Entrepreneurial Attitude as a Mediator in the Influence of Digital Competencies and Project-Based Learning on Students' Entrepreneurial Interest

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Abstract. This study intends to find out how entrepreneurial attitudes mediate the influence of digital competencies and project-based learning on students. This research uses a quantitative model with an explanatory method. The instrument was measured using a likert scale and the survey was conducted through the media of student questionnaires (n = 151). Using SEM-PLS analysis. The research output showed that the respondents had a high level of digital competence, experience in project-based learning, interest in entrepreneurship, and entrepreneurial attitudes. The conclusion of this study is that digital competence, project-based learning has a positive and significant effect on entrepreneurial interest through entrepreneurial attitudes, The implications of the findings of this study show that efforts to increase entrepreneurial interest among students, can be done by strengthening digital competence and the application of project-based learning. In addition, educators can foster students' entrepreneurial attitudes, because they have proven to be a key factor in bridging the influence of these two variables on entrepreneurial interest

Keywords: Digital Competence, Entrepreneurial Interest, Project-Based Learning, Entrepreneurial Attitude

1. Introduction

Vocational High School (SMK) which has the motto "SMK BISA" is an educational institution that is expected to be able to meet the demand for labor. In teaching in vocational schools, adjustments are constantly adjusting the educational content (curriculum), systems, techniques, learning facilities for teachers, so that schools can meet business needs. [1] The Central Statistics Agency (BPS) explained the percentage of unemployment seen from the educational background taken. The following data is expected to help analyze unemployment patterns and provide insight into the importance of education in increasing job opportunities

Table 1 Open Unemployment Rate Based on Education Level

Education Level 2	Open Unemployment Rate Based on Education Level		
	2021	2022	2023
No / Never Gone to School / Haven't Graduated & Graduated from Elementary School	3,61	3,59	2,56
JUNIOR	6,45	5,95	4,78

BISTIC 2025, July 30, Malang, Indonesia

DOI 10.4108/eai.30-7-2025.2360544

Public High School	9,09	8,57	8,15
Vocational High School	11,13	9,42	9,31
Diploma I/II/III	5,87	4,59	4,79
University	5,98	4,80	5,18

Source: Central Statistics Agency [2]

According to information from the Central Statistics Agency, the open unemployment rate in Indonesia among graduates who have not or have never been to school or have not completed and graduated from elementary school is 2.56%, in junior high school graduates 4.78%, in public high school graduates 8.15%, in vocational high school graduates is 9.31, in diploma I/II/III graduates is 4.79%, in university graduates 5.81% and from the data shows that Vocational High Schools are still relatively high at 9.31%. This shows a big challenge for vocational schools in preparing graduates to be ready to compete in the world of work. SMK PGRI 3 Malang showed a proud achievement with 60 percent of students as a whole absorbed in the world of work before the graduation announcement, but the interest in entrepreneurship among students is still relatively low. This reflects the need for a greater push for entrepreneurship among students.

Vocational High School (SMK) students are the younger generation who will enter the world of work. After graduating from school, it is expected that students will have skills that can be applied in the work environment according to the skills they learn. The curriculum used by vocational schools is also relevant, the satisfaction of industry partners with graduate performance has also increased, reflecting the effectiveness of the curriculum in preparing a qualified workforce. However, the limitations of job opportunities always recur every year. Because there is a gap between the number of job seekers and job opportunities. The way that can be used to overcome this problem is to increase the spirit of entrepreneurship

Entrepreneurship plays a role as one of the government's efforts in improving the Indonesian economy, especially when practiced appropriately and correctly based on the principles of entrepreneurship. The entrepreneurial sector provides freedom to work and develop its independence potential. With entrepreneurial activities, it is hoped that it has the potential to create new job opportunities so that it will absorb the needs of employees [3]. To increase the entrepreneurial spirit, it can start from fostering a sense of interest in entrepreneurship, which aims to make students have entrepreneurial motivation. So that students can look for creative ideas and can develop their business [4]. Interest in entrepreneurship is important to increase because in addition to reducing unemployment and opening up opportunities to create new job vacancies, if this interest in entrepreneurship is not increased, the younger generation will tend to be trapped in dependence on limited job opportunities [5].

Entrepreneurial interest is the ability to develop or pioneer a new business by relying on the potential in oneself [6]. Interest in entrepreneurship can appear due to the impulse of enthusiasm, the emergence of an emotional response, joy and having a sense to dare to start your own business and take advantage of the opportunities that exist [7]. The low interest in entrepreneurship in vocational school students is reflected in the results of interviews conducted by researchers with four students at SMK PGRI 3 Malang. When asked about plans after

graduation, especially regarding the interest in starting their own business, the students expressed doubts and concerns. This is due to several factors, including fear of competing in the midst of many similar business actors, concerns because business content that has not succeeded in attracting public attention, and fear of failure due to limited capital and lack of support from family. In addition, interviews conducted with two teachers at the school revealed that most subjects have implemented a project-based learning model. This learning is designed so that students are used to solving real problems and are expected to be able to cultivate critical thinking, creativity, and independence skills that are relevant to the world of entrepreneurship. These findings reinforce the urgency to examine in depth the factors that influence students' entrepreneurial interests, particularly through digital competency approaches and project-based learning by considering the role of entrepreneurial attitudes as mediators.

Fostering a good entrepreneurial interest can be through an internalization process that begins as students develop. When the learning process takes place, teachers can use the project-based learning model to introduce the concept of entrepreneurship to students. Project-based learning is a teaching approach that involves students to be more collaborative and students are actively involved in the completion of a project, either independently or in groups, and align real problems [8] practically. In addition, according to research, project-based learning improves independence and information management skills, which are important aspects of problem-solving skills [9]. Project-based learning conducted in groups provides an opportunity to develop interpersonal or team skills, such as communication, planning, and time management skills that graduates desperately need in the workplace [10].

Project-based learning, can be aligned with rapid technological advancements, making a difference to human life. Digital technology has touched almost all areas of human life. Indonesia is now entering the 4.0 era which is characterized by digitalization and automation in various fields. [11] In the increasingly advanced digital age, vocational high school graduates must be able to be skilled and creative and independent because with all the conveniences related to today's digital media, a business can quickly reach customers around the world regardless of time and location [12]. Therefore, education finds it challenging to equip students with digital skills as a necessary competency to be able to develop in people's lives well [13].

Digital competence is the ability to adapt and respond to new technological developments in an adaptive manner, while conducting critical and informative analysis, selection, and evaluation of data [14]. Digital competence is one of the 8 competencies recommended in Europe in 2016 for long-term or even lifelong learning that affects a person's level of confidence and criticality in order to achieve job goals, employability or participate in society [15]. In the world of education, digital competencies are considered useful for driving perspectives, knowledge, and processes that allow students to acquire innovative skills and transfer knowledge [16] in addition to that digital competencies are expected to be a practical and measurable result of the training process in relation to the new digital literacy [17].

This digital competence is important because as a form of interaction in the world of globalization and the transition to the application of new technologies, which is adjusted to the impact of technological innovations on economic activities and these skills encourage the use of innovative teaching and learning strategies mediated by technology and information [18].

This digital competence is related to the entrepreneurial spirit whose main goal is to obtain economic value. In addition, students will become more responsible for their social and personal lives if they have digital competencies.

At SMK PGRI 3 Malang, the learning process carried out in the subjects has mostly implemented project-based learning. In addition to technical skills, the Merdeka Vocational Curriculum also focuses on strengthening modern soft skills such as analytical skills, creative thinking, cooperative interaction and interpersonal interaction which pays great attention to the role of technology in the learning process which is dislocated to improve digital competencies such as creating content in the form of photos or videos that are expected to motivate students and provide an overview related to entrepreneurship.

Project-based learning and digital competencies will affect entrepreneurial interest, one of which is mediated by entrepreneurial attitudes. This concept is often explained through several theories of social psychology such as the Theory of Planned Behavior (TPB) where entrepreneurial interest is determined by views or attitudes towards certain actions, social norms and perceptions of self-control [19]. A person who has a positive attitude towards entrepreneurial interest will be more interested in becoming an entrepreneur. So it can be concluded that the stronger a person's intentions and perception that they are able to control their actions, the more likely they are to engage in entrepreneurial activities. This entrepreneurial attitude affects the behavior of entrepreneurial readiness so that it has an important position in shaping a person's intention in building a business.

Entrepreneurial readiness must be grown and developed. With this attitude, it will grow entrepreneurial candidates [20]. In order to strengthen entrepreneurial attitudes, synergy between schools and the business world is needed. Therefore, this study is worth conducting to explore the determinants that contribute to entrepreneurial interest, such as digital competence, project-based learning and entrepreneurial attitudes. This study can elaborate on the influence of digital competencies and project-based learning on entrepreneurial interest with entrepreneurial attitudes as mediators.

Based on this description, the researcher determined the research topic with the title **"Entrepreneurial Attitude as a Mediator in the Influence of Digital Competence and Project-Based Learning on the Entrepreneurial Interest of SMK PGRI 3 Malang Students"**

2. Method

Research Design

This research applies a quantitative approach and a type of explanatory research. This research has 4 variables, namely, digital competence (X1), Project-Based Learning (X2), Entrepreneurial Interest (Y), and Entrepreneurial Attitude (Z).

Digital competencies play an important role in equipping students with relevant technology skills in the digital business world [15]. In addition, the project-based learning model makes students responsive and creative and responsible for their learning achievements and can influence entrepreneurial interest [21].

Entrepreneurial attitudes such as being innovative, proactive and courage to take risks are important factors that mediate between interest in learning and interest in entrepreneurship. Thus, the following is a description and image to comprehensively describe the relationship between the variables studied. This figure presents the direction of influence and conjecture between independent variables, dependent variables, and intervening variables. [20]

1. H1: There is a positive and significant influence of Digital Competence (X1) on Entrepreneurial Interest (Y)
2. H2: There is a positive and significant influence of Project-Based Learning (X2) on Entrepreneurial Interest (Y).
3. H3: There is a positive and significant influence of Digital Competence (X1) on Entrepreneurial Attitude (Z)
4. H4: There is a positive and significant influence of Project-Based Learning (X2) on Entrepreneurial Attitudes (Z)
5. H5: There is a positive and significant influence of Entrepreneurial Attitude (Z) on Entrepreneurial Interest (Y)
6. H6: There is a positive and significant influence of Digital Competence (X1) on Entrepreneurial Interest (Y) through Entrepreneurial Attitude (Z)
7. H7: There is a positive and significant influence of Project-Based Learning (X2) on Entrepreneurial Interest (Y) through Entrepreneurial Attitudes (Z)

Hypothesis:

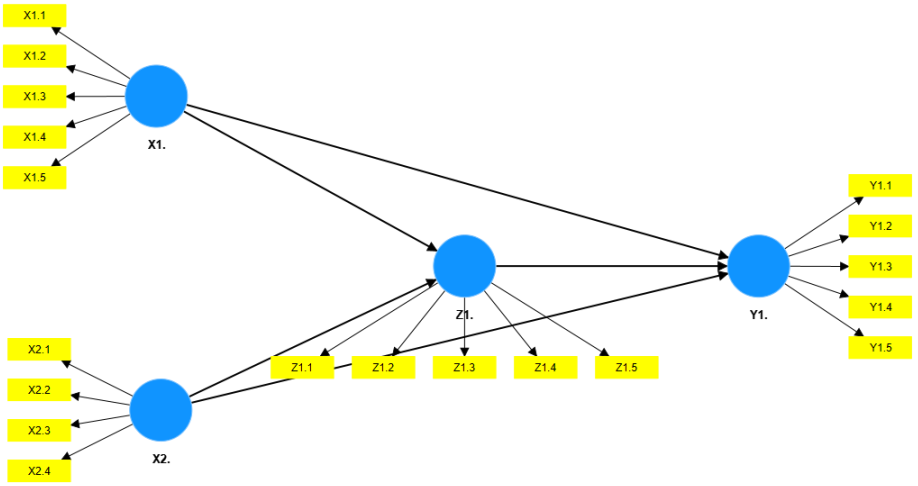

Fig 1 Research Hypothesis

The subjects targeted by this study are students of SMK PGRI 3 Malang grades X, XI, and XII majoring in Online Business and Marketing which amounted to 242 students The research sample was determined by the slovin formula with an error rate of 5%, so that a sample of 151 students was obtained. The process of collecting data through filling out an online questionnaire, assessment through an approach using a 5-point likert scale, ranging from strongly disagree (1) to strongly agree (5).

Research Instruments

The questionnaire instrument is designed based on indicators that have been described by previous researchers. The items in this research variable were formulated by the researcher according to the indicators that have been determined.

Table 2 Research Indicators

Variable	Indicators	Number of Items	Item Number on Instrument
Digital Competence [15] [22]	Information and Data Literacy	6	1, 2, 3, 4, 5, 6
	Communication and Collaboration	2	7, 8
	Digital Content Creator	2	9, 10
	Security	2	11, 12
	Troubleshooting	2	13, 14
Project Based Learning [23]	Active Construction	2	15, 16
	Learning in Situations	2	17, 18
	Social Interaction	2	19, 20
	Cognitive Devices	2	21,22
Interest Entrepreneurship [24]	Indicators for Risk Takers	2	23,24
	Motivation	2	25,26
	Leadership	2	27,28
	Marketing Capabilities	2	29,30
	Cognitive Abilities	2	31,32
Attitude Entrepreneurship [25]	Innovations	2	33,34
	Risk Taking	1	35
	Proactive	2	36,37
	Competitive Aggressiveness	2	38,39
	Independence	1	40

3. Results and Discussion

Outer Model Results

1. Reliability Indicator

Measuring this reliability test, the researcher evaluated the results of outer loading on each indicator. If the outer loading value ≥ 0.7, it is considered ideal. If the value is between 0.5

and 0.7 then it is still acceptable. Indicators in this range are usually maintained if the overall reliability is good. The test yields the following values:

Table 3 Reliability Indicator

	X1	X2	Y	Z
X1. 1	0.773			
X1. 2	0.762			
X1. 3	0.822			
X1. 4	0.744			
X1. 5	0.788			
X2.1		0.714		
X2.2		0.793		
X2.3		0.799		
X2.4		0.761		
Y1.1			0.707	
Y1.2			0.819	
Y1.3			0.838	
Y1.4			0.807	
Y1.5			0.722	
Z1.1				0.848
Z1.2				0.766
Z1.3				0.781
Z1.4				0.805
Z1.5				0.722

(Source: Data processed by researchers)

Based on the test results in table 3, all indicators in this study have a value above 0.7 which indicates that each item meets the indicator reliability requirements. Indicators with an outer loading of more than 0.7 are considered to have a good contribution in measuring latent constructs. [26] The loading factor value for the digital competency variable ranged from 0.744 to 0.822, the project-based learning variable was between 0.714 to 0.799, the entrepreneurial interest variable was between 0.707 to 0.838 and the entrepreneurial attitude was between 0.722 and 0.848. All indicators in this study can be declared reliable.

2. Convergent Validity

Convergent validity in this study is applied on the principle that the measurement of a variable must show a high correlation between the related indicators. To test the validity of the convergence, the researcher can use the Average Variance Extracted (AVE) measure. The expected AVE value is 0.5 or more, which indicates that the variable is able to explain at least 50% of the variance of the items measured. The following are the results of the Averange Variance Extracted (AVE) test:

Table 4 Average Variance Extracted (AVE) Results

Variable	Average Variance Extracted (AVE)
Digital Competence (X1)	0.605
Project-Based Learning (X2)	0.589
Entrepreneurial Interest (Y)	0.609
Entrepreneurial Attitude (Z)	0.617

(Source: Data processed by researchers)

Based on the test results in table 4, all variables had an AVE value greater than 0.50, namely digital competence 0.605, project-based learning 0.589, entrepreneurial interest 0.609 and entrepreneurial attitude 0.617. All constructs in this research model have qualified for convergent validity and can be used for further analysis

Inner Model Results

1. Coefficient of Determination (R2)

Coefficient Determination is a test aimed at measuring the size of independent variables capable of describing the variability of dependent variables. Here is the data from the determination coefficient:

Table 5 Results Coefficient of Determination (R2)

	R-square	Category
Entrepreneurial Interest (Y)	0.637	Excellent
Entrepreneurial Attitude (Z)	0.429	Moderate

(Source: Data processed by researchers)

Based on the test results in table 5, the R-squared (R^2) value obtained for the Entrepreneurial Interest (Y) variable is 0.637, which means that 63% of the Entrepreneurial Interest variable is influenced by independent variables in this study, while the remaining 37% is influenced by other factors outside the study.

Meanwhile, the R-squared value (R^2) for the Entrepreneurial Attitude (Z) variable was 0.429 which indicates that 42% of the Entrepreneurial Attitude variable was influenced by independent variables in this study, while the remaining 58% was influenced by other factors that were not studied. Based on the categories determined, the R-squared value of 0.637 for Entrepreneurial Interest is categorized as Excellent, while the value of 0.429 for Entrepreneurial Attitude is included in the Moderate category.

2. *Predictive Relevance* (Q^2)

Predictive relevance (Q^2) is a test that aims to evaluate the extent to which the model has predictive ability against the indicators of dependent variables in the model. Here's a table from *Predictive Relevance* (Q^2):

Table 6 Predictive Relevance (Q2) Results

	Q-Square (Q^2)
Entrepreneurial Interest (Y)	0.420

Entrepreneurial Attitude (Z)	0.311

(Source: Data processed by researchers)

Based on the test results in table 6 *predictive relevance* (Q^2) of this research model. The Q^2 value in the Entrepreneurial Interest (Y) variable is 0.420 and in the Entrepreneurial Attitude (Z) variable is 0.311 indicates that the model has *good predictive relevance*. This figure means that the model is able to explain about 42% of the variance in the variables that affect Entrepreneurial Interest and 31.1% of the variables that affect Entrepreneurial Attitudes. The data show that this model is reliable to predict behavior in the context being studied because it is more than 0.

Hypothesis Testing

Table 7 Hypothesis Testing Results

Hypothesis	***Path Coefficient***	**T statistics (|O/STDEV|)**	**P values**
X1 -> Y	0.162	2.359	0.018
X2 -> Y	0.209	3.499	0.000
X1 -> Z	0.232	2.130	0.033
X2 -> Z	0.563	7.778	0.000
Z -> Y	0.615	7.240	0.000
X1 -> Y -> Z	0.128	2.037	0.042
X2 -> Y -> Z	0.346	5.266	0.000

(Source: Data Processed by Researchers)

Research Data

The research data was applied to evaluate the frequency of the percentage of responses to each research indicator. The data is then presented in a research data table to provide a clearer picture. By involving 151 respondents who filled out a questionnaire, the researcher analyzed each answer with the formula:

Class length = (Xlargest – smallest X) : Many classes

$$= (5\text{-}1): 5 = 0.8$$

Table 8 Interpretation of the Measurement Scale

Yes	**Score Score**	**Interpretation**
1.	1,00 - 1,80	Very low score
2.	>1.80 - 2.60	Low score
3.	>2.60 - 3.40	Medium score
4.	>3.40 - 4.20	High score
5.	>4.20 - 5.00	Very high score

(Source: Data Processed by Researchers)

Furthermore, the following is the data on the distribution of responses to each variable in this study which is measured from the total number of indicators: the number of indicators in the variable:

Table 9 Average Values of Indicators

Variable	Indicators	Mean Indicators	Category
Digital Competence (X1)	Information and Data Literacy	3.93	High Score
	Communication and Collaboration	4.17	High Score
	Digital Content Creator	4.13	High Score
	Security	4.38	Very High Score
	Troubleshooting	4.11	High Score
Mean Digital Competency Variable		**4.08**	**High Score**
Project-Based Learning (X2)	Active Construction	4.07	High Score
	Learning in Situations	3.89	High Score
	Social Interaction	4.17	High Score
	Cognitive Devices	4.11	High Score
Mean Project-Based Learning Variables		**4.06**	**High Score**
Entrepreneurial Interest (Y)	Indicators for Risk Takers	4.13	High Score
	Motivation	3.90	High Score
	Leadership	4.06	High Score
	Marketing Capabilities	3.84	High Score
	Cognitive Abilities	3.89	High Score
Mean Variables of Entrepreneurial Interest		**3.96**	**High Score**
Entrepreneurial Attitude (Z)	Innovations	4.05	High Score
	Risk Taking	3.96	High Score
	Proactive	3.81	High Score
	Competitive Aggressiveness	3.82	High Score
	Independence	4.42	Very High Score
Mean Variables of Entrepreneurial Attitude		**3.91**	**High Score**

(Source: Data Processed by Researchers)

4. Discussion

The Influence of Digital Competence on Entrepreneurial Interest

The data of the findings of this study show that Digital Competence has a positive and significant influence on Entrepreneurial Interest with a path coefficient value of 0.162, T-statistics of 2.359, and P-values of 0.018. This value met the significance requirements (T-statistic > 1.96 and P-values < 0.05), so the first hypothesis was accepted. The data-average indicator value per variable shows the security indicator obtained a high score of 4.38 indicating that students are conscious in protecting data and privacy for the sake of entrepreneurship and the lowest value of marketing ability with a value of 3.84 this aspect is relatively low. High digital competence, especially in communication, content, security and problem-solving indicators, has the potential to increase entrepreneurial interest, especially in risk-taking and leadership indicators.

Digital capabilities allow students to more easily access information, understand the market, and use technology as a tool to grow businesses. Thus, mastery of technology can be an

important factor in encouraging students to start and manage their own businesses. These findings are in line with the results of research that revealed that digital entrepreneurship competencies have an important role in encouraging individuals to continue to increase their interest in entrepreneurship, and innovate in their business development. Furthermore, another study also emphasizes that digital skills acquired through the educational process directly affect entrepreneurial intentions. In addition, the study strengthens this argument by stating that using digital devices effectively is an indispensable ability. This ability not only simplifies business processes but also increases a person's confidence and attractiveness to manage a business independently. The implications of these findings suggest that improving digital competencies can drive interest in entrepreneurship, especially in the context of digital-based businesses. This is important considering the rapid development of technology and the shift towards digitalization in various aspects of life. As such, entrepreneurial education and training institutions need to include digital competency development in their curriculum to prepare individuals who are ready to compete in the digital age. [27], [28], [29].

The Influence of Project-Based Learning on Entrepreneurial Interest

The data of the findings of this study show that Project-Based Learning has a positive and significant effect on Entrepreneurial Interest with a path coefficient value of 0.209, T-statistics of 3.499 and P-values of 0.000. The average data of variable indicators showed the highest value was in social interaction 4.17 indicating that this approach significantly encouraged collaboration to form entrepreneurial abilities such as communication and teamwork, and the lowest value was in marketing ability 3.84. In general, the indicators of project-based learning such as social interaction, cognitive devices, and active construction show high values in line with the entrepreneurial interest indicators. This illustrates that the more often students engage in project-based learning, the more likely they are to have an interest in entrepreneurship. Project-based learning provides hands-on experience in managing a business. This process not only improves practical skills, but also builds students' confidence in facing business challenges.

Research by By supports these findings by stating that the application of a project-based learning model in entrepreneurial practice activities has been proven to be effective in increasing entrepreneurial interest. In line with these findings, another study also stated that the application of project-based learning in the context of entrepreneurship has a significant influence on increasing students' interest in entrepreneurship. Through this approach, learning activities take place effectively, thus the interest in entrepreneurship will increase. In addition, research by reinforces the evidence that project-based learning can foster students' interest and achievement in entrepreneurial learning. The implication of these findings is that learning approaches that involve real projects are able to increase students' interest in entrepreneurship. This is because it can be implemented in daily life, which increases the relevance and motivation of learning. Therefore, educational institutions are advised to integrate project-based learning in their curriculum to encourage entrepreneurial interest among students. [30], [31]

The Influence of Digital Competence on Entrepreneurial Attitudes

The data of these findings show that Digital Competence has a positive influence on Entrepreneurial Attitudes with a path coefficient value of 0.232, T-statistics of 2.130, and P-values of 0.033. The average data of the highest score indicators is at 4.38 which shows students are aware of digital risk awareness and independence 4.42 which shows students are able to make decisions without depending on others. The lowest score was in information literacy and data 3.93 which showed that students were not optimal in evaluating digital information and 3.81 which showed a lack of student initiative in looking for opportunities or taking entrepreneurial steps. The aspect of digital security contributes the most to the formation of independence in entrepreneurship, on the other hand, low literacy and information may be one of the causes of the lack of development of students' proactive attitude in facing challenges. This indicates that the higher the digital competence possessed by a person, the more positive the entrepreneurial attitude formed. Digital competencies help students develop a more innovative, adaptive mindset and are able to manage business challenges more effectively. With these skills, they can more quickly recognize business opportunities and have the mental readiness to face risks in entrepreneurship.

Research by shows that digital skills acquired through the educational process have a direct influence on entrepreneurial intentions. The data obtained in this study also revealed that when entrepreneurial attitudes and behavior control were used as mediation variables, digital skills still showed a positive influence on these intentions. These findings confirm the importance of the role of education in shaping digital capabilities that are relevant to the business world. Furthermore, it is also emphasized that digitalization has a significant influence on entrepreneurial interests, especially in the context of digital-based businesses. In addition, research also shows that digital competence is not only directly influential, but also through the intermediary of entrepreneurial attitudes, which strengthens its impact on entrepreneurial interests. The implication of these findings is that improving digital competencies can strengthen individual entrepreneurial attitudes. This is important, because the ability to adapt to technology is the key to success in entrepreneurship. Thus, entrepreneurship training and education programs need to emphasize the development of digital competencies to form a strong entrepreneurial attitude. This will help individuals become more optimistic and ready to face the challenges of the digital business world. [23], [32], [33].

The Effect of Project-Based Learning on Entrepreneurial Attitudes

The data of these findings show that Project-Based Learning has a significant effect on Entrepreneurial Attitudes with a path coefficient value of 0.563, T-statistics of 7.778 and P-values of 0.000. The average indicator data on the variable showed that social interaction obtained a high score of 4.17 which indicates that students are active in teamwork. This has the potential to form an attitude of independence with a score of 4.42 and the lowest score is in the situation indicator of 3.89 and a proactive attitude of 3.81 where if the learning approach with the real world is not optimal, it will have an impact on the low proactive attitude of students. This confirms that high social interaction in project-based learning supports the development of students' independence in entrepreneurship, as they are trained to think

independently in a collaborative context. Meanwhile, low scores on learning indicators in real-world situations can limit the growth of proactive attitudes, which are important in responding to opportunities and risks in the business world.

The research by explained that the implementation of project-based learning methods is significantly able to increase students' creativity and innovation, which indirectly has a positive impact on the formation of entrepreneurial attitudes. In line with these findings, it is explained that project-based learning can increase students' interest and achievement in entrepreneurial learning. The research conducted by also added that factors such as entrepreneurial spirit, entrepreneurial literacy, and role model inspiration have been proven to affect self-efficacy and interest and entrepreneurial readiness. These three studies, as a whole, underline the importance of contextual and inspirational learning approaches in shaping students' attitudes and readiness to enter the world of entrepreneurship. The implication of these findings is that learning methods that involve real projects can form positive entrepreneurial attitudes in students. This is because students can experience firsthand the entrepreneurial process, which increases their understanding and motivation. Therefore, educational institutions are advised to integrate project-based learning in their curriculum to form a strong entrepreneurial attitude among students. This will help create a generation of entrepreneurs who are innovative and ready to take on business challenges [34], [35]

The Influence of Entrepreneurial Attitudes on Entrepreneurial Interest

The data of the findings of this study show that Entrepreneurial Attitude has a positive and significant effect on Entrepreneurial Interest, with a path coefficient value of 0.615, T-statistic of 7.240, and P-values of 0.000. This indicates that the stronger a person's entrepreneurial attitude which is reflected in self-confidence, initiative and willingness to take risks - the higher his interest in entering the world of entrepreneurship. The average score of the entrepreneurial attitude variable indicator showed the highest score at independence of 4.42, indicating that the ability to take initiative and work without depending on others strongly encourages interest in entrepreneurship. The lowest score was found in the proactivity indicator of 3.81 although still above the positive threshold, indicating room to increase initiative in finding business opportunities. In the entrepreneurial interest variable, the highest average indicator value lies in risk taking of 4.13, indicating that readiness to face uncertainty is the main driver of entrepreneurial intention, while the lowest value in entrepreneurial commitment is 3.84 which indicates the need to strengthen determination in running a long-term business. The stronger the entrepreneurial attitude, the greater the interest in entering entrepreneurship. An entrepreneurial attitude provides mental readiness and confidence to face challenges and failures in business.

Supports this finding by stating that entrepreneurial attitudes have a positive effect on entrepreneurial interest, with the experience of running an entrepreneurship will be a process in forming attitudes. Entrepreneurial attitudes have a positive and significant effect on entrepreneurial interest in students, entrepreneurial interest will grow if the cultivation of entrepreneurial attitudes is further developed with confidence, initiative, leadership spirit, courage in taking risks and being creative.

Schools can develop the curriculum by adding projects with real case studies, because independence is the strongest indicator of encouraging interest while proactiveness is the weakest, learning programs need to increase the portion of activities that demand active opportunity searching, besides that schools need to add career coaching and incubation because the lowest score is in entrepreneurial commitment which indicates that students need post-class support so that interest continues.

The Influence of Digital Competence on Entrepreneurial Interest through Entrepreneurial Attitudes

The data of these findings show that Digital Competence affects Entrepreneurial Interest through Entrepreneurial Attitudes with a path coefficient value of 0.128, T-statistics of 2.037, and P-values of 0.042. The average data of the variable indicator showed the highest score at independence 4.42 and digital security 4.38 which indicates that students have a good understanding of independence and maintaining security using digital technology, the lowest score was in the proactive indicator 3.81, competitive aggressiveness 3.82 and marketing ability 3.84. This indicates that high digital competence, especially in digital security and communication indicators, can strengthen independence attitudes which in turn encourage entrepreneurial interest, especially in leadership and risk-taking indicators. However, weaknesses in proactiveness and marketing show the need to strengthen digital competency indicators so that entrepreneurial interest becomes more optimal

By research states that digital entrepreneurship and self-control behavior have a significant relationship with interest or intention to do digital entrepreneurship. In line with this, the study also reveals that digital literacy affects digital entrepreneurial interest, where the ability to understand and utilize technology is an important capital in building and managing an online business. Furthermore, research shows that digital competence has a significant effect on adolescents' interest in online business. These three studies confirm that mastery of digital technology, both in terms of knowledge and skills, is a key factor in fostering entrepreneurial interest that is relevant to the development of the current era. [36], [32], [37], [38]

These findings confirm that improving digital competencies can shape positive entrepreneurial attitudes, which in turn increases interest in entrepreneurship. This is important because in the digital age, adaptability to technology is a crucial factor for success in entrepreneurship. Entrepreneurship training and education programs need to emphasize the development of digital competencies to form a strong entrepreneurial attitude, which will ultimately increase interest in entrepreneurship. This will help individuals to be able to increase their confidence and readiness to face digital business dynamics. Schools can provide digital training design and digital soft skills reinforcement due to high digital security scores, but low marketing scores

The Influence of Project-Based Learning on Entrepreneurial Interest through Entrepreneurial Attitudes

The data of these findings show that Project-Based Learning has a positive influence on Entrepreneurial Interest through Entrepreneurial Attitudes with a path coefficient value of 0.346, T-statistics of 5.266, and P-values of 0.000. The data on the average value of the variable indicator shows the highest value at independence of 4.42 which is an important capital in entrepreneurial interest. This can be formed from project-based learning experiences, the lowest score on the proactive indicator 3.81 and competitive aggressiveness 3.82 these two indicators are of concern because in entrepreneurship this attitude is crucial. Project-based learning can shape social interactions, cognitive devices and active construction, which encourages the formation of entrepreneurial attitudes such as independence and innovation which ultimately encourages entrepreneurial interests such as risk-taking. It can be concluded that entrepreneurial attitudes act as a bridge between project-based learning experiences and increased interest in entrepreneurship. Through the projects they work on, students not only gain technical skills, but also form a stronger entrepreneurial mindset, such as risk-taking courage and strategic thinking abilities.

Research shows that the application of the method has a significant positive effect on the development of students' character and entrepreneurial competence. The findings of this study imply that project-based learning must contain elements that trigger proactive and competitive aggressiveness which are the two lowest attitude indicators, teachers can insert challenge-based projects or can use peer pitching days so that students are healthy to improve ideas. In addition, schools can improve post-project coaching because of high independence scores that can be used as incubation capital, can carry out bazaars at school or implement role rotations so that students are able to learn to be leaders and be able to compete. [39]

5. Conclusion

Based on the problems that have been formulated, the conclusion that can be drawn is that digital competence and project-based learning have a positive and significant effect on entrepreneurial interest. This research states that entrepreneurial attitudes are able to act as a mediator between digital competence and project-based learning on students' entrepreneurial interests. The implications of this research show that efforts to increase entrepreneurial interest among students, especially in the Department of Online Business and Marketing, can be carried out to strengthen digital competencies and implement project-based learning. In addition, it is important for educators and school managers to cultivate students' entrepreneurial attitudes, as this attitude has proven to be a key factor that bridges the influence of these two variables on entrepreneurial interest. Therefore, the integration of a curriculum that encourages the use of digital technology, an active learning approach, and the strengthening of entrepreneurial values is highly recommended to create a young generation that is independent and ready to face the challenges of the business world. The researcher hopes that this research can be a reference for schools, teachers, and education policy makers in determining effective learning to foster the spirit of entrepreneurship in the educational environment.

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