



# The Analysis of SMK Students' Interest to Pursue Higher Education

## (Case Study in The Construction and Property Engineering Program at SMK Negeri 2 Salatiga)

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### ABSTRACT

For SMK students, continuing their studies to higher education after graduation must begin with a sense of interest and passion, as well as a desire to improve the quality of knowledge within themselves or to pursue their dreams. This is also the case for students of SMK N 2 Salatiga in the Construction and Property Engineering Program. However, the choice of study program and university is a difficult issue, as there are various factors that can influence it. The aims of this study are to identify both intrinsic and extrinsic factors that affect the interest of students in the Construction and Property Engineering program at SMK Negeri 2 Salatiga in pursuing higher education, as well as to determine the intrinsic factors that have an impact on their interest in this program. The research employs the Structural Equation Modeling (SEM) analysis method, specifically Partial Least Square (PLS) based on variance, and was conducted at SMK Negeri 2 Salatiga from February 1-8, 2023. 210 students enrolled in the Construction and Property Engineering program from three different classes, namely XIII KGSP, XII BKP, and XII DPIB, were included in the study population. The findings revealed that intrinsic factors significantly impact students' interest in pursuing higher education, with the most influential sub-variable being aspirations, as evidenced by a T-statistic value of 11.711. Extrinsic factors also significantly affect students' interest in continuing their education, with the school environment being the most dominant sub-variable, as evidenced by a T-statistic value of 5.408. Moreover, extrinsic factors can impact interest factors via intrinsic factors, indicating that the substantial impact of extrinsic factors on intrinsic factors can enhance students' desire to pursue higher education.

**Keywords:** *Students' Interest, Intrinsic Factors, Extrinsic Factors, Structural Equation Modeling (SEM)*

## 1. INTRODUCTION

Formal education is a type of education where a teacher interacts with students in the learning process. In formal education, the teacher imparts knowledge to students through a learning process that involves interaction between them. The educational pathway in formal education consists of primary education (elementary and middle school), secondary education (high school, vocational school, and Islamic high school), and higher education (diploma and bachelor's degree). For students who have reached the third year of secondary education, both high school and vocational school, they must consider their goals after graduation, whether they will continue to higher education or work directly. If they choose to continue their studies, they can choose an academic path such as a diploma or

bachelor's degree. Meanwhile, if they choose to work, they can join industrial companies or other types of jobs.

Vocational high school (SMK) is one of the institutions in secondary education that focuses on preparing the workforce. In SMK, students are required to have soft skills and hard skills that are useful in the workforce, as well as preparing them to continue to higher education or to develop competencies relevant to the workforce, both in the industrial sector and in entrepreneurship [1-3]. This is also applied by SMK Negeri 2 Salatiga. SMK Negeri 2 Salatiga is one of the vocational high schools in Salatiga that has a vision and mission that emphasizes on preparing students who are moral, ethical, and ready for work, as well as providing quality, creative, innovative, technology-based learning

and developing specific skills according to the needs of the workforce program.

After completing their studies in vocational high school (SMK), each student will be faced with various options, such as working, entrepreneurship, continuing to higher education, or unemployment. For students who choose to continue to higher education, they need to consider the choice of study programs they want to take and which university they want to enter. Interest factors play a significant and important role in a person's life, as interest is a fundamental psychological aspect that affects how a person lives their life. Learning with interest will motivate a person to learn more effectively than learning without interest. A person's interest can be the basis for carrying out activities and achieving desired goals. Interest can also motivate a person to perform activities better than if they were to do it without interest [4-7]. Usually, a person decides to pursue higher education at a university because of their interest, such as wanting to improve their knowledge or pursue their aspirations. This interest can motivate someone to act and engage in that activity. However, a person's interest factor can vary and may change over time. This also applies to the interest in pursuing higher education at a university, which is typically driven by the desire to enrich knowledge or achieve aspirations [8-10].

When determining a student's interest in continuing their studies to higher education, there are two factors that can influence it, namely intrinsic and extrinsic factors. Intrinsic factors are factors that originate from within the individual that can affect emotional attitudes, such as motivation, aspirations, and desires. Meanwhile, extrinsic factors are factors that come from outside the individual such as influences from family, friends, the environment, and social media [11-13].

This study aims to determine the interests of SMK N 2 Salatiga's Building Cluster students in continuing their studies to higher education and the factors that influence them. Thus, it is expected that the results of this study can be used as an evaluation material for the school to prepare appropriate guidance programs for students, so that students who wish to continue their studies to a higher education are better prepared and do not make mistakes in determining the desired study program.

## 2. METHODOLOGY

In this research, a quantitative method was used with a closed questionnaire to measure how much interest the 12th grade students of The Construction and Property Engineering Program at SMK Negeri 2 Salatiga have in continuing their studies to higher education, as well as to understand the intrinsic and extrinsic factors that influence their interest. This research was conducted at

SMK Negeri 2 Salatiga from February 1-8, 2023, with a sample of 139 students from class XII and class XIII in The Construction and Property Engineering Program at SMK Negeri 2 Salatiga in the academic year 2022/2023, divided into 3 majors with each major consisting of 2 classes.

In this study, data will be processed using the structural equation modeling (SEM) method with a quantitative analysis approach using the Partial Least Square (PLS) method. The SEM model is a further development of the path analysis model, where the quality of the relationship between exogenous and endogenous variables can be determined in more detail [14-16]. PLS is an effective analysis method because it is not dependent on many assumptions [17]. One of the advantages of using the PLS method is that it does not require following a multivariate normal distribution in data, the sample size does not have to be large, and PLS is not only used to confirm theory but also to explain the presence or absence of latent variable relationships.

## 3. RESULTS AND DISCUSSION

### 3.1. Measurement Model Evaluation (Outer Model)

The evaluation of the measurement model consists of Convergent Validity Test, Discriminant Validity Test, and Composite Reliability Test.

#### 3.1.1. Convergent Validity Test

Convergent validity is a measurement model with items that have values based on the correlation between item scores and construct values. Convergent validity index is measured by factors AVE (Average Variance Extracted). The result of convergent validity test can be seen in Figure 1 and Table 1 below.

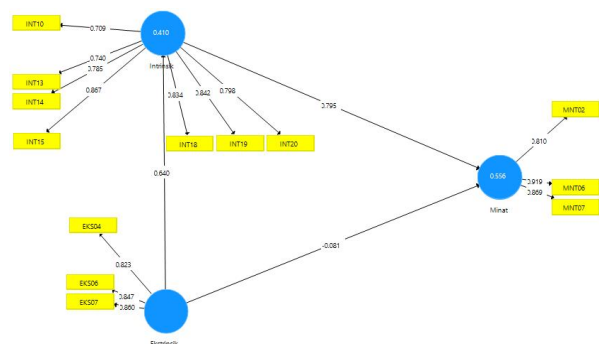


Figure 1 Loading Factor Evaluation Results.

**Table 1.** Results of the Loading Factor Output for the Interest, Intrinsic, and Extrinsic Variables.

| Construct                         | Sub-Variable       | Item  | Loading Factors | Description |
|-----------------------------------|--------------------|-------|-----------------|-------------|
| Interests in Continuing Education | Interest           | MNT02 | 0.810           | Valid       |
|                                   | Motivation         | MNT06 | 0.919           | Valid       |
|                                   |                    | MNT07 | 0.869           | Valid       |
| Intrinsic Factors                 | Talent             | INT10 | 0.709           | Valid       |
|                                   | Aspirations        | INT13 | 0.740           | Valid       |
|                                   |                    | INT14 | 0.785           | Valid       |
|                                   |                    | INT15 | 0.867           | Valid       |
|                                   | Desire             | INT18 | 0.834           | Valid       |
|                                   |                    | INT19 | 0.842           | Valid       |
|                                   |                    | INT20 | 0.798           | Valid       |
| Extrinsic Factors                 | School Environment | EKS04 | 0.823           | Valid       |
|                                   |                    | EKS06 | 0.847           | Valid       |
|                                   |                    | EKS07 | 0.860           | Valid       |

Convergent validity can be seen from the correlation between the indicator scores and the variable scores. In this case, the indicator will be considered valid if it has an AVE value above 0.7 or by showing that all indicator outer loadings have loading values > 0.7 [8].

Based on figure 1 and table 1 above, it can be seen that all indicators are in valid condition with all loading factor values above 0.7.

**3.1.2. Discriminant Validity Test**

Discriminant validity is the output value of cross-loadings that is useful for determining whether the construct has appropriate discriminant values by comparing the loading values of the intended construct with other values. Using the standard value, each construct should have a value greater than 0.7. The results of cross-loadings value can be seen in Table 2 below.

**Table 2.** Cross-Loadings Values Results.

| Items | Extrinsic Factors | Intrinsic Factors | Student Interest |
|-------|-------------------|-------------------|------------------|
| MNT02 | 0.199             | 0.367             | <b>0.563</b>     |
| MNT06 | 0.286             | 0.498             | <b>0.638</b>     |
| MNT07 | 0.277             | 0.463             | <b>0.603</b>     |
| INT10 | 0.358             | <b>0.492</b>      | 0.410            |
| INT13 | 0.381             | <b>0.514</b>      | 0.382            |
| INT14 | 0.393             | <b>0.545</b>      | 0.353            |
| INT15 | 0.326             | <b>0.602</b>      | 0.477            |
| INT18 | 0.326             | <b>0.579</b>      | 0.410            |
| INT19 | 0.358             | <b>0.585</b>      | 0.442            |
| INT20 | 0.341             | <b>0.554</b>      | 0.400            |

| Items | Extrinsic Factors | Intrinsic Factors | Student Interest |
|-------|-------------------|-------------------|------------------|
| EKS04 | <b>0.572</b>      | 0.369             | 0.254            |
| EKS06 | <b>0.588</b>      | 0.367             | 0.249            |
| EKS07 | <b>0.597</b>      | 0.388             | 0.249            |

Based on table 2 above, the comparison of loading values on the intended construct has higher values compared to other values. Furthermore, the cross-loading values on each construct have values greater than 0.7. Thus, the variables in this study have proven that all indicator items are valid.

**3.1.3. Composite Reliability Test**

In measuring the reliability of a construct using the SmartPLS application, there are two methods that can be used, namely Cronbach's Alpha and Composite Reliability. However, in the evaluation using Cronbach's Alpha, the values tend to be lower, so it is recommended to use Composite Reliability, and the value should be higher than 0.7. The constructs of reliability and validity results can be seen in Table 3 below.

**Table 3.** Constructs of Reliability and Validity.

| Variables | Cronbach's Alpha | rho_A | Composite Reliability | Average Variance Extracted (AVE) |
|-----------|------------------|-------|-----------------------|----------------------------------|
| Extrinsic | 0.797            | 0.798 | 0.881                 | 0.712                            |
| Intrinsic | 0.904            | 0.905 | 0.925                 | 0.637                            |
| Interest  | 0.835            | 0.855 | 0.901                 | 0.752                            |

Based on Table 3 above, it can be seen that all variable values in the reliability testing, whether using Cronbach's Alpha or Composite Reliability, have values above 0.7, and the validity testing using AVE has values above 0.5. Thus, the variables tested can be considered valid and reliable, so that structural model testing can be carried out.

**3.2. Structural Model Evaluation (Inner Model)**

Evaluation of Structural Model is carried out using R-Square (R<sup>2</sup>) test and hypothesis testing

**3.2.1. R-Square (R<sup>2</sup>) Test**

When evaluating a model with PLS, it begins by looking at the R-square for each dependent latent variable. R-square test results can be seen in Table 4 below.

**Table 4.** R-square Test Results.

| Variables | R-square Value |
|-----------|----------------|
|-----------|----------------|

| Variables | R-square Value |
|-----------|----------------|
| Intrinsic | 0.410          |
| Interest  | 0.556          |

Based on the table 4 above, it can be seen that:

- a. The R-square value for the intrinsic variable is 0.410 or 41%. This value indicates that the intrinsic variable is influenced by the extrinsic variable by 41%. The remaining 59% is influenced by other variables that are not included in the study.
- b. The R-square value for the interest variable is 0.556 or 55.6%. This indicates that the interest variable is influenced by the intrinsic and extrinsic variables by 55.6%, while the remaining 44.4% can be influenced by other variables outside the variables studied in this research.

### 3.2.2. Hypothesis Testing

To determine whether the hypothesis is accepted or rejected, it can be done by using the significance values between constructs, t-statistics, and p-values. Hypothesis testing is performed by conducting a bootstrapping process in SmartPLS. The results of the hypothesis testing can be seen in Table 5 below.

**Table 5.** Result of Total Relationship T-Statistics.

|                       | Original Sample (O) | Sample Mean (M) | STDE V | t Statistics (IO/STDEVI) | P values |
|-----------------------|---------------------|-----------------|--------|--------------------------|----------|
| Intrinsic > Interest  | 0.795               | 0.799           | 0.068  | 11.711                   | 0.000    |
| Extrinsic > Intrinsic | 0.428               | 0.439           | 0.079  | 5.408                    | 0.000    |
| Extrinsic > Intrinsic | 0.509               | 0.517           | 0.068  | 7.527                    | 0.000    |

Based on the table 5 above, it can be seen that:

- a. The Influence of Intrinsic Factors on Students' Interest

The hypothesis for this influence are: H0 = There is no effect of intrinsic factors on students' interest in continuing to higher education, H1 = There is effect of intrinsic factors on students' interest in continuing to higher education.

Based on the results in table 5 above, the construct value of intrinsic factor towards students' interest has a t-statistic value of 11.711, which is greater than 1.96, and a p-value of 0.000, which is

less than 0.05. Therefore, H1 stating that there is an influence of the intrinsic factor on the students' interest in pursuing higher education is proven and accepted.

- b. The Influence of Extrinsic Factors on Students' Interest

The hypothesis for this influence are: H0 = There is no effect of extrinsic factors on students' interest in continuing to higher education, H1 = There is effect of extrinsic factors on students' interest in continuing to higher education.

Based on the results in table 5 above, the construct value of extrinsic factor towards students' interest has a t-statistic value of 5.408, which is greater than 1.96, and a p-value of 0.000, which is less than 0.05. Therefore, H1 stating that there is an influence of the extrinsic factor on the students' interest in pursuing higher education is proven and accepted.

- c. The Effect of Extrinsic Factors on Students' Interest through Intrinsic Factors

The hypothesis for this influence are: H0 = There is no effect of extrinsic factors on students' interest in continuing to higher education through intrinsic factors, H1 = There is effect of extrinsic factors on students' interest in continuing to higher education through intrinsic factors.

Based on the results in table 5 above, the construct value of extrinsic factor towards intrinsic factors and students' interest has a t-statistic value of 7.527, which is greater than 1.96, and a p-value of 0.000, which is less than 0.05. Therefore, H1 stating that there is an influence of the extrinsic factor on the students' interest in pursuing higher education through intrinsic factors is proven and accepted.

### 3.2.3. Intrinsic Factors towards Students' Interest

Based on the indicators in the intrinsic factor variable in this study, the AVE value obtained was 0.637 and the composite reliability value was 0.925. In testing convergent validity of the 20 question indicators in the intrinsic factor, 7 indicators were obtained with loading factor values above 0.07. There are 3 significant sub-variables in this study, namely talent, aspirations, and desires, with the most significant being the aspirations sub-variable with code INT15.

### 3.2.4. Extrinsic Factors towards Students' Interest

Based on the indicators in the extrinsic factor variable in this study, the results show an AVE value of 0.712 and composite reliability value of 0.881. In testing convergent validity of the 14 question indicators in the extrinsic factor, 3 indicators obtained loading factor values above 0.07, with the highest value being indicator EKS07 with a value of 0.860 and EKS06 with a value of 0.847, both of which belong to the sub-variable of school environment.

### 3.2.5. Extrinsic Factors towards Students' Interest through Intrinsic Factors

Based on the research conducted on students from The Construction and Property Engineering Program at SMK Negeri 2 Salatiga, it was found that extrinsic factors can influence interest factors through intrinsic factors. This indicates that the extrinsic factors possessed by students, such as family environment, school environment, community environment, and social media, can affect intrinsic factors first before ultimately influencing interest factors.

## 4. CONCLUSION

- a. Intrinsic factors are able to influence students' interest in pursuing higher education with a high level of influence. The most dominant sub-variable that affects students' interest is the aspiration factor.
- b. extrinsic factors is able to influence students' interest in pursuing higher education even though it has a lower impact than intrinsic factors. The most dominant sub-variable affecting students' interest is the school environment factor.
- c. The extrinsic factor can influence the students' interest factor through the intrinsic factor. This can be interpreted as a significant influence on the intrinsic factor due to the influence of extrinsic factors, which will increase students' interest in pursuing higher education.

## AUTHORS' CONTRIBUTIONS

BS carried out the analysis design, participated in data collection, data analysis, and wrote the manuscript. AW participated the analysis design, data analysis, statistical analysis, and helped to draft the manuscript. LB participated in the analysis design, data analysis and helped to draft the manuscript. All authors read and approved the final manuscript.

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