

Bridging Digital Skills and Entrepreneurial Mindset: A Pilot Study on Digital Entrepreneurial Readiness Among TVET Students

Luna Rachel Simangunsong*, Syifa Nurhasanah, Ester Jogita Simanullang, Muhammad Rizki Nugraha

Digital Business, UPI Kampus Tasikmalaya, Universitas Pendidikan Indonesia, 46115, Kota Tasikmalaya, Indonesia

*Corresponding author email: lunasimangunsong@upi.edu

ARTICLE HISTORY

Received: 22nd April 2026

Revised: 11th May 2026

Accepted: 24th May 2026

Published: 8th June 2026

KEYWORDS

digital entrepreneurship
entrepreneurial readiness
TVET students
digital skills
entrepreneurial interest
SDG 4 (Quality Education)

ABSTRACT - This study investigates the level of digital entrepreneurial readiness among Technical and Vocational Education and Training (TVET) students by examining three key dimensions: digital skills, entrepreneurial interest, and self-efficacy. In the context of the growing digital economy, students are expected to possess not only technical competencies but also the motivation and confidence required to develop and manage digital business ventures. This research was designed as a pilot study employing a quantitative descriptive survey approach. Data were gathered from 105 education and diploma students through an online questionnaire distributed using convenience sampling. The questionnaire measured the three dimensions using a four-point Likert scale, and the responses were analyzed using descriptive statistics, including mean scores and percentages. The findings indicate that the overall level of digital entrepreneurial readiness is moderate, with mean scores ranging from 3.19 to 3.52. Among the three dimensions, digital skills obtained the highest mean score, suggesting that students have sufficient technical capabilities to utilize digital technologies effectively. Meanwhile, entrepreneurial interest and self-efficacy were found to be at moderate levels, indicating that students still require stronger motivation and confidence to actively engage in digital entrepreneurship. The gender-based analysis also shows that female students exhibit higher levels of readiness than male students, particularly in terms of digital skills and entrepreneurial interest. These findings suggest that digital entrepreneurship education should adopt a more balanced approach by strengthening both technical and non-technical competencies through project-based learning, business simulations, and mentoring. Overall, enhancing digital entrepreneurial readiness requires integrated educational strategies to better equip students for opportunities in the digital economy.

INTRODUCTION

The rapid development of digital technology has brought significant changes across various sectors, particularly in entrepreneurship. Digital entrepreneurship has emerged as a form of business activity that utilizes digital technologies and platforms to create economic opportunities and enhance individual competitiveness (Mirhabibi et al., 2025). This has made digital entrepreneurship an increasingly

important issue, requiring individuals not only to possess technical skills but also to be ready to adapt to digital-based business models (OECD, 2021).

In the context of education, Technical and Vocational Education and Training (TVET) plays an important role in preparing students to meet industry demands in the digital era. The transformation of digital education also highlights the importance of integrating technology into the learning process to improve future workforce readiness (European Commission, 2020). However, studies indicate that students' digital competencies are still at a moderate level, particularly in problem-solving and practical application (Kuntadi et al., 2022). This condition reflects a gap between industry needs and graduates' competencies, emphasizing the importance of examining students' readiness for digital entrepreneurship.

Digital entrepreneurial readiness is influenced by both technical and non-technical factors. Digital skills refer to an individual's ability to utilize digital technologies to support business activities (Mirhabibi et al., 2025). Entrepreneurial interest reflects an individual's intention to engage in entrepreneurial activities and serves as an initial driver for starting a business (Hasan et al., 2024). This interest plays a crucial role in encouraging students to participate in digital entrepreneurship (Paul et al., 2023). Meanwhile, self-efficacy represents an individual's confidence in performing business-related tasks and dealing with challenges (Wardoyo et al., 2025). Research shows that self-efficacy has a significant influence on students' entrepreneurial readiness and intentions (Wu et al., 2022). In addition, factors such as digital mindset and entrepreneurial literacy also contribute to improving individuals' readiness in digital entrepreneurship (Setyawati et al., 2024). Therefore, these factors collectively form the basis for assessing students' readiness in digital entrepreneurship.

Despite these developments, the level of entrepreneurial readiness among students is still considered moderate, where many students show high interest but lack actual implementation in running a business (Dahalan et al., 2020). This indicates a gap between interest and actual readiness in entrepreneurship. Furthermore, studies specifically examining digital entrepreneurial readiness among TVET students are still limited and tend to address digital skills and entrepreneurial readiness separately rather than in an integrated manner.

Based on this background, this study aims to examine the level of digital entrepreneurial readiness among TVET students. This research is conducted as a pilot study to provide initial insights and serve as a foundation for further research. Theoretically, this study is expected to contribute to the development of digital entrepreneurship studies in vocational education. Practically, the findings can serve as a reference for educational institutions in designing learning strategies that are more relevant to the needs of the digital era.

METHODS AND MATERIALS

This study employs a quantitative approach using a descriptive survey method and is designed as a pilot study to analyze the level of digital entrepreneurial readiness among Technical and Vocational Education and Training (TVET) students. The population of this study consists of education and diploma students in West Java. A convenience sampling technique was applied, with a total of 105 students participating as respondents.

Data were collected through an online questionnaire using Google Forms, which measured three main indicators: digital skills, entrepreneurial interest, and self-efficacy. These variables were selected based on previous studies that identified them as key factors in digital entrepreneurial readiness (Mirhabibi et al., 2025; Hasan et al., 2024; Wardoyo et al., 2025). Each item was measured using a four-point Likert scale.

The data were analyzed using descriptive statistics, including mean scores and percentages, to describe the level of students' readiness, which was categorized into low, moderate, and high levels. In addition, a simple analysis based on respondent characteristics, such as gender comparison, was conducted to provide an initial understanding of differences in students' readiness.

RESULTS AND DISCUSSION

This study aims to identify the level of digital entrepreneurial readiness among TVET students, measured through three main indicators: digital skills, entrepreneurial interest, and self-efficacy. Based on data collected from 105 respondents, the results indicate that the overall level of readiness is a moderate category, with mean scores ranging from 3.19 to 3.52 on a four-point scale.

Based on the first objective, which is to measure digital skills, the mean score is 3.52, indicating that students have a relatively good ability to utilize digital technologies for academic and productive purposes. This suggests that digital skills are not a major barrier in digital entrepreneurship.

For the second objective, which is to analyze entrepreneurial interest, the mean score is 3.19, which represents the lowest score among the three indicators. This result indicates that students' interest in digital entrepreneurship is still at a moderate level and needs further improvement.

Furthermore, for the third objective, which is to measure self-efficacy, the mean score is 3.23. This indicates that students' confidence in running digital businesses is still moderate. Although students possess adequate digital skills, their mental readiness to engage in entrepreneurship still needs to be strengthened. Figure 1 illustrates the comparison of mean scores across the three indicators, where digital skills have the highest score, followed by self-efficacy, and entrepreneurial interest as the lowest. This finding highlights an imbalance between technical readiness and non-technical readiness among students.

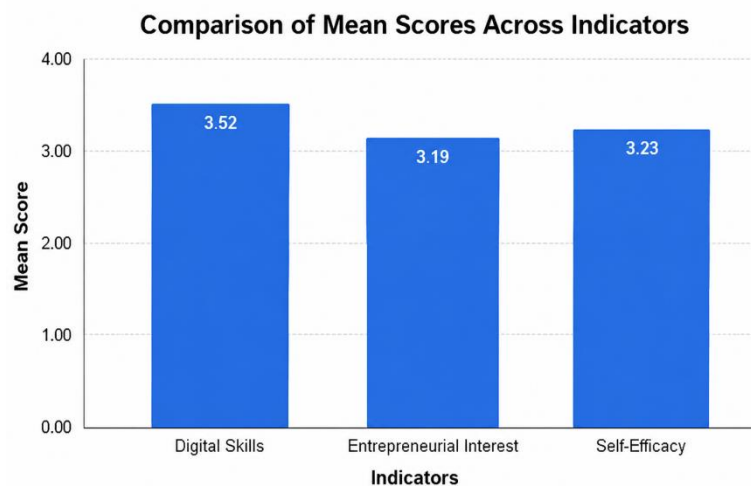


Figure 1. Comparison of Mean Scores Across Indicators

In addition, gender-based analysis reveals differences in readiness levels between male and female students. Female students tend to have higher scores in digital skills and entrepreneurial interest, while male students show relatively lower scores, particularly in self-efficacy. This suggests that confidence remains a key challenge that needs to be addressed. Figure 2 presents the comparison of readiness levels based on gender, showing a noticeable difference across the indicators.

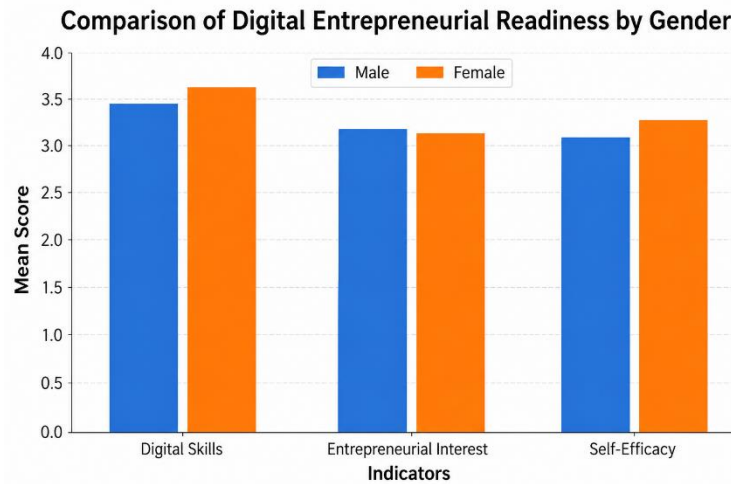


Figure 2. Comparison of Readiness Levels Based on Gender

Overall, the findings indicate that TVET students have relatively good digital skills, but these are not yet fully supported by strong entrepreneurial interest and self-confidence. As a pilot study, these results provide initial insights that strengthening entrepreneurial interest and self-efficacy is essential to enhance students' digital entrepreneurial readiness.

The findings of this study show that the level of digital entrepreneurial readiness among TVET students is in the moderate category, with the highest score in digital skills (3.52), followed by self-efficacy (3.23), and entrepreneurial interest (3.19) as the lowest. These results indicate that students generally have adequate technical competence in using digital technologies, but their non-technical readiness, particularly interest and confidence in entrepreneurship, has not yet developed optimally. This condition reflects an imbalance between technical capability and psychological readiness in supporting digital entrepreneurship activities.

These findings are consistent with Mirhabibi et al. (2025), who argue that having digital skills does not necessarily mean individuals are ready to apply them in an entrepreneurial context. In addition, this study supports Hasan et al. (2024), who found that students' entrepreneurial interest tends to remain at a moderate level and does not always lead to actual business activities. Therefore, the relatively low level of entrepreneurial interest in this study can be understood as an indication that students' internal motivation to engage in entrepreneurship still needs to be strengthened.

Furthermore, the moderate level of self-efficacy suggests that students' confidence in running digital businesses is still limited. This is in line with Wardoyo et al. (2025), who emphasize that self-efficacy is a key factor influencing individuals' readiness to engage in entrepreneurial activities. Individuals with higher self-efficacy are generally more prepared to face risks and make decisions, which increases their likelihood of implementing business ideas in practice.

The gender-based findings reveal that male students tend to have lower scores, particularly in self-efficacy. This suggests that male students may have lower confidence when dealing with risks and uncertainties in digital business contexts. Therefore, more targeted learning approaches are therefore needed, such as providing hands-on experience, business simulations, and mentoring programs to help improve male students' confidence in developing digital business ideas.

On the other hand, female students demonstrate higher readiness in digital skills and entrepreneurial interest. This indicates strong potential that can be further developed through access to business incubation programs, advanced training, and entrepreneurial networks. Thus, digital entrepreneurship development should consider gender-specific approaches to achieve more effective outcomes.

As a pilot study, these findings imply that developing digital entrepreneurship in TVET should not only focus on improving technical skills. A more comprehensive learning approach is needed, one that also fosters students' interest and confidence in entrepreneurship. Strategies such as project-based learning, digital business simulations, and direct practical experience can be effective in enhancing students' readiness.

In addition, strengthening the entrepreneurial ecosystem within educational institutions, such as providing mentors, business communities, and access to digital platforms, is also essential to support students' development in a sustainable way. With such support, students are not only equipped with skills but also gain the confidence and readiness to implement their business ideas.

In conclusion, this study highlights that digital entrepreneurial readiness is shaped by the interaction of skills, interest, and self-confidence. Therefore, efforts to improve TVET students' readiness should balance both technical and non-technical aspects to better prepare them for opportunities and challenges in the digital era.

CONCLUSIONS

This study aims to analyze the level of digital entrepreneurial readiness among TVET students through three main indicators: digital skills, entrepreneurial interest, and self-efficacy. The results show that, overall, students' readiness is at a moderate level, with strengths in digital skills, but limitations remain in entrepreneurial interest and self-confidence. These findings indicate an imbalance between technical and non-technical readiness, where students' digital abilities are not yet fully supported by their readiness to implement them in entrepreneurial activities. In addition, gender-based differences reveal that female students tend to demonstrate higher readiness than male students. Therefore, male students require greater support in building confidence through more practical learning approaches, such as hands-on activities and mentoring, while female students should be facilitated to further develop their potential through continuous entrepreneurial support programs. As a pilot study, this study highlights that improving digital entrepreneurial readiness does not solely depend on technological competence, but also requires strengthening students' interest and self-confidence to better prepare them for opportunities in the digital era. Future research is recommended to involve a larger sample size with more representative sampling techniques, as well as to develop a more comprehensive research model by incorporating additional variables such as digital mindset, entrepreneurial literacy, and environmental factors.

ACKNOWLEDGEMENT

No Funding. This study was not supported by any grants from funding bodies in the public, private, or not-for-profit sectors. The authors would like to express their sincere gratitude to Universitas Pendidikan Indonesia for the institutional support and facilities provided throughout the study. Special thanks are also extended to all 105 respondents who generously contributed their time and insights during the data collection phase.

CONFLICT OF INTEREST

The authors declare no conflicts of interest.

AUTHORS CONTRIBUTION

Luna Rachel Simangunsong: Conceptualization, Methodology, Writing- Original draft preparation. **Syifa Nurhasanah:** Data curation, Visualization, . **Ester Jogita Simanullang:** Investigation. **Muhammad Rizki Nugraha:** Supervision, Writing- Reviewing and Editing.

AVAILABILITY OF DATA AND MATERIALS

Data available on request from the authors.

DECLARATION OF GENERATIVE AI

During the preparation of this work, the author(s) used ChatGPT to enhance the clarity of the writing. After using the tool, the author(s) reviewed and edited the content as needed and take(s) full responsibility for the content of the publication.

ETHIC STATEMENTS

This study involved human participants. All respondents participated voluntarily and were informed about the purpose of the study. The data were collected anonymously, and confidentiality was maintained throughout the research process.

REFERENCES

- Abu Bakar, K., Muhd. Feisal Ismail, A. F., Mohamad, Mohd. A., Ahmad, N. N., Sahlan, Mohd. K., & Khodri Harahap, A. Z. M. (2024). Entrepreneurial Intention Challenge in TVET Education. *The Journal of Technical Education and Training*, 16(1). <https://doi.org/10.30880/jtet.2024.16.01.011>
- European Commission. (2020). Digital education action plan 2021–2027: Resetting education and training for the digital age.
- Dahalan, D., D'Silva, J. L., Ismail, I. A., & Mohamed, N. A. (2020). Entrepreneurship Readiness among Students of Technical and Vocational Education and Training (TVET) Institutions in Malaysia. *International Journal of Academic Research in Business and Social Sciences*, 10(15). <https://doi.org/10.6007/IJARBSS/v10-i15/8241>
- Hasan, M., Tiara Hutamy, E., Supatminingsih, T., Ahmad, M. I. S., Aeni, N., & Dzhelilov, A. A. (2024). The role of entrepreneurship education in the entrepreneurial readiness of generation Z students: why do digital business literacy and financial literacy matter? *Cogent Education*, 11(1). <https://doi.org/10.1080/2331186X.2024.2371178>
- Kuntadi, I., A. A. ., Rohendi, D., Suryadi, D., Ab Halim, F., Sari, A. R., -, M., & Dwiyantri, V. (2022). Towards Digital TVET: A Comparative Study on Students' Readiness in The Industry Digital Demands in Indonesia and Malaysia. *Journal of Technical Education and Training*, 14(3). <https://doi.org/10.30880/jtet.2022.14.03.008>
- Mirhabibi, A., Shayan, A., & Sahraei, S. (2025). Improving digital entrepreneurship readiness of business students: The moderating roles of digital mindset and digital education. *The International Journal of Management Education*, 23(2), 101151. <https://doi.org/10.1016/j.ijme.2025.101151>
- OECD. (2021). *The digital transformation of SMEs*. OECD Publishing. <https://doi.org/10.1787/bdb9256a-en>
- Paul, J., Alhassan, I., Binsaif, N., & Singh, P. (2023). Digital entrepreneurship research: A systematic review. *Journal of Business Research*, 156, 113507. <https://doi.org/10.1016/j.jbusres.2022.113507>
- Setyawati, A., Rahma, A., Sudarjo, S., Sutomo, S., Maula, F. I., Mega, D. P., & Rahman, I. (2026). Entrepreneurial Literacy and Digital Mindset as Catalysts for Online Business Readiness: A Systematic Literature Review. *International Journal of Economics and Management Research*, 5(1), 83–96. <https://doi.org/10.55606/ijemr.v5i1.613>
- Wardoyo, C., Narmaditya, B. S., Qurrata, V. A., Satrio, Y. D., & Sahid, S. (2025). Are students ready for digital business? Antecedents of entrepreneurial intentions among Indonesian students using a serial mediation. *Social Sciences & Humanities Open*, 11, 101213. <https://doi.org/10.1016/j.ssaho.2024.101213>

Wu, L., Jiang, S., Wang, X., Yu, L., Wang, Y., & Pan, H. (2022). Entrepreneurship Education and Entrepreneurial Intentions of College Students: The Mediating Role of Entrepreneurial Self-Efficacy and the Moderating Role of Entrepreneurial Competition Experience. *Frontiers in Psychology*, 12. <https://doi.org/10.3389/fpsyg.2021.727826>