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Determinant Factors Influencing Entrepreneurial Interest among Vocational School Students in Electronics Engineering

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Abstract

This research investigates the various factors that affect entrepreneurial interest among vocational secondary school students enrolled in the electronics engineering program in Yogyakarta, Indonesia. The study identifies entrepreneurship as a crucial mechanism for fostering innovation, self-employment, and enhancing national competitiveness. It examines five primary determinants: self-efficacy, family support, entrepreneurial attitude, entrepreneurship education, and social and institutional support. A quantitative ex post facto methodology was utilized, involving 104 respondents chosen through proportional random sampling from three vocational institutions. Data collection employed a validated four-point Likert scale questionnaire, with analysis conducted via simple and multiple linear regression techniques utilizing SPSS. The findings indicate that all five variables have significant and positive impacts on students' entrepreneurial interest, both independently and in combination. Entrepreneurship education and social–institutional support exhibit the most significant impact, underscoring the critical role of practical learning, mentorship, and supportive ecosystems in shaping entrepreneurial trajectories. Self-efficacy and family support enhance motivation and confidence, while positive entrepreneurial attitudes promote perseverance and proactive engagement in opportunity recognition. These factors account for nearly half of the variance in entrepreneurial interest, thereby affirming the significance of the Theory of Planned Behavior and Social Cognitive Theory within vocational contexts. This study empirically enhances the discourse on entrepreneurship in technical and vocational education by highlighting the combined influence of psychological, familial, educational, and structural supports on the development of entrepreneurial intentions. Policy implications indicate that promoting entrepreneurship necessitates the alignment of curricular design, family involvement, and institutional policies to enhance entrepreneurial ecosystems within vocational education. Vocational schools can enhance student empowerment by fostering self-efficacy and offering accessible institutional resources, enabling the translation of entrepreneurial aspirations into sustainable ventures.

Keywords: *Entrepreneurial Attitude, Entrepreneurship Education, Entrepreneurial Interest, Family Support, Self-Efficacy.*

1. Introduction

Entrepreneurship is essential for national economic development, as it generates employment, fosters innovation, enhances competitiveness, and contributes to overall economic resilience [1]–[5]. The Indonesian government emphasizes entrepreneurship education in vocational secondary schools, which are required to equip graduates for both immediate employment and entrepreneurial activities. Despite these initiatives, tracer studies of graduates from the electronics engineering program in vocational schools throughout Yogyakarta reveal a consistently low level of entrepreneurial interest. The majority of graduates favor stable employment within the formal sector or the pursuit of further education over engaging in entrepreneurial activities. This trend highlights structural and contextual barriers that limit the development of entrepreneurial aspirations in vocational school students.

Entrepreneurial interest theoretically arises from the interaction of internal and external factors [6]. Self-efficacy, defined as an individual's belief in their ability to initiate and manage a business [7], is a significant internal determinant. Empirical research indicates that increased self-efficacy improves confidence in addressing business risks and uncertainties. Entrepreneurial attitudes enhance this orientation, as students with favorable dispositions toward entrepreneurship are more likely to embrace challenges, innovate, and seize emerging opportunities [8]. External influences are also significant. Family support offers motivation, financial resources, and role models that bolster students' confidence in entrepreneurial endeavors [9][10]. Entrepreneurship education provides critical knowledge and skills; however, many vocational schools continue to offer a curriculum that is excessively theoretical and lacks sufficient practical

application. Comprehensive social and institutional supports, such as training, capital access, mentoring, and supportive policy frameworks, significantly influence students' preparedness to launch businesses [11].

This study investigates the impact of self-efficacy, family support, entrepreneurial attitudes, entrepreneurship education, and social and institutional support on the entrepreneurial interest of vocational secondary school students enrolled in the electronics engineering program in Yogyakarta City. The findings are anticipated to guide the development of more effective educational strategies and policy interventions designed to foster entrepreneurial pathways for the younger generation. Prior evidence highlights the synergistic effects of these factors. Annisa et al. [12] discovered that students exhibiting high self-efficacy and substantial family support showed markedly increased entrepreneurial interest. The interdependencies underscore the complex nature of entrepreneurial intention formation and the necessity for integrated approaches that enhance individual capabilities, family involvement, and institutional support concurrently. Self-efficacy, family support, entrepreneurial attitude, entrepreneurship education, and social and institutional support can motivate individuals to act through the development of interest. When these factors are strong, entrepreneurial interest is also high, which in turn leads to the emergence of new entrepreneurs.

2. Literature Review

Scholarly attention has increasingly focused on entrepreneurial interest due to its critical role in fostering economic growth, innovation, and workforce transformation. The phenomenon emerges from the interaction of individual psychological factors, sociocultural contexts, and educational experiences [13]. Traits including creativity, achievement orientation, and self-confidence foster proactive engagement in entrepreneurship, while families convey entrepreneurial values through emotional support, encouragement, and role modeling [14]. Experiential and project-based learning in education enhances self-efficacy and practical competence, allowing students to perceive entrepreneurship as both achievable and significant [15][16]. This approach imparts technical knowledge while fostering confidence and self-efficacy, allowing students to perceive entrepreneurship as a viable career option [4][17]. Wider social and institutional frameworks, including community norms, role models, and supportive policies, bolster this process, aligning with social cognitive career theory and the Theory of Planned Behavior [18][19]. The Theory of Planned Behaviour [20] emphasises that attitudes, subjective norms, and perceived behavioural control collectively predict the strength of entrepreneurial intentions [21]–[23]. In a digital age, online networks enhance access to mentorship and resources, while mental health, resilience, and well-being are recognized as essential yet frequently neglected aspects of entrepreneurial preparedness [24][25]. The interplay of these factors influences the conversion of entrepreneurial aspirations into actionable steps [26]–[28].

Self-efficacy, as defined by Bandura [7], denotes an individual's belief in their ability to organize and execute actions required to achieve specific outcomes. In the context of entrepreneurship, this belief is crucial in influencing the decision to start and maintain a business venture [26][29][30]. Entrepreneurial self-efficacy (ESE) broadens this concept to include confidence in identifying opportunities, mobilizing resources, and navigating uncertainty and risk. Empirical evidence indicates that structured entrepreneurship education, mentorship, and experiential learning, such as internships, innovation projects, and start-up competitions, can enhance entrepreneurial self-efficacy by converting theoretical knowledge into practical competence [31]. Self-efficacy serves as a mediating mechanism that transforms education and experience into entrepreneurial interest, where elevated confidence levels enhance the probability of entrepreneurial involvement [30][32]–[34]. The development of entrepreneurial self-efficacy (ESE) is influenced by supportive subjective norms from family, peers, and communities that promote positive entrepreneurial attitudes [35]–[37]. Universities and vocational schools play a role by offering entrepreneurship programs, mentorship, and networking opportunities that mitigate perceived barriers [38]–[41]. Additionally, gendered sociocultural expectations impact the formation of entrepreneurial self-efficacy (ESE), highlighting the necessity for inclusive educational practices that enable all learners to engage in entrepreneurship.

Family support plays a critical role in entrepreneurial development, influencing individuals' motivation, confidence, and ability to translate aspirations into action. Families impact young people's perceptions of opportunities, risk management, and perseverance through emotional, financial, and informational support [3][28][42][43]. A family culture that supports entrepreneurship cultivates confidence, offers role models, and improves students' preparedness for starting businesses [44]. This support functions across emotional, esteem, informational, and instrumental dimensions, providing both encouragement and concrete resources [12][45]. Family networks facilitate access to markets, partnerships, and essential knowledge for business growth beyond the household [42]. Family support is vital for individuals encountering social or structural barriers, including women and first-generation entrepreneurs, as it offers both moral reinforcement and practical assistance [46][47]. Excessive reliance on financial aid, in the absence of strategic planning, may impede learning and sustainability [26]. Intergenerational mentoring, involving parental engagement in entrepreneurship education, effectively connects formal learning with practical experience, thereby enhancing students' confidence and entrepreneurial skills [48][49].

The entrepreneurial attitude indicates an individual's disposition and mindset regarding entrepreneurial activities, affecting the readiness to initiate, maintain, and expand a business venture. This attitude encompasses psychological attributes including risk-taking orientation, creativity, innovation, proactivity, and self-efficacy, which are widely acknowledged as fundamental to entrepreneurial intention and behavior. Education functions as a significant factor in influencing entrepreneurial attitudes. Research indicates that experiential entrepreneurship learning improves students' confidence, proactive orientation, and opportunity recognition abilities, consequently increasing their motivation to pursue business creation [50][51]. The development of entrepreneurial attitudes is further influenced by cultural context. Societies that promote innovation, regard entrepreneurship as respectable, and accept uncertainty are more likely to foster favorable entrepreneurial attitudes. In contrast, cultures that stigmatize failure or emphasize job security may inhibit entrepreneurial risk-taking [6][52]. In addition to education and culture, personal traits like self-confidence and risk tolerance are critical factors. Individuals exhibiting a higher propensity for risk-taking are more inclined to seek entrepreneurial opportunities. Conversely, those possessing significant intrinsic motivation and enthusiasm are better equipped to address challenges through creativity, resilience, and persistence [53][54].

Entrepreneurship Education (EE) has emerged as a fundamental component of vocational education in response to global trends that emphasize innovation and entrepreneurship as critical drivers of sustainable growth [4][8][55][56]. Conventional theory-focused curricula fail to equip students for the unpredictability of actual business contexts, leading to a transition towards experiential learning approaches, including internships, project-based assignments, and business simulations that enhance creativity, practical skills, and self-efficacy [57][58][59]. Based on social cognitive theory, EE highlights the reciprocal relationship among environment, cognition, and behavior, wherein enhanced self-efficacy strengthens entrepreneurial interest. The effectiveness extends beyond pedagogy to encompass

motivational and contextual factors, including confidence building, mitigation of fear of failure, family encouragement, and an innovation-driven school culture [60][61][62]. Collaborations between educational institutions and industry improve relevance by providing mentoring and facilitating collaborative projects that link theoretical knowledge with practical application. Effective entrepreneurship education equips students with creativity, managerial skills, and an entrepreneurial mindset essential for transforming ideas into viable ventures, thereby fostering individual empowerment and enhancing economic resilience [63]–[65]. Social and institutional support is fundamental to the development of an entrepreneurial ecosystem, offering essential resources, legitimacy, and the conditions necessary for sustaining entrepreneurial activity. An entrepreneurial ecosystem includes a network of organizations, financial institutions, government policies, educational institutions, and cultural values that interact dynamically and interdependently to foster business creation and growth [66].

3. Method

3.1. Research Design

This quantitative study employs an ex post facto design [4] to examine the factors influencing entrepreneurial interest among vocational high school students participating in the Electronics Engineering Expertise Program in Yogyakarta, Indonesia. Data were collected through a structured questionnaire utilizing a four-point Likert scale, which was distributed proportionally among selected schools to ensure representative coverage of the student population. This research examines five primary constructs: self-efficacy, family support, entrepreneurial attitudes, entrepreneurship education, and social and institutional support. The constructs were derived from recognized theoretical and empirical frameworks concerning entrepreneurship development [7][9]. Simple linear regression and multiple linear regression analyses were performed using SPSS to investigate the proposed relationships.

3.2. Participants

The research was carried out at three vocational high schools in Yogyakarta City, SMK Negeri 2 Yogyakarta, SMK Negeri 3 Yogyakarta, and SMK 1 Piri Yogyakarta, all of which provide the electronics engineering program. The research population included all 11^{th} grade students enrolled in this program, as they are at a pivotal stage in vocational education, making decisions regarding career paths, including entrepreneurship. Proportional random sampling was utilized to guarantee representativeness among the three schools, resulting in 105 valid respondents.The demographic profile of the respondents can be seen in Table 1. In the total sample, 68.3% were male (n = 72) and 31.7% were female (n = 33), reflecting the typical gender distribution found in engineering-related vocational programs. A significant proportion of students (72.1%) were 16 years old, while 25.0% were 17 years old, and a minor percentage (2.9%) were 18 years old. A majority of respondents, 56.7%, reported having at least one parent participating in the formal labor market. In contrast, 28.8% indicated that their parents were self-employed or entrepreneurs, while 14.5% came from families with mixed or informal occupational backgrounds. Furthermore, around 60% of the students reported no previous entrepreneurial experience, whereas 40% had participated in minor entrepreneurial endeavors, including online sales, part-time employment, or assistance in family businesses.

Table 1. Demography of Respondents

Variable	Category	Frequency (n)	Percentage (%)
Gender	Male	72	68.3
	Female	33	31.7
Age	16 years	76	72.1
	17 years	26	25.0
	18 years	3	2.9
Parental Occupation	Formal sector (e.g., civil servant, private employee)	59	56.7
	Entrepreneur/self-employed	30	28.8
	Informal/mixed employment	16	14.5
Entrepreneurial Experience	None	62	59.6
	Yes (e.g., online sales, family business, part-time work)	43	40.4

3.3. Instruments and Collecting Data

Data were collected through a structured questionnaire designed based on an extensive review of entrepreneurship and educational psychology literature, ensuring consistency with the study's objectives. The instrument utilized a four-point Likert scale, from “Strongly Disagree” (1) to “Strongly Agree” (4), to effectively capture respondents’ perceptions, ensuring adequate variability and reducing central tendency bias. The questionnaire items underwent expert validation by three senior academics specializing in entrepreneurship and vocational education, followed by item analysis utilizing product moment correlation to confirm construct validity. A pilot test was conducted, confirming high internal consistency, as Cronbach’s alpha coefficients surpassed the recommended threshold of 0.7 for all variables, indicating acceptable reliability for large-scale data collection. The final instrument comprised five fundamental constructs: self-efficacy, family support, entrepreneurial attitude, entrepreneurship education, and social and institutional support. The constructs were operationalized using established theoretical indicators, including Bandura’s concept of self-efficacy and previous models of entrepreneurial intention [9]. Demographic variables such as age, gender, parental occupation, and previous entrepreneurial experience were incorporated to provide context for the findings. Ethical considerations were rigorously upheld participants received information regarding the study's objectives, were guaranteed confidentiality, and voluntarily consented prior to survey completion.

3.3. Analysis of Data

The analysis of data was performed utilizing SPSS version 26. The procedure commenced with descriptive statistics to depict the overall distribution of responses across constructs, followed by tests for normality, linearity, and multicollinearity to verify adherence to regression prerequisites. Hypothesis testing utilized simple and multiple linear regression to evaluate the direct and combined impacts of independent variables on entrepreneurial interest. Due to the non-linear distribution observed between entrepreneurial attitude and entrepreneurial interest, Spearman’s rank correlation was utilized as an additional method. This methodological triangulation

strengthened the reliability of the statistical inferences by incorporating both linear and non-linear relationships among variables. The analytic design is represented in the conceptual framework model (see Figure 2), illustrating the hypothesized relationships between independent and dependent variables.

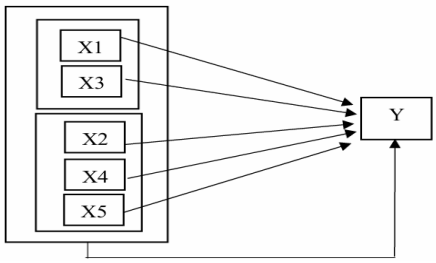

Fig 2. Relationship among variables

4. Result and Discussion

This research examines the impact of self-efficacy, family support, entrepreneurial attitudes, entrepreneurship education, and both social and institutional support on the entrepreneurial intentions of vocational high school students enrolled in the Electronics Engineering Program in Yogyakarta City. The descriptive analysis reveals that students exhibit moderate to high self-efficacy levels, with a mean score of 25.73 (scale 9–36), indicating substantial confidence in addressing entrepreneurial challenges. Family support is assessed as moderate to high (M = 22.44, scale 10–32), indicating significant emotional and instrumental assistance. The mean score for entrepreneurial attitudes is 31.11 (on a scale of 11–44), indicating a positive disposition and readiness to undertake entrepreneurial risks. The mean score for entrepreneurship education is 32.77 (scale 12–48), indicating a relatively robust engagement with entrepreneurship-related learning, though it remains somewhat constrained in practical application. Social and institutional support is rated at 16.84 (scale 8–24), indicating adequate access to external support mechanisms, policies, and facilities.

The model assumption tests indicate that residuals exhibit normality (Kolmogorov–Smirnov $p = 0.200 > 0.05$) and linearity for all variables, with the exception of entrepreneurial attitudes. Spearman's correlation was utilized to evaluate the relationship between entrepreneurial attitudes and entrepreneurial intentions. Regression analyses indicate that self-efficacy has a significant positive effect on entrepreneurial intentions ($F = 18.543$, $p < 0.05$, $R^2 = 0.153$), aligning with Bandura's (1997) claim that self-efficacy promotes proactive behavior and risk-taking. Family support significantly influences outcomes ($F = 30.568$, $p < 0.05$, $R^2 = 0.229$), supporting Ajzen's Theory of Planned Behavior (TPB), which emphasizes the importance of subjective norms and social referents in the formation of intention. Analysis of entrepreneurial attitudes using Spearman's test reveals a significant positive correlation with entrepreneurial intentions ($\rho = 0.697$, $p < 0.001$), supporting the Theory of Planned Behavior's assertion that attitudinal orientation is a critical factor influencing behavioral intention.

Entrepreneurship education is identified as a significant factor ($F = 57.365$, $p < 0.05$, $R^2 = 0.358$), underscoring its dual function in knowledge transmission and the enhancement of perceived behavioral control. Social and institutional support exhibits a substantial effect ($F = 61.929$, $p < 0.05$, $R^2 = 0.375$), highlighting the importance of a supportive ecosystem that offers training, resource access, policy incentives, and collaborative connections between educational institutions and industry. All independent variables collectively demonstrate a significant joint effect ($F = 18.607$, $p < 0.05$), with an explanatory power of 48.4% ($R^2 = 0.484$). This supports the multidimensional framework of the Theory of Planned Behavior, wherein attitudes, subjective norms, and perceived behavioral control collectively influence entrepreneurial intention. The findings underscore the importance of a comprehensive approach to enhance entrepreneurial intentions among vocational high school students. Enhancing self-efficacy via experiential and project-based learning, integrating authentic business practices into entrepreneurship curricula, involving families for motivational and material support, and securing institutional support through policy interventions and industry partnerships are critical strategies. Integrative approaches foster entrepreneurial competencies and establish entrepreneurship as a viable career path for vocational graduates in developing economies.

4.1. Descriptive analysis result

Table 2 displays the descriptive statistics for the six research variables, indicating a broad range of scores among respondents. This variability illustrates the diversity in entrepreneurial readiness among vocational students in the Electronics Engineering Program. Entrepreneurship education (M = 32.77, SD = 7.44) and entrepreneurial attitudes (M = 31.11, SD = 6.98) exhibit the highest mean values within their scales, indicating that structured curricular exposure and favorable attitudinal orientations establish a robust foundation for the development of entrepreneurial intentions. The findings support existing literature indicating that entrepreneurship education improves knowledge and enhances perceived behavioral control, with positive attitudes serving as key predictors of entrepreneurial intention within the Theory of Planned Behavior framework.

Table 2. Descriptive Analysis Result

	SE	FS	EA	EE	SIS	EI
N Valid	105	105	105	105	105	105
Missing	0	0	0	0	0	0
Mean	25.73	22.44	31.11	32.77	16.84	22.51
Median	26.00	23.00	32.00	34.00	17.00	24.00
Mode	27	24	33	36	18	24
Std. Deviation	5.020	5.360	6.980	7.444	3.808	5.862
Minimum	9	10	11	12	8	9
Maximum	36	32	44	48	24	32

Information: SE (self-efficacy); FS (family support), EA (Entrepreneurial attitude); EE (Entrepreneurship education); SIS (Social and institutional support); EI (Entrepreneurial interest)

Self-efficacy (M = 25.73, SD = 5.02) and family support (M = 22.44, SD = 5.36) are both within the moderate-to-high range, suggesting that students exhibit a considerable sense of personal capability and obtain significant encouragement from their families. The findings support Bandura's [7] conceptualization of self-efficacy as a catalyst for proactive behavior and align with research highlighting the family's significant role as an external motivator in influencing entrepreneurial career choices [9].

Conversely, social and institutional support exhibits the lowest average (M = 16.84, SD = 3.81), indicating a deficiency in access to broader structural resources, including mentorship, financial capital, and policy incentives. This indicates that although individual and family-level factors are relatively strong, systemic support from educational institutions, industry, and government is still lacking, which may limit students' entrepreneurial opportunities. The descriptive profile reveals significant latent potential for entrepreneurship among vocational high school students, especially in terms of attitudinal and educational factors. The relatively low level of social and institutional support highlights the need for policy and institutional interventions to create an equitable entrepreneurial ecosystem. Enhancing external supports via targeted government initiatives, school–industry collaborations, and accessible funding mechanisms would augment current educational and familial strengths, thereby fostering students' entrepreneurial interest in a sustainable and inclusive way.

4.2. Normality test result

The Kolmogorov–Smirnov (K–S) test further substantiated this visual evidence by offering a formal evaluation of distributional normality.

Table 3. Normality test result using Kolmogorov-Smirnov

Statistics	Unstandardized Residual
N	105
Normal Parameters	
- Mean	0.0000000
- Std. Deviation	4.20924758
Most Extreme Differences	
- Absolute	0.071
- Positive	0.071
- Negative	-0.057
Test Statistic	0.071
Asymp. Sig. (2-tailed)	0.200
Monte Carlo Sig. (2-tailed)	0.216
99% Confidence Interval	
- Lower Bound	0.205
- Upper Bound	0.227

Table 3 presents the results of the K–S test, which produced a statistic of 0.071 and an asymptotic significance value of p = 0.200. Additionally, a Monte Carlo significance estimate was obtained, yielding p = 0.216 (99% CI: 0.205–0.227). The values surpass the conventional threshold of 0.05, indicating that the residuals do not significantly deviate from normality. The mean of the unstandardized residuals was 0.000, with a standard deviation of 4.209, indicating symmetry and consistency in the error distribution.

The results indicate that the regression model in this study meets the normality assumption, thus confirming the suitability of parametric statistical methods, including simple and multiple linear regression. Maintaining residual normality is crucial, as deviations from this assumption can lead to biased parameter estimates and undermine the accuracy of inferences [67]. Confirming normality through complementary visual and statistical evidence enhances the robustness of regression analysis and the reliability of subsequent hypothesis testing.

4.3. Linearity test result

A linearity test was conducted to evaluate the relationship between the independent variables and the dependent variable, focusing on the significance of the F-value and the deviation from linearity. The findings in Table 4 demonstrate that self-efficacy (X1), family support (X2), entrepreneurship education (X4), and social and institutional support (X5) satisfied the linearity assumption, with significance values surpassing the 0.05 threshold. This indicates that these predictors maintain a consistent and proportional relationship with entrepreneurial intentions. Conversely, entrepreneurial attitudes (X3) exhibited a notable departure from linearity (p = 0.004 < 0.05), suggesting that the relationship with entrepreneurial intentions is more accurately represented through non-linear modeling.

Table 4. Linearity test result

Variable Relationships	Sig deviation from linearity	F calculated	F table	Conclusion
X1 - Y	0,397	1,069	2,31	Linear
X2 - Y	0,116	1,468	2,31	Linear
X3 - Y	0,004	2,195	2,31	Non-Linear
X4 - Y	0,006	2,083	2,31	Linear
X5 - Y	0,744	0,725	2,31	Linear

A non-parametric Spearman's Rank Correlation test was conducted to analyze the relationship between entrepreneurial attitudes and entrepreneurial intentions, avoiding assumptions of linearity or normality. Table 5 indicates a correlation coefficient of 0.697 (p < 0.001), demonstrating a strong and statistically significant positive association. This finding supports the theoretical expectation that students' positive attitudes toward entrepreneurship significantly increase their entrepreneurial interest, consistent with Ajzen's Theory of Planned Behavior, which identifies attitudes as a key factor influencing behavioral intention.

Table 5. Spearman rank correlation test result

Spearman's rho	Entrepreneurial attitude	Entrepreneurial interest
Correlation Coefficient	1.000	.697**
Sig. (2-tailed)	.	< .001
N	105	105

4.4. Multicollinearity test result

Multicollinearity testing was performed to verify the independence of predictors in the regression model, as high intercorrelation among independent variables can distort regression coefficients and diminish the interpretability of results [67]. The analysis utilized tolerance values and their reciprocals, specifically the variance inflation factors (VIF), with thresholds set at tolerance > 0.10 and VIF < 10 to indicate acceptable independence. Table 6 indicates that all independent variables met the specified criteria, exhibiting tolerance values from 0.214 to 0.603 and VIF values ranging from 1.657 to 4.682. The results indicate the absence of significant multicollinearity issues in the model.

Table 6. Multicollinearity test result

Variable	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
Constant	3.001	2.484	–	1.208	0.230	–	–
SE	-0.015	0.108	-0.013	-0.135	0.893	0.603	1.657
FS	-0.002	0.111	-0.002	-0.015	0.988	0.504	1.983
EA	0.396	0.109	0.471	3.631	<0.001	0.309	3.234
EE	-0.027	0.123	-0.034	-0.220	0.826	0.214	4.682
SIS	0.505	0.192	0.328	2.636	0.010	0.336	2.973

Information: SE (self-efficacy); FS (family support), EA (Entrepreneurial attitude); EE (Entrepreneurship education); SIS (Social and institutional support); EI (Entrepreneurial interest)

Entrepreneurship education (EE) demonstrated the lowest tolerance (0.214) and the highest VIF (4.682), suggesting stronger correlations with other predictors than the other variables. These values are within the accepted range, indicating that while EE shares explanatory variance with constructs like entrepreneurial attitudes and social support, it does not undermine the model's statistical validity. Self-efficacy (VIF = 1.657) and family support (VIF = 1.983) exhibited the lowest levels of collinearity, thereby underscoring their distinct contributions to entrepreneurial intentions. The lack of multicollinearity guarantees that the regression coefficients yield stable and unbiased estimates, thus improving confidence in interpreting the relative impacts of self-efficacy, family support, entrepreneurial attitudes, entrepreneurship education, and social and institutional support. The analysis confirms that each predictor maintains adequate independence, thereby establishing a solid basis for investigating how these multidimensional factors collectively influence the entrepreneurial intentions of vocational secondary school students.

4.5. F test result

The F-test was employed to assess the joint significance of the independent variables, determining whether the regression model effectively explains entrepreneurial intentions. The analysis, as shown in Table 7, produced a calculated F-value of 18.607, significantly surpassing the F-table value of 2.31 at the 5% significance level. The significance level ($p < 0.001$) indicates that the null hypothesis of no joint effect is rejected. This finding indicates that self-efficacy, family support, entrepreneurial attitudes, entrepreneurship education, and social and institutional support collectively have a statistically significant impact on students' entrepreneurial intentions.

The overall model fit is reinforced by the ANOVA results, which show that 1,731.581 units of variance in entrepreneurial intention are accounted for by the predictors, in contrast to 1,842.648 units of unexplained variance. This indicates that approximately 50% of the overall variation in entrepreneurial intentions is due to the combined influence of the five independent variables. This underscores the complex nature of entrepreneurial intention formation, as suggested by the Theory of Planned Behavior, where attitudes, subjective norms, and perceived behavioral control collectively influence entrepreneurial decision-making.

Table 7. F-test result

ANOVA	Sum of Squares	df	Mean Square	F	Sig.
Regression	1731.581	5	346.316	18.607	<.001b
Residual	1842.648	99	18.613		
Total	3574.229	104			

4.6. Coefficient of determination (R^2) result

The regression model's explanatory power was evaluated through the coefficient of determination (R^2). Table 8 illustrates that the model produced a R value of 0.696 and a R^2 of 0.484, suggesting that the five independent variables—self-efficacy, family support, entrepreneurial attitudes, entrepreneurship education, and social and institutional support—together explain 48.4% of the variance in students' entrepreneurial intentions. The adjusted R^2, after accounting for the number of predictors, was 0.458, indicating that approximately 45.8% of the variability in entrepreneurial intentions is reliably explained by the model. Fifty-four point two percent of the variance is due to unobserved factors not included in this study, including personality traits, peer influence, access to financial capital, and broader socio-cultural dynamics. This model's significant explanatory power in social science highlights the complex nature of entrepreneurial intention formation.

Table 8. The coefficient of determination (R^2) result

Model	R	R Square	Adjustes Square	F Std. Error of the Estimate
1	.696a	.484	.458	4.314

Information: a. Predictors: (Constant), Social and Institutional Support, Self-Efficacy, Family Support, Entrepreneurial Attitudes, Entrepreneurship Education
b. Dependent Variable: Interest

Research in vocational and higher education frequently indicates R^2 values ranging from 30% to 50% [12] implying that the current results align with, and in certain instances surpass, the explanatory power commonly found in entrepreneurship education studies. The model's moderate-to-strong predictive capacity underscores the importance of educational, psychological, and social supports in influencing students' entrepreneurial trajectories. The proportion of unexplained variance underscores the necessity for future research to

include additional determinants of entrepreneurial intention, such as personality-based constructs (e.g., locus of control, need for achievement), environmental factors (e.g., peer networks, community culture), and structural enablers (e.g., availability of seed funding, policy incentives). The findings highlight the significance of recognizing both the explanatory strengths and limitations of the current model, underscoring the need for a more integrative approach to understanding and promoting entrepreneurship among vocational school students.

4.7. Discussion

This study's empirical findings indicate that self-efficacy significantly influences the entrepreneurial intentions of vocational students. Self-efficacy, with a mean of 25.73, significantly predicts entrepreneurial intention ($F = 18.543$; $p < 0.05$), accounting for 15.3% of the explained variance. This finding supports Social Cognitive Theory (Bandura, 1991), which posits that self-efficacy underpins proactive behavior and risk-taking in uncertain situations. The findings align with previous studies (Sa'diyah et al., 2025; Solesvik et al., 2014) indicating that students possessing greater self-belief are more likely to engage in entrepreneurship. Interventions that incorporate experiential learning, simulation-based training, and project-based assignments into vocational curricula may enhance students' entrepreneurial self-efficacy and lead to increased entrepreneurial engagement.

Family support was identified as a significant factor, with mean scores categorized as high ($M = 22.44$) and contributing 22.9% to entrepreneurial intentions ($F = 30.568$; $p < 0.001$). This aligns with the Theory of Planned Behavior (TPB) (Ajzen, 1991), which asserts that subjective norms, specifically parental and familial encouragement, are crucial factors in the formation of intentions. Family members offer both moral support and tangible resources, including financial assistance and entrepreneurial role models. The findings align with previous research (Arfah et al., 2023; Edelman et al., 2016; Ulansari et al., 2024; Veranita et al., 2023) that emphasizes the importance of family in influencing entrepreneurial aspirations in emerging economies. Policies and school-family collaboration programs that involve parents as partners in the entrepreneurial development of students may produce substantial advantages.

Furthermore, entrepreneurial attitudes exhibited a significant positive correlation with entrepreneurial intentions ($\rho = 0.697$; $p < 0.001$). This finding aligns with the Theory of Planned Behavior [20], which identifies attitude toward behavior as a key determinant of intention. In alignment with prior research [68], the findings indicate that fostering positive attitudes, such as openness to innovation, resilience, and opportunity recognition, is essential for encouraging entrepreneurial career decisions. Incorporating attitude-oriented pedagogical strategies, including entrepreneurial role-playing, exposure to success narratives, and peer-to-peer learning, can improve students' preparedness to engage in entrepreneurship.

Entrepreneurship education demonstrated a significant impact, evidenced by a mean score of 32.77 and accounting for 35.8% of entrepreneurial intention ($F = 57.365$; $p < 0.05$). This highlights the essential function of organized educational experiences in developing knowledge, skills, and perceived behavioral control, in alignment with the Theory of Planned Behavior and entrepreneurship education research. Research [24], [61], [69], [70] indicates that entrepreneurship education must transition from theoretical frameworks to practice-oriented curricula that incorporate industry collaboration, mentorship, and real-world projects. The findings indicate that contextualized and experiential vocational education markedly improves students' entrepreneurial readiness.

Social and institutional support demonstrated the most significant impact, with a mean of 16.84 and accounting for 37.5% of entrepreneurial intention ($F = 61.929$; $p < 0.05$). This dimension includes support from educators, colleagues, institutional resources, training opportunities, and facilitating governmental policies. These findings, within the TPB framework, correspond with the interaction of subjective norms and perceived behavioral control, both supported by a conducive entrepreneurial ecosystem. Previous research [32], [40], [71] indicates that robust institutional support markedly increases students' entrepreneurial motivation. The findings necessitate systemic interventions encompassing policy incentives, access to capital, incubator programs, and strong school–industry partnerships to foster a more equitable and sustainable entrepreneurial environment.

The findings indicate that entrepreneurial intentions are influenced by the interplay of psychological, familial, educational, and institutional factors. The evidence robustly supports the Theory of Planned Behavior, illustrating that attitudes, subjective norms, and perceived behavioral control function together to elucidate vocational students' entrepreneurial interest. The findings contribute to the existing literature by demonstrating that, within the context of vocational education in Indonesia, institutional support significantly influences entrepreneurial intention, indicating that this phenomenon is not solely an individual or familial matter but also a structural and policy-related issue. This underscores the necessity of a comprehensive approach that combines psychological empowerment, family involvement, curricular innovation, and systemic institutional support to cultivate sustainable entrepreneurial ecosystems in vocational schools.

5. Conclusion

This research presents empirical findings regarding the factors influencing entrepreneurial intentions among vocational secondary school students in Indonesia, specifically within the Electronics Engineering Program in Yogyakarta City. The study analyzes five key variables: self-efficacy, family support, entrepreneurial attitudes, entrepreneurship education, and social and institutional support, demonstrating that each factor significantly impacts entrepreneurial intentions, both independently and in combination. The findings support the Theory of Planned Behavior by illustrating the influence of attitudes, subjective norms, and perceived behavioral control on intention. Additionally, they underscore the significance of Social Cognitive Theory in emphasizing self-efficacy as a key factor in proactive entrepreneurial behavior. This study enhances the literature on entrepreneurship and vocational education by demonstrating that, alongside psychological and familial factors, institutional and policy-level supports have the most significant impact, highlighting the structural aspects of entrepreneurial intention development. The findings have significant practical implications. Embedding experiential, practice-oriented, and project-based entrepreneurship curricula in schools and for teachers is essential for fostering self-efficacy and entrepreneurial skills. Proactive family involvement in supporting students' entrepreneurial aspirations can enhance positive subjective norms and career confidence. Policymakers must focus on enhancing institutional ecosystems by implementing incubation programs, improving access to financing, fostering industry partnerships, and establishing regulations that support entrepreneurship. This approach will create favorable conditions for vocational graduates to consider entrepreneurship as a viable career option. These interventions enable vocational education institutions to function as effective incubators for future entrepreneurs.

References

[1] A. Y. B. Gabrah, G. K. Amoako, and E. Anwana, "Stakeholder Integration and Corporate Entrepreneurship," *Stakeholder Management and Entrepreneurship in Africa*. Routledge, pp. 9–22, 2024, doi: 10.4324/9781003256014-3.

[2] D. Komninos, Z. Dermatis, A. Anastasiou, and C. Papageorgiou, "The Role of Entrepreneurship in Changing the Employment Rate in the European Union," *Journal of the Knowledge Economy*, vol. 15, no. 4, pp. 18930–18951, 2024, doi: 10.1007/s13132-024-01841-z.

[3] Susantiningrum, Siswandari, S. Joyoatmojo, and I. Mafruhah, "Leveling Entrepreneurial Skills of Vocational Secondary School Students in Indonesia: Impact of Demographic Characteristics," *International Journal for Research in Vocational Education and Training*, vol. 10, no. 1, pp. 113–137, Apr. 2023, doi: 10.13152/IJRVET.10.1.6.

[4] N. Kholifah *et al.*, "Factors influencing student career choice in vocational education in Indonesia: A mediating effect of self-efficacy," *Social Sciences & Humanities Open*, vol. 11, p. 101369, Jan. 2025, doi: 10.1016/J.SSAHO.2025.101369.

[5] M. Nurtanto, N. Kholifah, L. M. Herrera, M. A. Hamid, and R. W. Daryono, "The Influence of Psychological Well-being on Vocational Teacher Performance: The Mediating Role of Personality Traits and Work Commitment," *Journal of Technical Education and Training*, vol. 17, no. 2, pp. 213–228, Jun. 2025, doi: 10.30880/jtet.2025.17.02.015.

[6] N. H. Mohd Noor, A. Mohamad Fuzi, and A. El Ashfahany, "Institutional support and self-efficacy as catalysts for new venture performance: a study of iGen entrepreneurs," *Journal of Entrepreneurship and Public Policy*, vol. 12, no. 3/4, pp. 173–196, 2023, doi: 10.1108/jepp-02-2023-0015.

[7] A. Bandura, W. H. Freeman, and R. Lightsey, "Self-Efficacy: The Exercise of Control," *Journal of Cognitive Psychotherapy*, vol. 13, no. 2, pp. 158–166, 1999, doi: 10.1891/0889-8391.13.2.158.

[8] N. Kholifah, M. Nurtanto, G. K. Kassymova, H. Subakti, and M. A. Hamid, "Evidence of positive influence: soft skills competence and organizational culture on innovative work behavior," *Journal of Education and Learning (EduLearn)*, vol. 18, no. 4, pp. 1158–1165, Nov. 2024, doi: 10.11591/EDULEARN.V18I4.21018.

[9] F. J. Riar, C. Wiedeler, N. Kammerlander, and F. W. Kellermanns, "Venturing Motives and Venturing Types in Entrepreneurial Families: A Corporate Entrepreneurship Perspective," *Entrepreneurship Theory and Practice*, vol. 46, no. 1, pp. 44–81, 2021, doi: 10.1177/10422587211006427.

[10] Yektiono, Ekohariadi, T. Rijanto, and R. Suhartini, "The Influence of Parents' Socio-Economic Status of Vocational High School Students on the Interest in Higher Education," *Journal of Lifestyle and SDGs Review*, vol. 5, no. 3, p. e04525, 2025, doi: 10.47172/2965-730x.sdgsreview.v5.n03.pe04525.

[11] P. A. Mohd Hidzir, S. Ismail, and E. S. Kassim, "Government Support, Stakeholder Engagement and Social Entrepreneurship Performance: An Exploratory Factor Analysis," *International Journal of Academic Research in Business and Social Sciences*, vol. 11, no. 7, 2021, doi: 10.6007/ijarbss/v11-i7/10441.

[12] D. N. Annisa, F. Tentama, and K. Bashori, "The role of family support and internal locus of control in entrepreneurial intention of vocational high school students," *International Journal of Evaluation and Research in Education (IJERE)*, vol. 10, no. 2, p. 381, 2021, doi: 10.11591/ijere.v10i2.20934.

[13] M. van Gelderen, M. Brand, M. van Praag, W. Bodewes, E. Poutsma, and A. van Gils, "Explaining entrepreneurial intentions by means of the theory of planned behaviour," *Career Development International*, vol. 13, no. 6, pp. 538–559, 2008, doi: 10.1108/13620430810901688.

[14] E. Ernawati, E. A. Sinambela, C. Cici, R. J. Silviana, R. N. Azizah, and S. Naudalia, "The Effect of Social Support and Extraversion Personality on Entrepreneurial Interest in Students," *Journal of Social Science Studies (JOS3)*, vol. 2, no. 2, pp. 39–44, 2022, doi: 10.56348/jos3.v2i2.25.

[15] M.-A. Georgescu and E. Herman, "The Impact of the Family Background on Students' Entrepreneurial Intentions: An Empirical Analysis," *Sustainability*, vol. 12, no. 11, p. 4775, 2020, doi: 10.3390/su12114775.

[16] A. Soto-Simeone and T. Kautonen, "Senior entrepreneurship following unemployment: a social identity theory perspective," *Review of Managerial Science*, vol. 15, no. 6, pp. 1683–1706, 2020, doi: 10.1007/s11846-020-00395-z.

[17] N. A. Hamdani and I. Sari, "Investigating the Relationship between Entrepreneurial Knowledge and Entrepreneurial Interest: A Survey on E-Commerce Entrepreneur," *International Journal of Business, Economics, and Social Development*, vol. 4, no. 3, pp. 132–138, 2023, doi: 10.46336/ijbesd.v4i3.467.

[18] A. Abbasianchavari and A. Moritz, "The impact of role models on entrepreneurial intentions and behavior: a review of the literature," *Management Review Quarterly*, vol. 71, no. 1, pp. 1–40, 2020, doi: 10.1007/s11301-019-00179-0.

[19] C. Doanh Duong, V. Trang Tran, and É. St-Jean, "Social cognitive career theory and higher education students' entrepreneurial intention: The role of perceived educational support and perceived entrepreneurial opportunity," *Journal of Entrepreneurship, Management and Innovation*, vol. 20, no. 1, pp. 86–102, 2024, doi: 10.7341/20242015.

[20] I. Ajzen, "The theory of planned behavior," *Organizational Behavior and Human Decision Processes*, vol. 50, no. 2, pp. 179–211, 1991, doi: 10.1016/0749-5978(91)90020-t.

[21] D. Lihua, "An Extended Model of the Theory of Planned Behavior: An Empirical Study of Entrepreneurial Intention and Entrepreneurial Behavior in College Students," *Frontiers in Psychology*, vol. 12, 2022, doi: 10.3389/fpsyg.2022.627818.

[22] A. Meoli, R. Fini, M. Sobrero, and J. Wiklund, "How entrepreneurial intentions influence entrepreneurial career choices: The moderating influence of social context," *Journal of Business Venturing*, vol. 35, no. 3, p. 105982, 2020, doi: 10.1016/j.jbusvent.2019.105982.

[23] W. Wannamakok, Y.-Y. Chang, and M. Täks, "The Relationship between Institutional Environments and Entrepreneurial Intention in Estonia: Mediating Roles of Desirability and Feasibility," *Entrepreneurial Business and Economics Review*, vol. 8, no. 2, pp. 111–126, 2020, doi: 10.15678/eber.2020.080206.

[24] I. Abu and Sutrisno, "Understanding the Effect of Entrepreneurship Education on Students' Entrepreneurial Intentions," *Pinisi Journal of Entrepreneurship Review*, vol. 2, no. 2, pp. 109–119, 2024, doi: 10.62794/pjer.v2i2.4029.

[25] R. D. Nițu-Antonie, E.-S. Feder, K. Stamenovic, and A. Brudan, "A Moderated Serial–Parallel Mediation Model of Sustainable Entrepreneurial Intention of Youth with Higher Education Studies in Romania," *Sustainability*, vol. 14, no. 20, p. 13342, 2022, doi: 10.3390/su142013342.

[26] A. Shaw *et al.*, "Thinking critically about critical thinking: validating the Russian HEIghten® critical thinking assessment," *Studies in Higher Education*, vol. 45, no. 9, pp. 1933–1948, Sep. 2019, doi: 10.1080/03075079.2019.1672640.
[27] D. R. Swaramarinda, B. Isa, N. M. Yusof, and M. A. B. A. Kadir, "Exploring vocational high school students' entrepreneurial intention: Preliminary study," *International Journal of Learning, Teaching and Educational Research*, vol. 20, no. 6, pp. 341–359, 2021, doi: 10.26803/IJLTER.20.6.18.
[28] M. Ulansari, I. R. Rosasi, and F. Fauzia, "The Relationship Between Family Social Support and Entrepreneurial Interest," *Advances in Economics, Business and Management Research*. Atlantis Press International BV, pp. 336–344, 2024, doi: 10.2991/978-94-6463-492-1_26.
[29] B. Bai, J. Wang, and Y. Nie, "Self-efficacy, task values and growth mindset: what has the most predictive power for primary school students' self-regulated learning in English writing and writing competence in an Asian Confucian cultural context?," *Cambridge Journal of Education*, pp. 1–20, 2020, doi: 10.1080/0305764X.2020.1778639.
[30] A. Newman, "Entrepreneurial self-efficacy: A systematic review of the literature on its theoretical foundations, measurement, antecedents, and outcomes, and an agenda for future research," *Journal of Vocational Behavior*, vol. 110. pp. 403–419, 2019, doi: 10.1016/j.jvb.2018.05.012.
[31] G. Hoang, T. T. T. Le, A. K. T. Tran, and T. Du, "Entrepreneurship education and entrepreneurial intentions of university students in Vietnam: the mediating roles of self-efficacy and learning orientation," *Education and Training*, vol. 63, no. 1, pp. 115–133, Oct. 2020, doi: 10.1108/ET-05-2020-0142.
[32] I. N. Saputro, M. A. Hamid, M. Nurtanto, N. Wachid, A. Majid, and D. Rohmantoro, "An Investigation of the Influence of the 5E-LC Model on The Learning Outcome and Practical Performance of Vocational School Students," *Journal of Technical Education and Training*, vol. 17, no. 1, pp. 32–44, Apr. 2025, doi: 10.30880/jtet.2025.17.01.003.
[33] D. Hsu, "'I know I can, but I don't fit': Perceived fit, self-efficacy, and entrepreneurial intention," *Journal of Business Venturing*, vol. 34, no. 2, pp. 311–326, 2019, doi: 10.1016/j.jbusvent.2018.08.004.
[34] M. Ventura, "Professional self-efficacy as a predictor of burnout and engagement: The role of challenge and hindrance demands," *Journal of Psychology: Interdisciplinary and Applied*, vol. 149, no. 3. pp. 277–302, 2015, doi: 10.1080/00223980.2013.876380.
[35] R. I. Pitaloka, Andayani, and Suyitno, "The values of social education and cultural education in topeng endel character as a woman role model in Topeng tegal folklore," *International Journal of Advanced Science and Technology*, vol. 28, no. 10, pp. 61–68, 2019.
[36] Y. Shahab, "Entrepreneurial self-efficacy and intention: do entrepreneurial creativity and education matter?," *International Journal of Entrepreneurial Behaviour and Research*, vol. 25, no. 2, pp. 259–280, 2019, doi: 10.1108/IJEBR-12-2017-0522.
[37] B. Ahlin, "Entrepreneurs' creativity and firm innovation: The moderating role of entrepreneurial self-efficacy," *Small Business Economics*, vol. 43, no. 1, pp. 101–117, 2014, doi: 10.1007/s11187-013-9531-7.
[38] C. Miao, "The Relationship between Entrepreneurial Self-Efficacy and Firm Performance: A Meta-Analysis of Main and Moderator Effects," *Journal of Small Business Management*, vol. 55, no. 1, pp. 87–107, 2017, doi: 10.1111/jsbm.12240.
[39] M. Elnadi, "Entrepreneurial ecosystem, entrepreneurial self-efficacy, and entrepreneurial intention in higher education: Evidence from Saudi Arabia," *International Journal of Management Education*, vol. 19, no. 1, 2021, doi: 10.1016/j.ijme.2021.100458.
[40] S. P. Prabandari, I. Yulianti, and D. D. Barinta, "Enhancing Entrepreneurial Self-Efficacy among Young Indonesian University Students: The Influence of Entrepreneurial Knowledge, Family Environment, and Entrepreneurial Interest," *Jurnal Pendidikan Progresif*, vol. 14, no. 1, pp. 398–411, 2024, doi: 10.23960/jpp.v14.i1.202429.
[41] B. Fuller, "Examining how the personality, self-efficacy, and anticipatory cognitions of potential entrepreneurs shape their entrepreneurial intentions," *Personality and Individual Differences*, vol. 125, pp. 120–125, 2018, doi: 10.1016/j.paid.2018.01.005.
[42] M. Arrezqi, B. Y. Wibowo, and N. A. Setyawan, "The Influence of Entrepreneurial Mindset, Social Environment and Social Media on Entrepreneurial Interest of Semarang State Polytechnic Students," *Jurnal Sains Sosio Humaniora*, vol. 6, no. 1, pp. 89–101, 2022, doi: 10.22437/jssh.v6i1.19396.
[43] Y. Guan *et al.*, "Career adaptability, job search self-efficacy and outcomes: A three-wave investigation among Chinese university graduates," *Journal of Vocational Behavior*, vol. 83, no. 3, pp. 561–570, Dec. 2013, doi: 10.1016/J.JVB.2013.09.003.
[44] R. Thind and H. Yakavenka, "Creating culturally relevant curricula and pedagogy: Rethinking fashion business and management education in UK business schools," *The International Journal of Management Education*, vol. 21, no. 3, p. 100870, Nov. 2023, doi: 10.1016/J.IJME.2023.100870.
[45] N. Rehman, X. Huang, U. Sarwar, H. Fatima, and S. Maqbool, "Exploring the impact of family, school and society on the perception and reputation of vocational training in Pakistan:a statistical analysis," *Education and Training*, vol. ahead-of-print, no. ahead-of-print, 2024, doi: 10.1108/ET-09-2023-0375/FULL/XML.
[46] L. Powell and S. McGrath, "Capability or Employability: Orientating VET Toward 'Real Work,'" in *Handbook of Vocational Education and Training*, Cham: Springer International Publishing, 2019, pp. 369–392.
[47] B. N. Neneh, "Entrepreneurial passion and entrepreneurial intention: the role of social support and entrepreneurial self-efficacy," *Studies in Higher Education*, vol. 47, no. 3, pp. 587–603, 2022, doi: 10.1080/03075079.2020.1770716.
[48] S. Susanti, B. Lian, and Mulyadi, "The Influence of School Facilities and Motivation on the Students' Learning Outcomes," *Proceedings of the International Conference on Education Universitas PGRI Palembang (INCoEPP 2021)*, vol. 565, no. 23, pp. 816–819, 2021, doi: 10.2991/assehr.k.210716.160.
[49] R. A. M. Sahputri, M. K. Mawardi, T. Yumarni, and Sujarwoto, "Entrepreneurship education, family entrepreneurial orientation and entrepreneurial intention among students in Indonesia," *Journal of International Education in Business*, vol. 16, no. 3, pp. 295–311, Nov. 2023, doi: 10.1108/JIEB-02-2022-0010/FULL/XML.
[50] Ismail, A. * Hassan, and R. Rosli, "SOCIAL SCIENCES & HUMANITIES The Skill and Competency of Technical and Vocational Education and Training (TVET) Personnel for the Development and Implementation of a National Teacher Standard in TVET in Malaysia," *Pertanika J. Soc. Sci. & Hum*, vol. 25, pp. 109–120, 2017, Accessed: Apr. 01, 2020. [Online]. Available: http://www.pertanika.upm.edu.my/.
[51] A. Hattu, R. Fanggidae, and N. Nursiani, "The Influence of Entrepreneurial Attitudes, Subjective Norms and Self-Efficacy on Entrepreneurial Behavior through Entrepreneurship Intentions (Study on Agropreneurs in Kupang City)," *Proceedings of the 1st International Conference on Social, Science, and Technology, ICSST 2021, 25 November 2021, Tangerang, Indonesia*. EAI, 2022, doi: 10.4108/eai.25-11-2021.2319350.

[52] S. Billett and F. Valencia-Forrester, "Post-practicum project: Its educational purposes, importance, and roles," *Professional and Practice-based Learning*, vol. 28, pp. 3–23, 2020, doi: 10.1007/978-3-030-48062-2_1.
[53] Q. Feng, X. Chen, and Z. Guo, "How does role accumulation enhance career adaptability? A dual mediation analysis," *Current Psychology*, vol. 42, no. 12, pp. 10426–10436, Apr. 2023, doi: 10.1007/S12144-021-02304-3/TABLES/3.
[54] B. Yin and C.-H. Yuan, "Blended learning performance influence mechanism based on community of inquiry," *Asia Pacific Journal of Education*, 2022, doi: 10.1080/02188791.2022.2061912.
[55] Y. Lv *et al.*, "How Entrepreneurship Education at Universities Influences Entrepreneurial Intention: Mediating Effect Based on Entrepreneurial Competence," *Frontiers in Psychology*, vol. 12, p. 655868, Jul. 2021, doi: 10.3389/FPSYG.2021.655868/BIBTEX.
[56] T. Triyanto *et al.*, "Augmented reality smart batik (AR-SaBa) application for helping batik marketing," *Multidisciplinary Science Journal*, vol. 7, no. 12, pp. 2025613–2025613, Jun. 2025, doi: 10.31893/MULTISCIENCE.2025613.
[57] M. Amin, S. Rezaei, and M. Abolghasemi, "User satisfaction with mobile websites: the impact of perceived usefulness (PU), perceived ease of use (PEOU) and trust," *Nankai Business Review International*, vol. 5, no. 3, pp. 258–274, Jul. 2014, doi: 10.1108/NBRI-01-2014-0005/FULL/XML.
[58] J. M. Sánchez Ramírez, V. Iñigo, B. Marcano, and C. Romero-García, "Evaluation of a training programme to foster employability skills in professional training: a case study," *Education and Training*, vol. ahead-of-print, no. ahead-of-print, 2024, doi: 10.1108/ET-02-2023-0037/FULL/XML.
[59] M. Norhailawati *et al.*, "The power of social networking sites: Student involvement toward education," *International Journal of Evaluation and Research in Education*, vol. 8, no. 3, pp. 549–556, Sep. 2019, doi: 10.11591/ijere.v8i3.20352.
[60] F. Huang, "Transformations in higher vocational education in Japan," *Vocation, Technology & Education*, vol. 1, 2024, doi: 10.54844/vte.2024.0543.
[61] G. Yulianti, M. Chaidir, and N. Permana, "The Influence of Entrepreneurship Education and Industrial Work Practices on Interest in Entrepreneurship in State Vocational High School Students in the Central Jakarta Region," *Jurnal Ad'ministrare*, vol. 9, no. 2, p. 729, 2022, doi: 10.26858/ja.v9i2.42945.
[62] M. Solesvik, P. Westhead, and H. Matlay, "Cultural factors and entrepreneurial intention," *Education + Training*, vol. 56, no. 8/9, pp. 680–696, 2014, doi: 10.1108/et-07-2014-0075.
[63] E. Supardi, F. J. Islamy, S. A. Muhidin, and N. Sutarni, "How to educate student become competent entrepreneurs," *Jurnal Cakrawala Pendidikan*, vol. 41, no. 1, pp. 142–153, 2021, doi: 10.21831/cp.v41i1.45912.
[64] Y. Zhou (周英文) and G. Xu (徐国庆), "Vocational School–Enterprise Cooperation in China: A Review of Policy Reforms, 1978–2022," *ECNU Review of Education*, vol. 6, no. 3, pp. 433–450, 2023, doi: 10.1177/20965311231167895.
[65] Z. Yang, P. Liu, and Z. Cui, "Strengths-Based Job Crafting and Employee Creativity: The Role of Job Self-Efficacy and Workplace Status," *Frontiers in Psychology*, vol. 12, p. 748747, Dec. 2021, doi: 10.3389/FPSYG.2021.748747/BIBTEX.
[66] M. McMahon, M. Watson, and M. C. Y. Lee, "Qualitative career assessment: A review and reconsideration," *Journal of Vocational Behavior*, vol. 110, pp. 420–432, Feb. 2019, doi: 10.1016/J.JVB.2018.03.009.
[67] Hair et al, "A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)," *SAGE Publications, Inc.*, no. Mi, pp. 5–24, 2022.
[68] A. Wiyono, Suryanto, D. Rahman, and Prehanto, "Analyzing Factors Affecting Vocational Education Development to Support Regional Potential," *Proceedings of the 1st Vocational Education International Conference (VEIC 2019)*. Atlantis Press, 2019, doi: 10.2991/assehr.k.191217.054.
[69] S. Roza, B. Muchtar, and Syamwil, "Effect of Entrepreneurship Education, Creativity, and Self Efficacy on Entrepreneurship Interest in Vocational Students," *Proceedings of the Third Padang International Conference On Economics Education, Economics, Business and Management, Accounting and Entrepreneurship (PICEEBA 2019)*. Atlantis Press, 2019, doi: 10.2991/piceeba-19.2019.32.
[70] D. A. Suseno, A. Suseno, and D. Suseno, "The Effect of Entrepreneurship Education and Creativity on the Entrepreneurial Interests of Vocational School Students in the Digital Age," *Proceedings of the 2nd Lekantara Annual Conference on Public Administration, Literature, Social Sciences, Humanities, and Education, LePALISSHE 2022, 29 October 2022, Malang, East Java, Indonesia*. EAI, 2023, doi: 10.4108/eai.29-10-2022.2334018.
[71] B. S. Nugroho, R. Anggraini, M. N. Tsaqyfa, Suprihatin, and A. A. Ridlwan, "Can The Roles of Universities, Families, and Self-Efficacy Influence Students' Interest in Entrepreneurship in East Java?," *Jurnal Riset Akuntansi Dan Bisnis Airlangga*, vol. 9, no. 2, pp. 180–195, 2025, doi: 10.20473/jraba.v9i2.61869.