

Entrepreneurship Education and Entrepreneurial Intention: The role of Human Capital as Mediator

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ABSTRACT

This study aims to analyze the influence of Entrepreneurship Education on Entrepreneurial Intention with Human Capital as a mediating variable among students at Universitas Surabaya. Entrepreneurship Education is considered a strategic approach to enhancing Entrepreneurial Intention through the development of Human Capital, encompassing entrepreneurial knowledge, skills, and experiences. This quantitative study employs Structural Equation Modeling (SEM) to test the relationships among variables. Data were collected from 150 students who have taken entrepreneurship courses at Universitas Surabaya. The findings reveal that Entrepreneurship Education positively and significantly influences Human Capital, which in turn significantly affects Entrepreneurial Intention. Additionally, Human Capital mediates the relationship between Entrepreneurship Education and Entrepreneurial Intention. These results underscore the importance of investing in Entrepreneurship Education to develop students' entrepreneurial potential. This study provides practical contributions to higher education institutions in designing effective entrepreneurship curricula and supporting entrepreneurial development among the younger generation.

Keyword: *Entrepreneurship Education, Entrepreneurial Intention, Human Capital*

1. INTRODUCTION

Entrepreneurship education is an important strategy for building entrepreneurial potential among students and equipping students with entrepreneurial knowledge, skills, and attitudes to increase their chances of entrepreneurial success (Fayolle & Gailly, 2015). Entrepreneurial Intention is often considered the main predictor of future entrepreneurial behavior (Liñán & Fayolle, 2015). The effectiveness of entrepreneurship education affects Human Capital, such as the knowledge, skills, and experience possessed by individuals, and plays an important role in driving entrepreneurial success (Becker, 1964). Entrepreneurship education can enrich Human Capital, ultimately increasing entrepreneurial intentions (Martin et al., 2013; Unger et al., 2011). (Aboobaker & D, 2020) found that entrepreneurship education positively affects entrepreneurial intentions through the mediation of Human Capital. However, (Muna & Subawa, 2022) found that entrepreneurship education did not significantly affect entrepreneurial Intention without mediators such as creativity. Research (Debarliev et al., 2022) also found that Human Capital did not directly affect entrepreneurial Intention. The research gap indicates the need for further research to understand the influence of entrepreneur education, human capital, and entrepreneurial Intention. This study aims to analyze the effect of entrepreneurship education on the entrepreneurial Intention of students at the University of Surabaya with Human Capital as a mediator. The University of Surabaya was chosen because it has an entrepreneurship program integrated with the curriculum, which allows for a comprehensive evaluation of the effectiveness of entrepreneurship education in building students' entrepreneurial potential. Many studies have proven a positive and significant influence between entrepreneurship education and entrepreneurial Intention in students. (Aboobaker & D, 2020) Moreover, (Muna & Subawa, 2022) found that entrepreneurship education enriches students' knowledge and skills while increasing their Intention to become entrepreneurs. This relationship is supported by the Theory of Planned Behavior (Ajzen, 1991), which states that attitudes, subjective norms, and perceived behavioral control influence entrepreneurial Intention. Entrepreneurship education contributes to strengthening these three aspects through a structured curriculum. Other studies have also confirmed this positive relationship, as found by (Hoang et al. 2021; Nowiński et al., 2019; Zhang et al., 2014). Based on the proposition above, the hypothesis proposed is as follows: H1: Entrepreneurship Education has a positive effect on Entrepreneurial Intention

Research (Aboobaker & D, 2020) shows that entrepreneurship education significantly enriches students' Human Capital by providing knowledge and skills such as business strategy, financial management, and innovation. In addition to strengthening technical knowledge, Entrepreneurship Education improves practical skills through business simulations, entrepreneurial projects, and industry collaborations (Fayolle & Gailly, 2015). Entrepreneurship education

also encourages the development of critical thinking and analytical competencies, as well as proactive attitudes and achievement orientations that are important in entrepreneurship (Fayolle et al., 2006; Rauch & Hulsink, 2015). Entrepreneurship Education improves knowledge and skills and strengthens self-confidence and strategic abilities, making it an important factor in developing Human Capital relevant to the modern business world (Kuratko, 2005). Based on the propositions above, the following hypotheses are proposed: H2: Entrepreneurship Education positively affects Human Capital. Human capital also has a significant influence on entrepreneurial Intention. (Unger et al., 2011) found that increasing Human Capital has a positive effect on entrepreneurial intentions. (Liñán & Fayolle, 2015) Entrepreneurship education effectively develops Human Capital and significantly increases entrepreneurial intentions by strengthening entrepreneurial competencies. (Martin et al., 2013) support this finding by stating that entrepreneurship project-based courses accelerate the accumulation of Human Capital and increase students' innovation, knowledge, and self-confidence. Thus, Human Capital not only supports identifying opportunities but also facilitates the realization of entrepreneurial intentions. Based on the propositions above, the following hypotheses are proposed: H3: Human capital has a positive effect on entrepreneurial Intention

Human capital plays a significant mediator between entrepreneurial education and entrepreneurial Intention. Research shows that increasing Human Capital through entrepreneurship training significantly increases students' entrepreneurial Intention (Martin et al., 2013; Unger et al., 2011). Entrepreneurship Education, with business idea development, financial introduction, and marketing techniques, effectively builds Human Capital by strengthening relevant knowledge and skills (Rauch & Rijdsdijk, 2013). The study (Walter et al., 2013) added that entrepreneurship training improves cognitive abilities and social skills, which are important in forming entrepreneurial intentions. In addition, students with higher Human Capital tend to have a stronger tendency to start a new business (Martin et al., 2013). (Fayolle & Gailly, 2015) also confirmed that increasing Human Capital through entrepreneurship training significantly increases entrepreneurial intentions, underlining the importance of Human Capital as a bridge between education and the implementation of entrepreneurship. Based on the proposition above, the hypothesis proposed is as follows - H4: Human Capital mediates the influence between Entrepreneurship Education and Entrepreneurial Intention

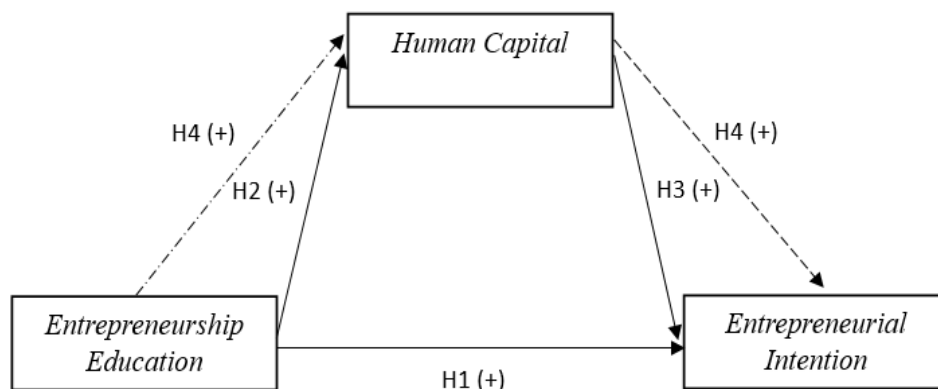


Figure 1 Research Model (Source: Aboobaker & D, (2020))

2. RESEARCH METHODS

This study uses a quantitative approach with an explanatory design to analyze and test the causal relationship between variables (Hair et al., 2010)—primary data used in this study with respondents from Surabaya University students. The target population is all students from Surabaya University who have graduated or are taking entrepreneurship courses. A purposive sampling technique is used in this study, where researchers select respondents based on specific criteria (Sekaran & Bougie, 2016). The number of respondents is 150, and data was collected through questionnaires distributed online using Google Forms. The interval measurement level uses a numerical Likert scale. Data analysis uses Structural Equation Modeling (SEM) with SPSS 27.0 for Windows and AMOS 26.0 for Windows software. EE variables are measured using eight indicators, such as the level of satisfaction with entrepreneurship courses, the quality of lecturers' teaching, and the impact of courses on entrepreneurial skills (Adekiya & Ibrahim, 2016). HC is measured through three indicators: entrepreneurial skills, recognition from the environment as a skilled individual, and level of expertise in entrepreneurial roles (Subramaniam & Youndt, 2005). Meanwhile, EI is measured using six indicators: readiness to start a business, professional goals as an entrepreneur, and strong intentions to establish a business (Liñán & Chen, 2009).

3. RESULTS AND DISCUSSION

Based on the results of the analysis using Structural Equation Modeling (SEM), it was found that Entrepreneurship Education (EE) has a positive and significant effect on Entrepreneurial Intention (EI). The estimated value of the standardized regression weight of 0.65 with a significance level ($p < 0.001$) indicates that effective entrepreneurship education can directly increase entrepreneurial intentions among students at the University of Surabaya. In addition, the results of the analysis show that Entrepreneurship Education also has a significant effect on Human Capital (HC), with an estimated value of 1.052 and a significance level ($p < 0.001$). The result indicates that entrepreneurship education enriches students' Human Capital by increasing skills, knowledge, and competencies relevant to entrepreneurship. Human Capital was found to positively and significantly influence Entrepreneurial Intention. The estimated value of 0.463 with a significance level ($p < 0.001$) indicates that strong Human Capital, including technical and managerial skills, encourages students to have a higher intention to start a business.

Meanwhile, the mediating role of Human Capital in the relationship between Entrepreneurship Education and Entrepreneurial Intention was tested using the Sobel test. The results showed that the t-stat value of 5.378 with a p-value ($p < 0.001$) confirmed that Human Capital is a significant mediator that strengthens the indirect influence of entrepreneurship education on students' entrepreneurial intentions. These results indicate the importance of entrepreneurship education and Human Capital in building strong entrepreneurial intentions. Higher education institutions are advised to integrate entrepreneurship curricula that focus on theory and practical experience to strengthen students' human capital

Table 1 Goodness of Fit Measurement Model

No	Fit Test	Criteria	Results	Noted
1	CMIN/DF	≤ 3	1,930	Good Fit
2	RMSEA	$\leq 0,08$	0,079	Good Fit
3	GFI	Marginal Fit (0,8-0,9)	0,855	Marginal Fit
		Good Fit ($\geq 0,9$)		
4	CFI	Marginal Fit (0,8-0,9)	0,967	Good Fit
		Good Fit ($\geq 0,9$)		
5	TLI	Marginal Fit (0,8-0,9)	0,961	Good Fit
		Good Fit ($\geq 0,9$)		

The tested model has a good level of fit based on the results of the Goodness of Fit analysis. The CMIN/DF value of 1.930 (≤ 3) and RMSEA of 0.079 (≤ 0.08) indicate Good Fit. The CFI value of 0.967 and TLI of 0.961 (≥ 0.90) also indicate good fit model. Although the GFI value of 0.855 is in the Marginal Fit category (0.8–0.9), this model is still acceptable and suitable for further analysis. These results indicate that the model has met the criteria for fit with the data analyzed

Table 2. Processing results of AVE and CR

Variables	Indicators	Std. Loadings	CR	AVE	Noted
EE	EE1	0,835	0,974	0,827	Valid dan Reliabel
	EE2	0,759			Valid dan Reliabel
	EE3	0,793			Valid dan Reliabel
	EE4	0,809			Valid dan Reliabel
	EE5	0,917			Valid dan Reliabel
	EE6	0,915			Valid dan Reliabel
	EE7	0,916			Valid dan Reliabel
	EE8	0,884			Valid dan Reliabel
EI	EI1	0,899	0,973	0,922	Valid dan Reliabel
	EI2	0,904			Valid dan Reliabel
	EI3	0,921			Valid dan Reliabel

Variables	Indicators	Std. Loadings	CR	AVE	Noted
HC	EI4	0,939	0,967	0,829	Valid dan Reliabel
	EI5	0,919			Valid dan Reliabel
	EI6	0,932			Valid dan Reliabel
	HC1	0,944			Valid dan Reliabel
	HC2	0,918			Valid dan Reliabel
	HC3	0,969			Valid dan Reliabel

The standardized loading value for each indicator is obtained directly through Microsoft Excel calculations. Based on Table 2, all variables have an average variance extracted (AVE) value that reaches or exceeds 0.5. The score shows that each indicator has successfully formed a latent construct. In addition, Table 2 also shows that the construct reliability (CR) value for all variables is greater than 0.7 so that the variables used can be considered as a whole to have met the reliability criteria EE and EI.

Table 3 Hypothesis Test

Hypothesis	Relationship	β	S.E.	C.R.	P	Noted
H1	EE→EI	0,65	0,107	6,046	***	Significant
H2	EE→HC	1,052	0,096	10,957	***	Significant
H3	HC→EI	0,463	0,075	6,159	***	Significant
Sobel Test						
Hypothesis	Relationship	t-Stat		P Value		Noted
H4	EE→HC→EI	5,378		***		Significant

The estimated value of the standardized regression weight of 0.65 indicates a positive relationship. The result means that the higher the EE, the increased EI significantly. The influence of Entrepreneurship Education (EE) on Human Capital (HC) in H2 produces a probability value of *** ($p < 0.001$), which is smaller than 0.05. It indicates a significant influence between EE and HC. With an estimated value of 1.052, this relationship is positive, indicating that the higher the EE, the HC also increases significantly. The influence of Human Capital (HC) on Entrepreneurial Intention (EI) in H3 produces a probability value of 0.007, smaller than 0.05. These results conclude that HC and EI have a significant influence. The value of the Influence of Entrepreneurship Education (EE) on Entrepreneurial Intention (EI) in H1 produces a probability value of *** ($p < 0.001$), which is smaller than 0.05. These results indicate a significant influence between the estimates of 0.463; this relationship is positive, which means that increasing HC significantly increases EI. Based on the Sobel test, the influence of Entrepreneurship Education (EE) on Entrepreneurial Intention (EI) through Human Capital (HC) produces a t-stat value of 5.378 with a p-value of 0.01. This value is smaller than 0.05, so it can be concluded that HC has a significant mediation effect on the relationship between EE and EI. The first hypothesis that tests the influence of Entrepreneurship Education (EE) on Entrepreneurial Intention (EI) is proven to be supported, with a Critical Ratio (CR) value of 6.046, indicating a positive and significant influence. The result is consistent with research (Aboobaker & D, 2020), which confirms that entrepreneurship education increases individual entrepreneurial intentions. The better the entrepreneurship education provided, the greater a person's Intention to become an entrepreneur. However, these results contradict research (Muna & Subawa, 2022), possibly due to differences in academic and social environments. Effective entrepreneurship education can motivate the development of business ideas, increase self-confidence, and prepare individuals to face business challenges. The second hypothesis that tests the effect of Entrepreneurship Education (EE) on Human Capital (HC) is proven to be supported, with a Critical Ratio (CR) value of 10.957 indicating a positive and significant effect. These results align with research (Aboobaker & D, 2020), which confirms that entrepreneurship education increases the development of skills, knowledge, and competencies relevant to entrepreneurship. Quality entrepreneurship education helps individuals face the challenges of the business world and strengthens the role of Human Capital in supporting entrepreneurial success. The third hypothesis that tests the effect of Human Capital (HC) on Entrepreneurial Intention (EI) is proven to be supported, with a Critical Ratio (CR) value of 6.159 indicating a positive and significant effect. These results align with research (Aboobaker & D, 2020), which confirms that the higher the quality of Human Capital, such as skills, knowledge, and competence, the greater the individual's Intention to become an entrepreneur. Good Human Capital encourages self-confidence, decision-making, and commitment to entrepreneurship. However, these results differ from those (Debarliev et al., 2022), which found that the effect of HC on EI was insignificant, possibly due to differences in demographics or culture of the research

sample. The fourth hypothesis that tests the effect of Entrepreneurship Education (EE) on Entrepreneurial Intention (EI) through Human Capital (HC) is proven to be supported. The Sobel Test results show a t-stat value of $5.378 > 1.96$ and a P of $0.01 < 0.05$, indicating a positive and significant indirect effect. These results are consistent with research (Aboobaker & D, 2020), confirming that Human Capital is a significant mediator in the relationship between EE and EI. Quality entrepreneurship education improves human capital, strengthening an individual's Intention to become an entrepreneur by creating confidence and motivation for individuals to achieve entrepreneurial goals. These results have important implications for higher education institutions, especially the University of Surabaya, to continue improving entrepreneurship programs' quality. The program needs to be designed to provide theoretical knowledge and practical opportunities that support the development of students' entrepreneurial skills. In addition, these findings are also relevant for policymakers to prioritize entrepreneurship education as a long-term strategy for building an independent and innovative young generation.

4. CONCLUSION

Based on the study's results, it was found that Entrepreneurship Education has a positive and significant influence on Human Capital. It indicates that quality entrepreneurship education, such as that provided by the University of Surabaya, can improve students' skills, knowledge, and competence in entrepreneurship. In addition, Human Capital also has a significant positive influence on Entrepreneurial Intention. This finding shows that students who have strong Human Capital tend to be more confident and ready to start a business in the future. This study also found that entrepreneurial education directly influences entrepreneurial Intention. However, a greater influence occurs through the mediation of Human Capital. In other words, Human Capital is important in strengthening the relationship between entrepreneurship education and students' entrepreneurial intentions. The most influential indicator of entrepreneurial Intention is students' readiness to start a business, while the highest indicator of human capital is recognition from the environment as competent individuals. It shows that students at the University of Surabaya have strong aspirations to become entrepreneurs and feel confident in their skills, which are recognized by the surrounding environment. Based on the research results, Surabaya University is advised to continue to improve the quality of entrepreneurship education programs by providing practical training, such as business simulations, entrepreneurship competitions, and collaboration with industry players. In addition, support such as access to mentor networks and business capital can further encourage students to realize their entrepreneurial intentions. However, this study has several limitations. First, this study was only conducted on students of Surabaya University, so these findings cannot necessarily be generalized to students from other universities. Second, the research variables are limited to Entrepreneurship Education, Human Capital, and Entrepreneurial Intention. Further research is advised to add other variables, such as creativity, self-efficacy, or social support, that can also influence entrepreneurial intentions. In addition, this study did not document or consider the background of the respondents' business experience. Experience in running a business can be an important factor influencing entrepreneurial intentions, so the absence of this data can limit a deeper understanding of the relationship between Entrepreneurship Education, Human Capital, and Entrepreneurial Intention. Further research is expected to collect data on entrepreneurial experience to enrich the analysis and research results. Thus, this study provides an important contribution to understanding the relationship between entrepreneurship education, Human Capital, and entrepreneurial Intention. These findings are helpful for higher education institutions, policymakers, and industry players in encouraging the development of competent and innovative young entrepreneurs

REFERENCES

- Aboobaker, N., & D, R. (2020). *Human Capital and Entrepreneurial Intentions: do Entrepreneurship Education and training provided by universities add value? On the Horizon*, 28(2), 73–83. <https://doi.org/10.1108/OTH-11-2019-0077>
- Adekiya, A. A., & Ibrahim, F. (2016). Entrepreneurship intention among students. The antecedent role of culture and entrepreneurship training and development. *International Journal of Management Education*, 14(2), 116–132. <https://doi.org/10.1016/j.ijme.2016.03.001>
- Debarliev, S., Janeska-Iliev, A., Stripeikis, O., & Zupan, B. (2022). What can education bring to entrepreneurship? Formal versus non-formal education. *Journal of Small Business Management*, 60(1), 219–252. <https://doi.org/10.1080/00472778.2019.1700691>
- Fayolle, A., & Gailly, B. (2015). The Impact of *Entrepreneurship Education* on Entrepreneurial Attitudes and Intention: Hysteresis and Persistence. *Journal of Small Business Management*, 53(1), 75–93. <https://doi.org/10.1111/jsbm.12065>
- Fayolle, A., Gailly, B., & Lassas-Clerc, N. (2006). Assessing the impact of *Entrepreneurship Education* programmes: A new methodology. *Journal of European Industrial Training*, 30(9), 701–720. <https://doi.org/10.1108/03090590610715022>
- Hair, J. ., Black, W. ., Babin, B. ., & Anderson, R. . (2010). *Multivariate Data Analysis*. (7th Editio). Pearson.

- Hoang, G., Le, T. T. T., Tran, A. K. T., & Du, T. (2021). *Entrepreneurship Education and Entrepreneurial Intentions of university students in Vietnam: the mediating roles of self-efficacy and learning orientation*. *Education and Training*, 63(1), 115–133. <https://doi.org/10.1108/ET-05-2020-0142>
- Kuratko, D. F. (2005). The emergence of entrepreneurship education. *Entrepreneurship: Theory and Practice*, 29(5), 577–597. <https://journals.sagepub.com/doi/abs/10.1111/j.1540-6520.2005.00099.x?journalCode=etpb>
- Liñán, F., & Chen, Y. (2009). Development and Cross-Cultural Application of a Specific Instrument to Measure *Entrepreneurial Intentions*. *Entrepreneurship Theory and Practice*, 33(3), 593–617. <https://doi.org/10.1111/j.1540-6520.2009.00318.x>
- Liñán, F., & Fayolle, A. (2015). A systematic literature review on *Entrepreneurial Intentions*: citation, thematic analyses, and research agenda. *International Entrepreneurship and Management Journal*, 11(4), 907–933. <https://doi.org/10.1007/s11365-015-0356-5>
- Malhotra, N. K. (2015). *Essentials of Marketing Research A Hands on Orientation*. Pearson.
- Martin, B. C., McNally, J. J., & Kay, M. J. (2013). Examining the formation of *Human Capital* in entrepreneurship: A meta-analysis of *Entrepreneurship Education* outcomes. *Journal of Business Venturing*, 28(2), 211–224. <https://doi.org/10.1016/j.jbusvent.2012.03.002>
- Muna, N., & Subawa, N. S. (2022). Peran Creativity dan Innovative Mindsets Memediasi *Entrepreneurship Education* Terhadap *Entrepreneurial Intention*. *Ekuitas: Jurnal Pendidikan Ekonomi*, 10(2), 359–366. <https://ejournal.undiksha.ac.id/index.php/EKU/article/view/54078%0Ahttps://ejournal.undiksha.ac.id/index.php/EKU/article/download/54078/24370>
- Nowiński, W., Haddoud, M. Y., Lančarič, D., Egerová, D., & Czegeledi, C. (2019). The impact of entrepreneurship education, entrepreneurial self-efficacy and gender on *Entrepreneurial Intentions* of university students in the Visegrad countries. *Studies in Higher Education*, 44(2), 361–379. <https://doi.org/10.1080/03075079.2017.1365359>
- Rauch, A., & Hulsink, W. (2015). An Investigation into the impact of *Entrepreneurship Education* on entrepreneurial behaviour. *Putting Entrepreneurship Education Where the Intention to Act Lies: An Investigation Into the Impact of Entrepreneurship Education on Entrepreneurial Behavior*, 14(2), 187–204.
- Rauch, A., & Rijdsdijk, S. A. (2013). The Effects of General and Specific *Human Capital* on Long-Term Growth and Failure of Newly Founded Businesses. *Entrepreneurship: Theory and Practice*, 37(4), 923–941. <https://doi.org/10.1111/j.1540-6520.2011.00487.x>
- Sekaran, U., & Bougie, R. (2016). *Research Methods for Business: A Skill-Building Approach* (Seventh Ed, Vol. 3). Wiley & Sons. <https://doi.org/10.1108/lodj-06-2013-0079>
- Subramaniam, M., & Youndt, M. A. (2005). The Influence of Intellectual Capital on the Types of Innovative Capabilities. *The Academy of Management Journal*, 48(3), 450–463.
- Unger, J. M., Rauch, A., Frese, M., & Rosenbusch, N. (2011). *Human Capital* and entrepreneurial success: A meta-analytical review. *Journal of Business Venturing*, 26(3), 341–358. <https://doi.org/10.1016/j.jbusvent.2009.09.004>
- Walter, S. G., Parboteeah, K. P., & Walter, A. (2013). University Departments and Self-Employment Intentions of Business Students: A Cross-Level Analysis. *Entrepreneurship Theory and Practice*, 37(2), 175–200. <https://doi.org/10.1111/j.1540-6520.2011.00460.x>
- Zhang, Y., Duysters, G., & Cloudt, M. (2014). The role of *Entrepreneurship Education* as a predictor of university students' *Entrepreneurial Intention*. *International Entrepreneurship and Management Journal*, 10(3), 623–641. <https://doi.org/10.1007/s11365-012-0246-z>