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The Impact of Entrepreneurship Education and E-Learning on Student's Employability Skills through Entrepreneurial Intention

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Abstract: This study aimed to analyze the role of entrepreneurship education in student employability skills, mediated by e-learning and entrepreneurial intention. The research involved 30 respondents, consisting of high school, vocational school, and university students in Indonesia who had taken entrepreneurship education. Data were collected through a cross-sectional survey and analyzed using SmartPLS. The results showed that entrepreneurship education directly influenced e-learning, entrepreneurial intention, and employability skills. E-learning also significantly affected entrepreneurial intention and employability skills. However, entrepreneurial intention did not significantly influence employability skills. Indirect effects through entrepreneurial intention and combined mediations were also insignificant. The study was limited by a small sample size and potential ambiguity in questionnaire wording, suggesting the need for broader samples and clearer instruments in future research.

Keywords: E-Learning, Entrepreneurial Intention, Entrepreneurship Education, and Student's Employability Skills.

A. Introduction

The working-age population in Indonesia in August 2024 reached approximately 152.1 million people, with only 3.57% working as entrepreneurs (Rizky, 2025). As one of the world's largest populations, the Indonesian labor force still focuses on natural resources as the source of foreign exchange income. However, this country is experiencing a demographic bonus in the form of human resources to support the increase in foreign exchange income. According to Article 2, paragraph (1) Concerning the Minimum Age for Admission to Employment in Indonesia, the minimum age to be allowed to work is 15. Unfortunately, despite the large labor force, a significant portion of the adult population remains unemployed.

Table 1. The number of the labor force in Indonesia August 2024

No.	Age Group	Employee's Ability
1.	60 Years Old +	18.349.354
2.	35 – 39 Years Old	17.430.430
3.	25 – 29 Years Old	17.622.224
4.	30 – 34 Years Old	17.365.426
5.	50 – 54 Years Old	14.125.656
6.	40 – 44 Years Old	16.922.644
7.	45 – 49 Years Old	16.142.538
8.	20 – 24 Years Old	16.279.127
9.	55 – 59 Years Old	11.460.666
10.	15 – 19 Years Old	6.409.538
	Total	**152.107.603**

Source: (BPS, 2025)

The labor force of the 15-39 age group is currently the highest in number (Table 1.). Generally, this age group is expected to acquire work skill quality. The skills are specific to particular knowledge to perform tasks in different work environments. Particular knowledge is a personal quality that helps employees build effective relationships and carry out tasks in the workplace (Wahjusaputri et al., 2024). Since information can be accessed anywhere and anytime, individual work skills can be developed through various media that facilitate work skill development. Entrepreneurship education emphasizes learning through experience. This learning process is formed through acquiring entrepreneurial knowledge necessary to improve student's employability skills (Talukder et al., 2024). Besides entrepreneurial learning, increasing student's employability skills can be adapted through e-learning to train and develop employees (Riah F. Elcullada Encarnacion et al., 2021).

With its high labor force population, Indonesia is likely to be a developed country. However, this group could be a threat if the student's employability skills do not improve properly. A high workforce with poor-quality employability skills can lead to an increase in the number of individuals or communities who are not financially productive for the welfare of the standard of living. Thus, the issue encouraged the researchers to conduct this study. Therefore, the purpose of this study is to examine the influence of entrepreneurship education and e-learning on student's employability skills, with entrepreneurial intention serving as a mediating variable.

1. Student's Employability Skills (SES)

Employability skills refer to a combination of abilities, understanding, and personal traits that students develop, which can be directly applied to secure both current and future job opportunities. These skills not only benefit the students themselves but also contribute to the labor market, society, and the broader economy (Nguyen, 2023). Often categorized as soft or transferable skills, employability skills may include attributes such as teamwork, communication, and adaptability (Twyford & Dean, 2023). Employability also involves self-reliance, awareness of labor market demands, and the ability to apply one's knowledge, personal qualities, and competencies effectively (Scott & Willison, 2021). employability is about preparing young people for the workforce by helping them build a wide range of knowledge, attitudes, behaviors, and skills necessary for success in both work and life (Bikse et al., 2022). Students should not only master advanced academic knowledge but also acquire employability skills and professional competencies to meet the demands of a rapidly changing labor market (González-Cespón et al., 2024). Thus, student's employability skills can be formed through entrepreneurship education (Mittal & Raghuvaran, 2021).

The pressure of job requirements in the digital era is becoming strict. The employees' future success emphasizes critical thinking, communication, creativity, and collaboration (Idkhan et al., 2021). Critical thinking uses the

intellectual capacity to solve problems (Jami'ul Amil et al., 2024). Communication involves considering an individual's identity, determining appropriate behavior to interact with, and treating others (Raximbayevna, 2023). Creativity is a significant factor in surviving the competition in the industry (Ovando-Tellez et al., 2022). As the variable, the student's employability skills in this study were determined using indicators of interpersonal communication, basic numerical skills, time management, presentation skills, information communication and technology skills, and project assignments. Two or more people conduct interpersonal communication to exchange information, ideas, opinions, and feelings

Two or more people conduct interpersonal communication to exchange information, ideas, opinions, and feelings. Basic numerical skills are essential in using numbers as the basis for arithmetic processes, such as adding, subtracting, multiplying, and dividing. Time management means effectively planning and developing student's employability skills. It is necessary to develop personal ability, manage and execute the activities effectively and efficiently. Presentation skills are the ability to convey or communicate an existing or new idea. A good presentation skill is determined by language and speaking skills. An individual with good presentation skills will be able to convey opinion and idea to others conveniently. Information communication and technology skills allow an individual to operate a system to process and transform information into meaningful data. This ability is highly demanded in the industrial revolution 4.0. The use of technological support is inevitable, especially in the process of disseminating information and communication. Project assignment is a learning model that allows an individual to do a project and solve the problem independently. The assignment encourages students to apply their knowledge and utilize their ability to do tasks, enhance their skills, comprehend the information, and broaden their knowledge, which is the benchmark of the project assignments

2. *Entrepreneurship Education (EE)*

The studies on entrepreneurial behavior and entrepreneurship education are characterized by a teaching process that involves interaction and connection with business initiatives and the community (Wang et al., 2023). It shapes the characters and spirit of entrepreneurship and instills entrepreneurial competencies and values (Porda Nugroho Putro et al., 2022). Entrepreneurship education is a public instrument to manifest essential cultivation and aims to instill education about entrepreneurship throughout the curriculum at the education level (Mukhtar et al., 2021). Education is usually considered one of the most critical aspects of entrepreneurship, as it affects the development of entrepreneurial knowledge, capacity, and attitude (Raharjo et al., 2023). As a variable, entrepreneurship education in this study was measured using indicators of willingness to bear uncertainty, understanding entrepreneurship, exploring opportunities, making collaborations, and generating and creating organizations (Peters et al., 2022).

3. *E-Learning (EL)*

E-learning is an emerging ICT model to systematically deliver learning content and information for education and training (Nikou & Maslov, 2023). E-learning research is a dynamic and growing interdisciplinary field. Research in this area often combines social sciences, cognitive sciences, learning sciences, and engineering and computer science (Peters et al., 2022). Online learning could be the new normal of entrepreneurial education if the education system is designed to meet the demands of the technology to process the learning processes. Replicating technologies can uncover trends and gain important information about learning

systems by using the same technologies to improve student skills, curriculum performance, and academic performance. The use of machine learning and algorithms may be able to quantify student's academic progress (Isaac & Nsini, 2022). As information and communication technology develops, e-learning has become a paradigm of modern education. However, few studies have been conducted on users' attitudes toward e-learning and the impact of e-learning on the teaching and learning of speaking skills (Lim Ker Shin & Md Yunus, 2021). As a variable, e-learning in this study was measured using indicators of skill transfer, knowledge transfer, solution diversity, work assessment, and employability skills (Weng et al., 2023)

4. Entrepreneurial Intention (EI)

Entrepreneurial intention is defined as an individual's attitude toward the potential outcomes of important decisions, including the evaluation of willingness, self-confidence, and the likelihood of taking action in response to available opportunities (Anwar & Abdullah, 2021). It also refers to the process and actions involved in transforming an idea or concept into a tangible product or service (Halizah & Darmawan, 2023). Entrepreneurial intention can be described as an individual's belief or intention to engage in entrepreneurial activities or to start a new business venture. Previous researchers have stated that entrepreneurial intention is influenced by personal attitudes (Lavelle, 2021). This variable is related to participation in campus entrepreneurship programs, starting a business after graduation, and collaborating with business partners (Kusumojanto et al., 2021). Furthermore, entrepreneurial intention is measured by a strong willingness to engage in entrepreneurship, courage in taking risks, and confidence in making decisions (Fawaid et al., 2022). In this study, the indicators of entrepreneurial intention include: 1) interest, 2) consideration, 3) preparation, 4) effort, and 5) action (Sun et al., 2023).

Despite numerous studies on entrepreneurship education, e-learning, and employability skills, limited research has explored the mediating role of entrepreneurial intention in this relationship. Most prior research treated these variables independently. This study addresses this gap by testing a comprehensive structural model that integrates all three dimensions to understand their direct and indirect effects on students' employability skills in the Indonesian context.

B. Materials and Methods

1. *Hypothesis*

The research design utilized was to solve the problems of the research. The labor force in Indonesia has not been fully absorbed. The research design used was casual. It is designed to collect data and create a structure that allows researchers to comprehend the cause-effect relationship in the research variables (Saunders, Lewis, & Thornhill, 2023). The purposes of casual research are: 1) Understanding the independent and dependent variables on the entrepreneurship phenomenon, 2) Determining the relationship between the cause-effect variables, and 3) Testing the causal variable relationship hypothesis. According to the literature review, this study was conducted based on the grand theory of entrepreneurship, student employability skills, entrepreneurship education, e-learning, and entrepreneurial intention as shown in Fig. 1.

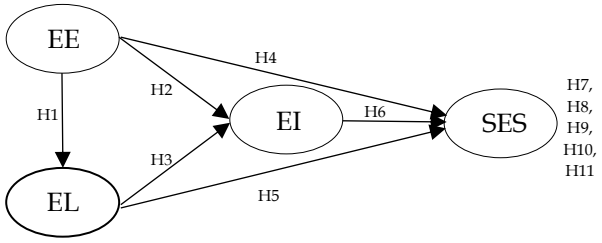

Fig. 1. Relationship between student's employability skills, entrepreneurship education, e-learning, and entrepreneurial intention.
Source: (Gazi et al., 2024; Mittal & Raghuvaran, 2021; Sholihah et al., 2023; Wardhani & Kusuma, 2022)

In line with the research model and supported by earlier findings, the following hypotheses are presented:

H1: Entrepreneurship education affects e-learning.

H2: Entrepreneurship education affects Entrepreneurial Intention.

H3: E-learning affects Entrepreneurial Intention.

H4: Entrepreneurship education affects student's employability skills.

H5: E-learning affects student's employability skills.

H6: Entrepreneurial intention affects student's employability skills.

H7: Entrepreneurship education indirectly affects entrepreneurial intention through e-learning.

H8: Entrepreneurship education indirectly affects student's employability skills through entrepreneurial intention.

H9: E-learning indirectly affects student's employability skills through entrepreneurial intention.

H10: Entrepreneurship education indirectly affects student's employability skills through e-learning.

H11: Entrepreneurial education affects student's employability skills indirectly through e-learning and entrepreneurial intention.

2. *Sample and Data Collection*

The population of this study was Indonesian, at least pursuing secondary and higher education. The researcher provided the population limit in the unit of analysis in which the students as an individual. The survey was sent via e-mail to 100 randomly. Thereby individuals had the same probability of being selected from the population and representing a sample. The study had a 30% response rate, with 62 secondary and higher education respondents. The limited number of valid responses (30 out of 100) reflects a challenge in data collection, yet is acceptable for exploratory analysis using SEM-PLS which is robust for small sample sizes. Before analysis, the validity of the questionnaire items was assessed through construct validity testing in SmartPLS by evaluating outer loadings and AVE values within the measurement model.

Around 6.4% of respondents had the same rating for all items. Therefore the sample of this study was 30, which are the respondents provided varied ratings for all items.

This quantitative study employed a statistical approach using Structural Equation Modeling - Partial Least Squares (SEM-PLS) to analyze the data. The data analysis procedure was as follows: 1) Path analysis was performed on the scales to confirm the structure of the constructs, followed by 2) hypothesis testing was conducted using the path analysis method. Data analysis was carried out using the SmartPLS software, which is suitable for complex models involving latent variables. The study used an interval scale, which allowed arithmetic operations to be performed on the data collected from respondents, despite the absence of a true zero point (Saunders, Lewis, & Thornhill, 2023). The measurement has no real zero value. The measure of attitude commonly used in business research is the Likert scale. The Likert scale is a scale that requires respondents to respond to the extent to which they agree or disagree about a perceived object.

C. Result and Discussion

Entrepreneurship education in secondary and higher education was assessed in five dimensions: Entrepreneurship understanding, opportunity exploration, collaboration, generating organization, and creating organization. Overall satisfaction was very high, with the highest scores for entrepreneurship understanding (4.57) and the lowest for creating organization (4.30), as shown in Fig. 2.

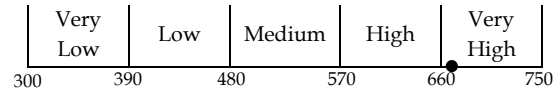

Fig. 2. Continuum line on entrepreneurial education
Source: (Excel, 2025b)

The data shows that 21% reflects student's understanding of entrepreneurship. A total of 20% represents student's focus on opportunity exploration. Another 20% indicates that entrepreneurship education enhances collaboration skills. Additionally, 20% relates to the role of forming organizations in supporting entrepreneurship learning, while 19% highlights how creating organizations can further strengthen the development of entrepreneurship education.

E-Learning in secondary and higher education was assessed in five dimensions: Transfer skill, knowledge transfer, various solution, work assessment, and work skill. Overall satisfaction was very high, with the highest scores for various solution (4.43) and the lowest for work assessment (4.17), as shown in Fig. 3.

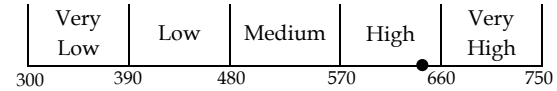

Fig. 3. Continuum line on E-Learning
Source: (Excel, 2025a)

The data shows that 20% represents transfer skills as a core component of e-learning. Another 20% reflects student's focus on knowledge transfer, while 21% indicates that e-learning supports problem-solving abilities. In addition, 19% relates to work assessment, and 20% highlights the role of work skills in enhancing e-learning effectiveness.

Entrepreneurial intention in secondary and higher education was assessed in three dimensions: Interest, effort, and action. Overall satisfaction was very high, with the highest scores for effort (4.60) and the lowest for action (4.27), as shown in Fig. 4.

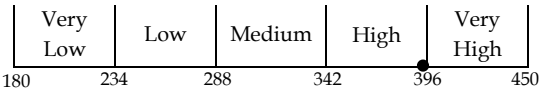

Fig. 4. Continuum line on Entrepreneurial Intention
Source: (Excel, 2025c)

The data shows that 33% represents interest as an indicator of entrepreneurial intention. Another 35% reflects student's efforts toward pursuing entrepreneurial goals, while 32% indicates actions taken in line with their entrepreneurial intentions.

Student's employability skills in secondary and higher education were assessed in six dimensions: Interpersonal communication, basic numeric skill, time management, presentation skill, information communication and technology skill, and project task. Overall satisfaction was very high, with the highest scores for time management (4.50) and the lowest for basic numeric skills (4.30), as shown in Fig. 5.

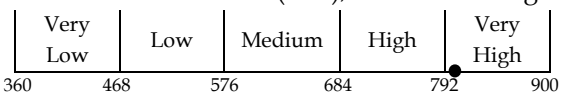

Fig. 5. Continuum line on Student's Employability Skills
Source: (Excel, 2025d)

The data shows that 17% reflects interpersonal communication as part of employability skills. A total of 20% represents basic numeric skills, while 17% indicates time management. Additionally, 17% relates to presentation skills, another 17% to information and communication technology (ICT) skills, and 17% to project task completion.

1. Outer Model testing

The formulation or statement of the hypothesis formulated from the structure of the relationship of construct or latent variables can be carried out by measuring the dimensions of indicators of each construct variable completed. Variations in data values in dimensions of indicators will describe variations in construct variables. The strong or weak relationship of various indicators with constructed variables is

indicated by the size of the loading factor value owned by each dimension or indicator of the constructed variable.

Based on the output of the SmartPLS program, the estimation of the λ parameter is the same as the estimated value of the standardized regression parameter or referred to as the path coefficient. With the discovery of the magnitude of the value of the path coefficient, the calculation of how much the value of the structural influence is directly, indirectly, or the total influence of the predictor variable on the predictor can be known and determined. The magnitude of the coefficient values result from the estimation of parameters to describe X and λ describe Y on outer loading.

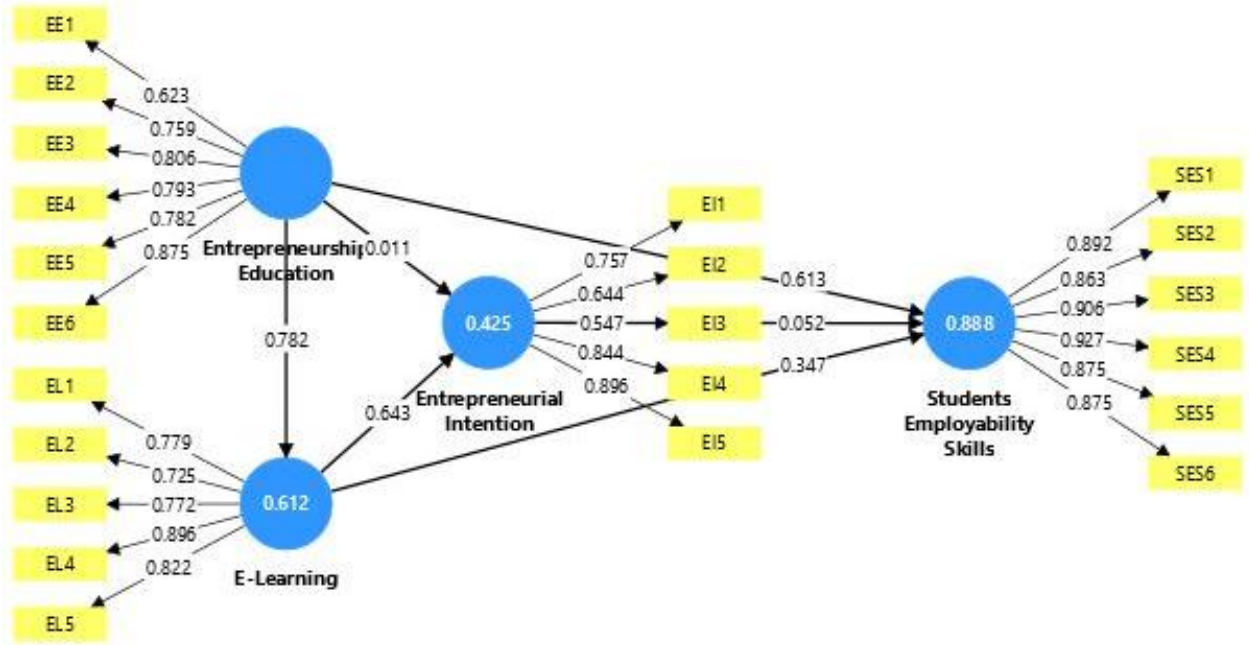

Fig. 6. Outer Loadings
Source: (SmartPLS, 2025l)

The first measurement showed five indicators in the construct variable entrepreneurship education, five indicators in the construct variable e-learning, three indicators in the construct variable entrepreneurial intention, and six indicators in the construct variable student's employability skills with uncompleted status. This means that willingness to bear uncertainty does not match as entrepreneurship education indicator in this study. Then, consideration and preparation does not match as entrepreneurial intention indicator in this study.

Table 2. Outer Loadings

Exogenous Variable	λ	Endogenous Variable	λ	Intervening Variable	λ
Entrepreneurship Education		Student's Employability Skills		E-Learning	
EE1- Being open to uncertainty	**0.623**	SES1-Interpersonal Communication	0.892	EL1-Transfer Skill	0.779
EE2-Entrepreneurship Understanding	0.759	SES2-Basic Numeric Skill	0.863	EL2-Knowledge Transfer	0.725
EE3- Opportunity Exploration	0.803	SES3-Time Management	0.906	EL3-Various Solution	0.772
EE4-Collaboration	0.793	SES4-Presentation Skill	0.927	EL4-Work Assessment	0.896

EE5- Generating Organization	0.782	SES5- Information Communication and Technology Skill	0.875	EL5-Work Skill	0.822
EE6-Creating Organization	0.875	SES6-Project Task	0.875	Entrepreneurial Intention	
				EI1-Interest	0.757
				EI2-Consideration	**0.644**
				EI3- Preparation	**0.547**
				EI4- Effort	0.844
				EI5- Action	0.896

Source: (SmartPLS, 2025l)

The results of outer testing in this study were: 1) Interpersonal communication, basic numeric skills, time management, presentation skill, information communication and technology skills, and project task could develop a variable construct of student's employability skills, 2) entrepreneurship understanding, opportunity exploration, collaboration, generating organization, and creating organization could develop a variable construct of entrepreneurship education, 3) transfer skill, knowledge transfer, various solution, work assessment, and work skill could develop a variable construct of e-learning, and 4) interest, effort, and action could develop a variable construct of entrepreneurial intention. The estimated value of the λ parameter on the indicators of exogenous, endogenous, and intervening variables showed a coefficient greater than 0.7 and was significant at α = 0.05. This meant the indicator set a valid and reliable factor on each latent variable or construct.

2. *Inner Model Testing*

Inner model testing can only be done if outer model testing has been declared valid and reliable by loading the value of R^2 in the construct. The structural model in Partial Least Square was evaluated using Good of Fit Model, which shows the difference between the observed value and the value estimated by the model. Based on Table 2, it was discovered that the position of variable student's employability skills in the inner model was the middle.

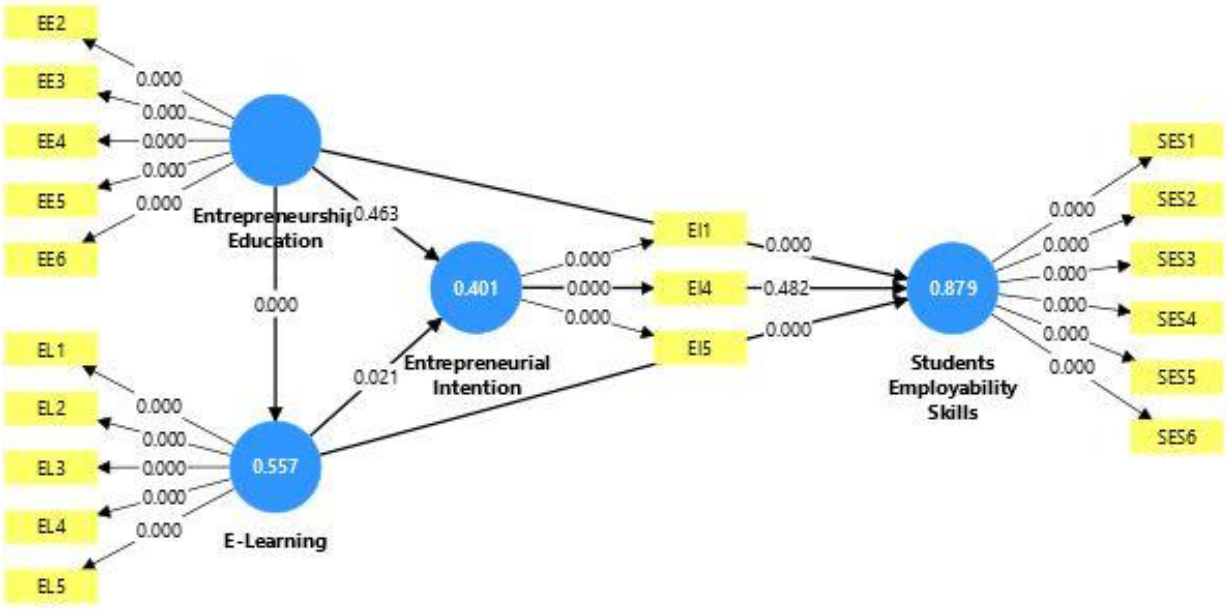

Fig.7. Bootstrapping (P-Value)
Source: (SmartPLS, 2025l)

The square root of the Average Variance Extracted will be used to analyze the discriminant validity of all constructs in the research model. It

is known that all AVE values > 0.6, Cronbach Alpha > 0.7, and Rho value > 0.7 means that the measurement model of the four variables is consistent and accurate in making measurements and constructive testing.

Table 3. Structural Model Testing

Latent Variables	AVE	Cronbach Alpha	Rho	R-Square
Student's Employability Skills	0.792	0.947	0.958	0.879
Entrepreneurship Education	0.669	0.876	0.910	-
E-Learning	0.641	0.859	0.899	0.557
Entrepreneurial Intention	0.761	0.843	0.905	***0.401***

Source: (SmartPLS, 2025m)

5. Hypothesis Testing of H1

The first analysis focused on latent variable correlations in the outer model test. In the second analysis, entrepreneurship education had a 57.9% impact (R^2) on E-Learning. The third analysis examined this effect further. Hypothesis H1, tested in this study, was supported with a P-value of 0.000 < 0.05 in Table 4. Aligning with previous research (Mittal & Raghuvaran, 2021).

Table 4. Hypothesis Testing of H1

		λ	STDEV	T-value	P-value	R^2
H1	EE → EL	0.747	0.115	6.496	0.000	0.579

Source: (SmartPLS, 2025a)

6. Hypothesis Testing of H2

The first analysis focused on latent variable correlations in the outer model test. In the second analysis, entrepreneurship education had a 29.2% impact (R^2) on entrepreneurial intention. The third analysis examined this effect further. Hypothesis H2, tested in this study, was supported with a P-value of 0.003 < 0.05 in Table 5. Aligning with previous research (Sholihah et al., 2023).

Table 5. Hypothesis Testing of H2

		λ	STDEV	T-value	P-value	R^2
H2	EE → EI	0.147	0.204	3.008	0.003	0.292

Source: (SmartPLS, 2025d)

7. Hypothesis Testing of H3

The first analysis focused on latent variable correlations in the outer model test. In the second analysis, e-learning had a 40.3% impact (R^2) on entrepreneurial intention. The third analysis examined this effect further. Hypothesis H3, tested in this study, was supported with a P-value of 0.022 < 0.05 in Table 6. Aligning with previous research (Wardhani & Kusuma, 2022).

Table 6. Hypothesis Testing of H3

		λ	STDEV	T-value	P-value	R^2
H3	EL → EI	0.516	0.225	2.293	0.022	0.403

Source: (SmartPLS, 2025e)

8. Hypothesis Testing of H4

The first analysis focused on latent variable correlations in the outer model test. In the second analysis, entrepreneurship education had a 64.3% impact (R^2) on student's employability skills. The third analysis examined this effect further. Hypothesis H4, tested in this study, was supported with a P-value of 0.000 < 0.05 in Table 7. Aligning with previous research (Mittal & Raghuvaran, 2021).

Table 7. Hypothesis Testing of H4

		λ	STDEV	T-value	P-value	R^2
H4	EE → SES	0.886	0.037	23.992	0.000	0.793

Source: (SmartPLS, 2025f)

9. Hypothesis Testing of H5

The first analysis focused on latent variable correlations in the outer model test. In the second analysis, e-learning had a 64.3% impact (R^2) on student's employability skills. The third analysis examined this effect further. Hypothesis H5, tested in this study, was supported with a P-

value of 0.000 < 0.05 in Table 8. Aligning with previous research (Mittal & Raghuvaran, 2021).

Table 8. Hypothesis Testing of H5

		λ	STDEV	T-value	P-value	R^2
H5	EL → SES	0.454	0.103	4.402	0.000	0.752

Source: (SmartPLS, 2025g)

10. Hypothesis Testing of H6

The first analysis focused on latent variable correlations in the outer model test. In the second analysis, entrepreneurial intention had a 64.3% impact (R^2) on student's employability skills. The third analysis examined this effect further. Hypothesis H6, tested in this study, was supported with a P-value of 0.473 > 0.05 in Table 9. Different from previous research (Gazi et al., 2024).

Table 9. Hypothesis Testing of H6

		λ	STDEV	T-value	P-value	R^2
H6	EI → SES	0.073	0.101	0.718	0.473	0.395

Source: (SmartPLS, 2025h)

11. Hypothesis Testing of H7

The first analysis explored latent variable correlations. The second analysis assessed the indirect impact of entrepreneurship education on entrepreneurial intention through e-learning R^2 value of 23.3%. This study found mutual influences between entrepreneurship education, e-learning, and entrepreneurial intention. The third analysis examined the effect of entrepreneurship education on e-learning, focusing on hypothesis H7. Therefore, H7 was accepted (P-value = 0.039 < 0.05 in Table 10.).

Table 10. Hypothesis Testing of H7

		λ	STDEV	T-value	P-value	R^2
H7	EE → EL → EI	0.385	0.187	2.064	0.039	0.233

Source: (SmartPLS, 2025i)

12. Hypothesis Testing of H8

The first analysis explored latent variable correlations. The second analysis assessed the indirect impact of entrepreneurship education on employability skills through entrepreneurial intention R^2 value of 11.5%. This study found mutual influences between student's employability skills, entrepreneurship education, and entrepreneurial intention. The third analysis examined the effect of entrepreneurship education on entrepreneurial intention, focusing on hypothesis H8. However, H8 was declined (P-value = 0.703 > 0.05 in Table 11.).

Table 11. Hypothesis Testing of H8

		λ	STDEV	T-value	P-value	R^2
H8	EE → EI → SES	0.011	0.028	0.381	0.703	0.115

Source: (SmartPLS, 2025j)

13. Hypothesis Testing of H9

The first analysis explored latent variable correlations. The second analysis assessed the indirect impact of e-learning on student's employability skills through entrepreneurial intention R^2 value of 15.9%. This study found mutual influences between student's employability skills, e-learning, and entrepreneurial intention. The third analysis examined the effect of e-learning on entrepreneurial intention, focusing on hypothesis H9. However, H9 was declined (P-value = 0.531 > 0.05 in Table 12.).

Table 12. Hypothesis Testing of H9

		λ	STDEV	T-value	P-value	R^2
H9	EL → EI → SES	0.038	0.060	0.626	0.531	0.159

Source: (SmartPLS, 2025k)

14. Hypothesis Testing of H10

The first analysis explored latent variable correlations. The second analysis assessed the indirect impact of entrepreneurship education on student's employablity skills through e-learning R^2 value of 43.5%. This study found mutual influences between student's employability skills, entrepreneurship education, and e-learning. The third analysis examined the effect of entrepreneurship education on e-learning, focusing on hypothesis H10. Therefore, H10 was accepted (P-value = 0.003 < 0.05 in Table 13.) aligning with previous research (Mittal & Raghuvaran, 2021).

Table 13. Hypothesis Testing of H10

		λ	STDEV	T-value	P-value	R^2
H10	EE → EL → SES	0.311	0.106	2.932	0.003	0.435

Source: (SmartPLS, 2025b)

15. Hypothesis Testing of H11

The first analysis explored latent variable correlations. The second analysis assessed the indirect impact of entrepreneurial education on student employability skills indirectly through e-learning and entrepreneurial intention. R^2 value of 9.2%. This study found mutual influences between student's employability skills, entrepreneurship education, e-learning, and entrepreneurial intention. The third analysis examined the direct effects between variables, particularly the influence of entrepreneurial education on e-learning, entrepreneurial intention, and student employability skills, focusing on hypothesis H11. However, H11 was declined (P-value = 0.539 > 0.05 in Table 13.).

Table 13. Hypothesis Testing of H11

		λ	STDEV	T-value	P-value	R^2
H11	EE → EL → EI → SES	0.028	0.046	0.615	0.539	0.092

Source: (SmartPLS, 2025c)

D. Conclusion

Although most hypotheses were supported, several were rejected (H6, H8, H9, H11), indicating the limitations of entrepreneurial intention as a mediating variable. The insignificant result for H6 suggests that having entrepreneurial intentions alone is not sufficient to impact employability skills without practical engagement or training. Additionally, the rejection of H8 and H9 implies that the mediation paths through entrepreneurial intention may not be strong enough in the observed sample. These findings highlight the complexity of employability skill development and suggest that other psychological or contextual factors may be more influential.

The study revealed that entrepreneurship education influences e-learning, entrepreneurial intention, and student's employability skills. E-learning affects both entrepreneurial intention and student's employability skills. However, entrepreneurial intention does not have a significant effect on student's employability skills. Entrepreneurship education also has an indirect effect on entrepreneurial intention through e-learning, and it influences student's employability skills through e-learning. However, the indirect effect of entrepreneurship education on student's employability skills through both e-learning and entrepreneurial intention was not statistically significant. Therefore, the accepted hypotheses are H1, H2, H3, H4, H5, H7, and H10, while the rejected hypotheses are H6, H8, H9, and H11.

This study had several limitations, including a limited and uneven selection of participants. Additionally, the data collection process was conducted without direct assistance from the researchers, increasing the potential for errors in response. The language used in the questionnaire

was also considered too complex, which may have led to misunderstanding. Furthermore, the high number of question items could have caused respondent fatigue or a lack of interest in answering seriously. The study also used a relatively small sample size.

From a theoretical perspective, this study contributes to the growing literature on mediation in entrepreneurship education by demonstrating that while e-learning serves as a significant mediating pathway, entrepreneurial intention alone does not significantly translate into employability outcomes. This insight encourages future researchers to consider additional mediators or moderators, such as self-efficacy or experiential learning components.

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