa Putra University, but academic supervisors have no effect on students' GPA at Nusa Putra University.

The research paper with the title "External Factors that Influence the Achievement of Cumulative Achievement Index for Nusa Putra University Students" is far from perfect, the author is aware of this. This is a result of the author's knowledge and experience, as well as limited library data sources. Development through additional research, there are only 3 external variables that influence student GPA in this research.

6 Conclusions and Recommendations

6.1 Conclusion

Based on the explanation above, this research comes to the conclusion that, of the three hypotheses studied, only one variable shows that respondents have no effect on student GPA. Meanwhile, two other factors can influence a student's GPA. Three external component variables, such as romantic relationships and family situations, impact the average cumulative grade point average, according to research from 153 respondents at Nusa Putra University (JPK). Academic advisors have no effect on the overall GPA of Nusa Putra University students.

6.2 Suggestions

On the basis of research findings, recommendations for additional studies can be made. By using this research as a guide, Nusa Putra University students can first learn about the factors that can influence learning achievement and use this knowledge to further improve learning outcomes starting from the first year of study. Learning outcomes as a standard for activities on campus. Second, this research can be used as a source or reference for additional studies by other scholars.

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