Entrepreneurial Intention of Vocational High School Students: Does Technopreneurship Insight, Self-Efficacy and Locus of Control?

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ABSTRACT

This research aimed to explore the correlation between technopreneurship insight, self-efficacy, and locus of control in relation to the entrepreneurial intention of students in the Computer and Network Engineering Department at SMK Negeri 1 Tilatang Kamang in Classes XI and XII. The sample comprised 39 individuals selected through purposive sampling, and data were collected using questionnaires. Analytical methods included traditional assumption tests, multiple linear regression, t-tests, f-tests, and the coefficient of determination. The findings suggest no noticeable connection between entrepreneurial intention and technopreneurship insight. Self-efficacy does not significantly influence entrepreneurial intention. However, the entrepreneurial intention is notably affected by the partial locus of control. Simultaneously, the entrepreneurial inclination of Class XI and XII students in the Computer and Network Engineering Department at SMK Negeri 1 Tilatang Kamang is positively and significantly influenced by technopreneurship insight, self-efficacy, and locus of control.

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1. INTRODUCTION

Students in vocational high schools are in the process of self-discovery during their adolescent years, a period considered the most vulnerable due to the malleability of their souls (Arni, 2016). This phase prompts students to explore their identity and engage in actions they perceive as moral (Aulia et al., 2022). However, the impulsive nature of teenagers often leads to hasty decisions, resulting in regrets and feelings of being ill-informed (Suwanto, 2016). The challenges of this developmental stage contribute to instances where students may abandon their studies due to discouragement.

Schools play a crucial role in guiding adolescents through this self-discovery phase to help them accurately identify themselves (Putri et al., 2021). The school environment becomes a platform for character development, nurturing students into potential future leaders across various sectors.
Consequently, maintaining a continuous process of instruction, guidance, and supervision becomes essential in preventing students from making detrimental mistakes (Yulastri et al., 2021). Specifically, vocational high school students require additional support in discerning, understanding, and selecting their career paths (Zamroni, 2016).

Upon completing their coursework, Vocational High School graduates have four potential paths. Firstly, they can seek employment in domestic industries, private businesses, or state-owned firms. Secondly, they may choose to further their education by enrolling in additional university coursework or pursuing a skill-specific course. Thirdly, they can venture into entrepreneurship by starting their own business, either related or unrelated to their vocational high school majors. Lastly, graduates may face challenges such as unemployment due to stiff competition or a decrease in available positions (Ganefri et al., 2017).

Presently and in the upcoming years, unemployment and poverty persist as significant challenges for the Indonesian population (Putri, 2017). Indonesia grapples with a persistent issue of high unemployment rates, a challenge shared by many countries (Indriyani, 2017). Notably, the educated demographic contributes significantly to Indonesia's highest unemployment rates (Adnyana et al., 2016). As of August 2022, the Central Bureau of Statistics (BPS) reported an Open Unemployment Rate (TPT) in Indonesia of 5.86%, approximately affecting 8.42 million individuals. Among various education levels, Vocational High School graduates represent the highest percentage at 9.42% (Mulyadi, 2022).

To address the problem of limited employment opportunities, entrepreneurship emerges as a viable solution (Ganefri et al., 2020). Empowering Vocational High School students with entrepreneurial skills becomes crucial to enhancing their independence post-graduation (Mustikasari et al., 2022). The evident oversupply of college graduates compared to available job opportunities underscores the importance of entrepreneurship for students in vocational high schools (Rakib et al., 2023).

The continuous progress in various technological fields signifies the global transformation of the education landscape (Sukmawati et al., 2022). Consequently, workplace expectations and the educational system must adapt accordingly. Vocational high school graduates, being technologically adept students, possess the foundational knowledge to engage in entrepreneurship (Effendi et al., 2022). Given the rapid evolution of the contemporary digital age, integrating an understanding of technopreneurship into the curriculum becomes imperative for students as they enroll in SMK (Aldiansyah et al., 2023).

The incorporation of entrepreneurship education, encompassing technopreneurship insight, through workshops and dedicated subjects at Vocational High Schools serves as a significant factor influencing entrepreneurial growth in a nation, as highlighted by Yanti et al. (2022). This educational approach becomes a medium and platform for students eager to learn the intricacies of building and managing a business. However, the impact of technopreneurship insight on entrepreneurial intention, while generally positive, is shown to be limited or minimal in certain cases, indicating that its influence on promoting entrepreneurial intention varies (Pirandaus et al., 2020).

For an entrepreneur's success, not only resources, contacts, and opportunities are crucial, but self-belief or self-efficacy also plays a pivotal role in executing tasks effectively (Cahyadi, 2022). Self-efficacy, defined as confidence in one's ability to accomplish a task, significantly influences an individual's motivational state and shapes their aspirations (Yuritanto, 2022). Research examining the entrepreneurial aspirations of vocational high school students reveals a positive impact of self-efficacy on entrepreneurial interest (Manullang et al., 2022). Similarly, Putri et al. (2021) find that self-efficacy has a positive and significant effect on the entrepreneurial interest of vocational high school students.

Locus of control, as categorized into internal and external by Kreitner and Kinicki (Roring et al., 2022), represents an individual's belief regarding the control they have over their lives. Internal locus of control implies a belief in complete personal control, while external locus of control suggests a perception of having no control over external circumstances. Research conducted by Ginting et al. (2023) indicates that locus of control positively influences students' entrepreneurial interests.

In the context of SMK Negeri 1 Tilatang Kamang in Agam Regency, West Sumatra Province, which annually produces around 500 graduates, the institution has been actively
contributing to the development of young entrepreneurs. The provision of workshops and entrepreneurship subjects to students pursuing Computer and Network Engineering Expertise Competency from semester 1 through semester 6 demonstrates the commitment of SMK Negeri 1 Tilatang Kamang to nurture entrepreneurship among its students. The author aims to investigate the potential impact on students’ interest in entrepreneurship following entrepreneurship education, considering insights into technopreneurship, self-efficacy, and locus of control.

The framework and findings of previous studies can be employed to define the paradigm of this study, as illustrated in the following Figure 1.

![Figure 1. Conceptual Framework](image)

Based on the background and framework, the following hypothesis can be formulated:

H1: There is a positive and significant influence of Technopreneurship Insight on the Entrepreneurial Intention of Students of SMK Negeri 1 Tilatang Kamang.

H2: There is a positive and significant influence of Self-efficacy on the Entrepreneurial Intention of Students of SMK Negeri 1 Tilatang Kamang.

H3: There is a positive and significant effect of Locus of Control on the Entrepreneurial Intention of Students of SMK Negeri 1 Tilatang Kamang.

H4: There is a positive and significant influence of Technopreneurship Insight, Self-efficacy, and Locus of Control on the Entrepreneurial Intention of Students of SMK Negeri 1 Tilatang Kamang.

2. METHOD

This research adopts an associative approach as it aims to explore the impact of technopreneurship insight (X1), self-efficacy (X2), and locus of control (X3) on entrepreneurial intention (Y) among students in grades XI and XII specializing in Computer and Network Engineering at SMK Negeri 1 Tilatang Kamang. The subjects of this study comprise students who have undertaken workshop and entrepreneurship subjects, focusing on understanding the entrepreneurial intentions of vocational students. The research population consists of 39 students in grades XI and XII of Computer and Network Engineering at SMK Negeri 1 Tilatang Kamang.

Following Arikunto’s (2013) suggestion that when the population is below 100, the entire population can be considered as the research sample, data collection will involve distributing questionnaires to students in grades XI and XII of Computer and Network Engineering at SMK Negeri 1 Tilatang Kamang who have undergone workshops and entrepreneurship subjects. This approach aims to identify challenges faced by students aspiring to become entrepreneurs. The research methodology includes multiple regression analysis to discern the causal relationships among the independent variables—technopreneurship insight, self-efficacy, and locus of control—and their impact on entrepreneurial intention.
3. RESULT AND DISCUSSION

3.1. Result

3.1.1. Normality Test

The normality test is employed to evaluate whether the independent and dependent variables exhibit a normal distribution. Table 1 presents the outcomes of the normality test conducted on the data in this research:

<table>
<thead>
<tr>
<th>Table 1. Normality Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>One-Sample Kolmogorov-Smirnov Test</td>
</tr>
<tr>
<td>N</td>
</tr>
<tr>
<td>Normal Parameters</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Most Extreme Differences</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Test Statistic</td>
</tr>
<tr>
<td>Asymp. Sig. (2-tailed)</td>
</tr>
</tbody>
</table>

The Kolmogorov-Smirnov value is 0.129, and the significance level is 0.200, as indicated by the data processing results in the table above. When the significance level exceeds 0.05, it signifies that the residual data follows a normal distribution. Consequently, it can be inferred that further analysis can be carried out using multiple regression models.

3.1.2. Multicollinearity Test

The multicollinearity test serves to assess whether the independent variables in a regression model are correlated (Juliandi, Irfan, & Manurung, 2015). In the presence of multicollinearity, the regression coefficient becomes incalculable, and the standard error value becomes infinite. Two indicators, namely tolerance and its reciprocal, as well as the Variance Inflation Factor (VIF), are utilized to identify multicollinearity in a regression model.

Tolerance gauges which independent variables are explicable by others, while VIF, calculated as 1/tolerance, indicates the degree of variability of selected independent variables that cannot be elucidated by additional independent variables. A commonly employed threshold value for detecting multicollinearity is a tolerance value of 0.10 or a VIF of 10. The subsequent table displays the outcomes of the multicollinearity test.

<table>
<thead>
<tr>
<th>Table 2. Multicollinearity Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Technopreneurship Insight</td>
</tr>
<tr>
<td>Self-Efficacy</td>
</tr>
<tr>
<td>Locus of Control</td>
</tr>
</tbody>
</table>

Based on the data presented in Table 2, the Variance Inflation Factor (VIF) values for the Technopreneurship Insight, self-efficacy, and Locus of Control variables are 1.583, 2.912, and 3.644, respectively. Correspondingly, the tolerance values for Technopreneurship Insight, self-efficacy, and Locus of Control are 0.632, 0.343, and 0.274, respectively. Notably, each variable's tolerance exceeds 0.1, suggesting an absence of multicollinearity among the independent variables. Furthermore, with VIF values below 10, it is reasonable to conclude that there are no indications of multicollinearity. Consequently, further analysis using multiple regression is deemed appropriate.
3.1.3. Heteroscedasticity Test

The heteroscedasticity test is conducted to identify any inequality in variance between residuals and other data within the regression model. In a well-fitted regression model, heteroscedasticity is not present. The examination of heteroscedasticity symptoms is performed using the Glejser Test. As indicated by (Juliandi, Irfan, & Manurung, 2014), a regression model is considered free from signs of heteroscedasticity when the significance value exceeds the alpha level of 0.05.

<table>
<thead>
<tr>
<th>Model</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>0.060</td>
</tr>
<tr>
<td>Technopreneurship Insight</td>
<td>0.783</td>
</tr>
<tr>
<td>Self-Efficacy</td>
<td>0.710</td>
</tr>
<tr>
<td>Locus of Control</td>
<td>0.208</td>
</tr>
</tbody>
</table>

The outcomes of the heteroscedasticity test reveal that the Sig. values for the variables Technopreneurship Insight (X1), Self-Efficacy (X2), and Locus of Control (X3) are 0.783, 0.710, and 0.208, respectively. These values are greater than 0.05, suggesting that the independent variables do not contribute to the absolute residual. Consequently, the constructed model does not display symptoms of heteroscedasticity. Thus, it can be inferred that further analysis can be conducted using multiple regression models.

3.1.4. Multiple Linear Regression

Multiple linear regression analysis is executed to scrutinize the data. This form of analysis is employed to ascertain the impact of each independent variable on the dependent variable. The findings from the data processing using SPSS version 22.0 are presented below.

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
</tr>
<tr>
<td>(Constant)</td>
<td>-5.270</td>
<td>3.352</td>
</tr>
<tr>
<td>Technopreneurship Insight</td>
<td>-0.228</td>
<td>0.149</td>
</tr>
<tr>
<td>Self-Efficacy</td>
<td>0.066</td>
<td>0.182</td>
</tr>
<tr>
<td>Locus of Control</td>
<td>1.328</td>
<td>0.227</td>
</tr>
</tbody>
</table>

The following values are known based on the data acquired from multiple regression tests:

- Constant = -5.270
- X1 = -0.228
- X2 = 0.066
- X3 = 1.328

This information is inputted into multiple linear regression equations, resulting in the subsequent equation. The provided equation is easily comprehensible:

\[ Y = -5.270 - 0.228X1 + 0.066X2 + 1.328X3 \]

The regression coefficient shows that not all independent variables tested have a positive effect on the dependent variable.

a) The constant, -5.270, implies that when Technopreneurship Insight, Self-Efficacy, Locus of Control, and Entrepreneurial character are all 0, the student's entrepreneurial intention is -5.270.
b) The regression coefficient for Technopreneurship Insight, -0.228, signifies that a one-unit increase in Technopreneurship Insight is associated with a decrease of -0.228 in students' entrepreneurial intention.

c) The regression coefficient for Self-Efficacy, 0.066, indicates that a one-unit increase in students' self-efficacy results in a 0.066 increase in their intention for entrepreneurship.

d) The regression coefficient for Locus of Control, 1.328, suggests that a one-unit increase in the Locus of Control possessed by students leads to a 1.328 increase in their intention for entrepreneurship.

### 3.1.5. Partial Significance Test (t Statistical Test)

In this research, the impact of each independent variable on the dependent variable was evaluated through the utilization of the t-test. The t-test serves the purpose of establishing whether there exists a statistically significant relationship between the independent variable (X) and the dependent variable. The outcomes of the t-test, made possible by employing SPSS for Windows version 22.0 for data analysis, are presented below:

<table>
<thead>
<tr>
<th>Model</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>-1.211</td>
<td>.234</td>
</tr>
<tr>
<td>Technopreneurship Insight</td>
<td>-1.537</td>
<td>.133</td>
</tr>
<tr>
<td>Self-Efficacy</td>
<td>.362</td>
<td>.719</td>
</tr>
<tr>
<td>Locus of Control</td>
<td>5.844</td>
<td>.000</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Entrepreneurial Intention

According to the outcomes of the partial examinations on the impact of Technopreneurship Insight, Self-Efficacy, and Locus of Control on Entrepreneurial Intention, the t-values for Technopreneurship Insight (-1.537), Self-Efficacy (0.362), and Locus of Control (5.884) were compared with the t-table value at a significance level of 5% (2.026). For Technopreneurship Insight and Self-Efficacy, where the significance levels (0.133 and 0.719, respectively) were greater than 0.05, Ho was accepted (Ha was rejected), indicating an influence but not a statistically significant impact on Entrepreneurial Intention partially among Class XI and XII Computer and Network Engineering Students at SMK Negeri 1 Tilatang Kamang. In the case of Locus of Control, the significance level was 0.000, which is less than 0.05. Consequently, Ho was rejected (Ha was accepted), signifying that the independent variable Locus of Control has a significant impact on Entrepreneurial Intention partially among Class XI and XII Computer and Network Engineering Students at SMK Negeri 1 Tilatang Kamang.

### 3.1.6. Simultaneous Test (F Test)

To determine if the combined independent variables significantly influence the dependent variable, a simultaneous test was conducted. The following results were obtained through data analysis using the SPSS Version 22.0 software:

<table>
<thead>
<tr>
<th>Model</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>3</td>
<td>256,180</td>
<td>37,532</td>
<td>.000</td>
</tr>
<tr>
<td>Residual</td>
<td>35</td>
<td>6,826</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>38</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: Entrepreneurial Intention

b. Predictors: (Constant), Locus of Control, Technopreneurship Insight, Self-Efficacy
As evident from the provided data, when the F count surpasses the F table (37.532 > 2.626) and F 0.05 (0.000 < 0.05), H0 is rejected. Consequently, the amalgamation of technopreneurship insight, self-efficacy, and locus of control significantly and positively influences the entrepreneurial intention of students in Class XI and XII Computer and Network Engineering at SMK Negeri 1 Tilatang Kamang.

3.1.7. Determination Coefficient

The coefficient of determination, calculated by squaring the identified coefficient, serves to determine the proportion of one variable's influence on another. This coefficient of determination is essential for comprehending the determination test, expressing the percentage impact of technopreneurship insight, self-efficacy, and locus of control on entrepreneurial intention.

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.873a</td>
<td>.763</td>
<td>.743</td>
<td>2.613</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Locus of Control, Technopreneurship Insight, Self-Efficacy

The comprehensive results of the regression analysis presented in the table indicate an R Square value of 0.763. The coefficient of determination, or Adjusted R Square (R2) value, is also 0.763. This table illustrates how Technopreneurship Insight, Self-Efficacy, and Locus of Control contribute to explaining Entrepreneurial Intention, the dependent variable. The standard error of the estimate is 2.631, and a lower value indicates greater precision in the regression model's ability to predict entrepreneurial Intention.

3.2. Discussion

3.2.1. The Effect of Technopreneurship Insight on Entrepreneurial Intention

The primary aim of this study was to investigate the influence of technopreneurship insight, self-efficacy, and locus of control on the entrepreneurial intention of students in SMK Negeri 1 Tilatang Kamang's Class XI and XII Computer and Network Engineering program. The t count for the impact of technopreneurship insight on entrepreneurial intention was -1.537, with a t table of 2.026 at a significance level of 0.133 > 0.05. Consequently, Ho was accepted, indicating that while there is some influence, it is not particularly significant. This implies that the teaching strategies or methodologies employed to provide workshops and entrepreneurship materials may have shortcomings (Miço et. al, 2023).

3.2.2. The Effect of Self-Efficacy on Entrepreneurial Intention

In examining the effect of self-efficacy on entrepreneurial intention, the t count was 0.362, with a t table of 2.026 at a significance level of 0.719 > 0.05. Again, H0 was accepted, suggesting a relationship between self-efficacy and entrepreneurial intention, but it is not particularly significant. This indicates that the self-efficacy of students in Computer and Network Engineering at SMK Negeri 1 Tilatang Kamang is considered sufficient for entrepreneurship but requires maintenance and enhancement (Pham et. al, 2023).

3.2.3. The Effect of Locus of Control on Entrepreneurial Intention

The investigation into the impact of locus of control on entrepreneurial intention yielded a t count of 5.884, with a t table of 2.026 at a significance level of 0.000 < 0.05. H0 was rejected, indicating a substantial relationship between locus of control and entrepreneurial intention. The findings suggest that students in Computer and Network Engineering at SMK Negeri 1 Tilatang Kamang possess a strong locus of control for entrepreneurship, which needs to be nurtured and strengthened (Jazuli et. al, 2023).
3.2.4. The Effect of Technopreneurship Insight, Self-Efficacy, and Locus of Control on Entrepreneurial Intention

The combined impact of technopreneurship insight, self-efficacy, and locus of control on entrepreneurial intention was examined using ANOVA. The $f_{\text{count}}$ was 37.532, and the significance level was 0.000. As the $f_{\text{table}}$ at a significance threshold of 5% was 2.626, $H_0$ was rejected. Consequently, it can be concluded that the three factors collectively exert a positive and significant impact on students' entrepreneurial intention. Thus, the study aligns with existing theory, popular opinion, and prior research, indicating that technopreneurship insight, self-efficacy, and locus of control significantly influence the entrepreneurial intention of students in Class XI and XII Computer and Network Engineering at SMK Negeri 1 Tilatang Kamang (Vingki et al., 2023).

4. CONCLUSION

Based on the insights extracted from the analysis, it can be deduced that entrepreneurial intention is positively and significantly impacted by technopreneurship insight, self-efficacy, and locus of control. However, self-efficacy and technopreneurship insight, in partial terms, do not exert a significant influence on entrepreneurial intention. The entrepreneurial aspirations of Class XI and XII students in the Computer and Network Engineering Department at SMK Negeri 1 Tilatang Kamang are significantly shaped by partial locus of control.

Considering the study's findings, the most practical recommendation is to enhance teaching methodologies and provide training to cultivate students' interest in entrepreneurship. Establishing networks with young entrepreneurs and local stakeholders involved in entrepreneurship programs can inform students about potential opportunities and challenges, aiding in the development of technological entrepreneurship insight and self-efficacy. A suggested approach is the creation of a technopreneurship insight program that goes beyond theoretical aspects, incorporating case studies of entrepreneurs initiating their ventures. By formulating strategies suitable for addressing the challenges faced by these entrepreneurs, students can acquire profound knowledge and build robust personalities, preparing them for future entrepreneurial endeavors.

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