

THE EFFECT OF DIGITAL COMPETENCE AND DIGITAL LITERACY ON EMPLOYABILITY WITH SELF-EFFICACY AS A MEDIATING VARIABLE (Study on Higher Education Fresh Graduates in Madiun City)

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Abstract

This study examines the effect of digital competence and digital literacy on employability, with self-efficacy as a mediating variable among fresh graduates in Madiun City, grounded in the high unemployment rate among university graduates despite their adequate education level, which points to a skill mismatch between digital competence and industry needs. This study uses a quantitative method with a causal associative design, a sample of 100 fresh graduates selected through purposive sampling, and data analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS 4. Results show that digital competence and digital literacy have a positive and significant effect on self-efficacy and employability, self-efficacy has a positive and significant effect on employability and shows the strongest direct effect in the model, and self-efficacy also partially mediates the effect of digital competence and digital literacy on employability, so that all seven hypotheses are supported. These findings support Human Capital Theory and Social Cognitive Theory, proving that digital competence alone is not enough to raise job competitiveness, while self-confidence stands out as the psychological factor that most shapes job readiness among fresh graduates in the digital era.

Keywords: Digital Competence, Digital Literacy, Self-Efficacy, Employability, Fresh Graduate.

A. INTRODUCTION

Background and Phenomenon

The Industrial Revolution 4.0 and the accelerated adoption of artificial intelligence are fundamentally transforming the global job market landscape. The World Economic Forum projects that automation will displace 92 million traditional jobs while simultaneously creating 170 million new roles between 2025 and 2026 (Leopold, 2025). McKinsey Global Institute (2023) estimates that generative AI could automate work activities that currently consume 60 to 70% of employee time. Goldman Sachs even projects an impact on 300 million full-time

jobs worldwide (Kiderlin, 2023). Displaced roles tend to involve routine tasks, whereas emerging jobs demand high digital competency.

Indonesian labor data reinforce this reality. Statistics Indonesia (2026) recorded a youth open unemployment rate of 4.68% out of a total labor force of 154.91 million in May 2026. Paradoxically, unemployment is higher among highly educated groups: the open unemployment rate for university graduates reached 5.39%, compared to 2.30% for primary school graduates. This paradox indicates that an academic degree no longer guarantees job absorption a structural phenomenon recognized as a skill mismatch between university output and industry needs in the digital era.

At the regional level, East Java recorded an open unemployment rate of 3.55% in May 2026, while the NEET rate (youth not in employment, education, or training) reached 16.76% (Statistics Indonesia, 2026). Madiun City recorded an open unemployment rate of 4.29%, exceeding the provincial average. Data from the Department of Manpower, Cooperatives, Small and Medium Enterprises of Madiun City showed that Naker Fest 2025 attracted 1,440 job seekers competing for 3,482 vacancies across 67 companies. This demonstrates that job availability alone cannot solve unemployment; the structural gap between graduate qualifications and industry-required digital competencies remains a core issue.

Labor trend surveys in 2026 report that 75% of companies consider new graduates academically well-prepared but struggles when using industry-standard software (Masoem University, 2026). LinkedIn survey data show that 65% of companies face difficulties finding job-ready fresh graduates, while 70% of fresh graduates feel overwhelmed by the gap between academic curricula and industry demands (Biztech Academy, 2025). Furthermore, the 2025 Indonesian Digital Society Index noted a drop in digital literacy scores from 58.25 to 49.28 points (Tempo, 2025). These metrics confirm that the digital skill gap is an empirical reality rather than a theoretical assumption.

Theoretical Framework

Human Capital Theory (Becker, 1993) views individuals as economic assets whose value increases through investment in knowledge and skills. In the digital era, digital competence and digital literacy represent concrete forms of human capital investment. Digital competence is

defined as the confident, critical, and responsible use of digital technologies for work and societal participation (Vuorikari et al., 2022). Digital literacy reflects the cognitive ability to critically understand, evaluate, and filter digital information (Gilster & Watson, 1997).

Social Cognitive Theory (Bandura, 1989) posits that technical skills alone do not guarantee optimal performance. Individuals require self-efficacy the belief in their ability to execute tasks successfully (Bandura, 1994). Self-efficacy develops through mastery experiences, which are direct experiences of success in completing tech-based tasks. Employability, as the dependent variable, represents an individual's readiness and capacity to gain, maintain, and create job opportunities (Fugate et al., 2004).

Previous studies present inconsistent findings. Suhada et al. (2025) found that digital competence had no significant effect on employability. Diana et al. (2025) showed that digital literacy directly affected employability, but the mediating role of self-efficacy remained unverified. Fatihahsari and Achmad (2026) proved that digital literacy did not significantly affect employability, either directly or indirectly. These studies evaluated variables in isolation without examining how digital competence and digital literacy operate simultaneously through self-efficacy mediation, particularly among fresh graduates in local urban centers like Madiun City. This research addresses that empirical gap.

Research Objective

This study aims to provide empirical evidence regarding the effects of digital competence and digital literacy on employability, both directly and indirectly through self-efficacy, among higher education fresh graduates in Madiun City.

Research Hypotheses

H₁: Digital competence affects self-efficacy among higher education fresh graduates in Madiun City.

H₂: Digital literacy affects self-efficacy among higher education fresh graduates in Madiun City.

H₃: Digital competence affects employability among higher education fresh graduates in Madiun City.

H₄: Digital literacy affects employability among higher education fresh graduates in Madiun City.

H₅: Self-efficacy affects employability among higher education fresh graduates in Madiun City.

H₆: Digital competence affects employability through self-efficacy as a mediating variable.

H₇: Digital literacy affects employability through self-efficacy as a mediating variable.

B. METHOD

This study used a quantitative method with a causal associative design to examine relationships between digital competence (X₁), digital literacy (X₂), employability (Y), and the mediating variable self-efficacy (Z) in an objective, measurable manner (Creswell, 2018). Constructs were operationalized through structured empirical indicators.

The target population consisted of higher education fresh graduates in Madiun City actively using digital technology platforms. Because exact aggregate graduate numbers per city were unavailable from official databases, sample size determination followed Hair et al. (2019) rule of thumb (5 to 10 times the total indicator count). With 15 indicators evaluated across four variables, a sample of 100 respondents exceeded minimum thresholds and satisfied requirements for a 5,000-resample bootstrapping procedure.

A non-probability purposive sampling technique was applied. Respondent inclusion criteria required: completion of Associate (D3), Applied Bachelor (D4), or Bachelor (S1) degrees between 2024 and 2026, residence or higher education history in Madiun City, age between 20 and 26 years, current non-full employment status, and active use of at least one digital technology platform.

Data were collected via a 4 point Likert scale questionnaire. Digital competence was measured with 5 indicators based on the DigComp 2.2 framework (Vuorikari et al., 2022). Digital literacy used 4 indicators adapted from Gilster and Watson (1997). Self-efficacy was evaluated through 3 indicators following Bandura (1994). Employability was measured using 3 indicators derived from Fugate et al. (2004).

Data analysis was conducted using Partial Least Squares Structural Equation Modeling (PLS-SEM) in SmartPLS 4. Outer model evaluation assessed convergent validity (outer

loadings), discriminant validity (Heterotrait-Monotrait Ratio and cross-loadings), and construct reliability (Composite Reliability, Cronbach's Alpha, Average Variance Extracted) (Hair et al., 2019). Inner model evaluation assessed coefficient of determination (R^2), predictive relevance (Q^2_{predict}), effect size (f^2), direct path coefficients, and specific indirect effects. Significance testing utilized a 5,000-resample bootstrapping procedure, accepting hypotheses with $t_{\text{statistics}} > 1.96$ or $p_{\text{values}} < 0.05$ (Ghozali, 2023).

C. RESULTS AND DISCUSSIONS

Measurement Model Evaluation (Outer Model)

Convergent validity testing showed that nearly all indicator loading factors exceeded 0.70. Two employability indicators yielded outer loadings below or at the threshold ($Y.1 = 0.471$, $Y.5 = 0.699$). These indicators were retained because overall construct AVE and Composite Reliability met acceptable thresholds (Hair et al., 2019). Heterotrait-Monotrait (HTMT) Ratio values between constructs remained below 0.90, confirming discriminant validity. Reliability parameters in Table 1 confirm overall internal consistency:

Table 1. Reliability and Convergent Validity Results

Variable	Cronbach's Alpha	Composite Reliability	AVE
Digital Competence	0,924	0,960	0,744
Digital Literacy	0,831	0,892	0,707
Self-Efficacy	0,869	0,902	0,606
Employability	0,804	0,861	0,514

Source: SmartPLS 4 Processed Data, 2026

Structural Model Evaluation (Inner Model)

The R^2 value for self-efficacy (0.485) shows that digital competence and digital literacy jointly explain 48.5% of self-efficacy variance. The R^2 value for employability (0.652) falls into the moderate category (Hair et al., 2019). Q^2_{predict} values (0.446 for self-efficacy, 0.476 for employability) demonstrate strong predictive relevance. Digital competence showed the largest effect size on self-efficacy ($f^2 = 0.624$), where as self-efficacy exerted the largest effect size on employability ($f^2 = 0.362$).

Table 2. Coefficient of Determination (R^2) dan Q^2_{predict} Results

Variable	R^2	R^2 Adjusted	Q^2_{predict}	Category
Self-Efficacy	0,485	0,475	0.446	Near Moderate
Employability	0,652	0,641	0.476	Moderate

Source: SmartPLS 4 Processed Data, 2026

Table 3. Effect Size (f^2) Results

Path	f^2	Category
Digital Competence > Self-Efficacy	0,624	Large
Digital Literacy > Self-Efficacy	0,461	Large
Digital Competence > Employability	0,193	Medium
Digital Literacy > Employability	0,112	Small
Self-Efficacy > Employability	0,362	Large

Source: SmartPLS 4 Processed Data, 2026

Hypothesis Testing (Path Coefficients) and Mediation

All seven hypotheses (H_1 to H_7) were accepted. Direct path relationships (H_1 - H_5) demonstrated $t_{\text{statistics}} > 1.96$, $p_{\text{values}} < 0.05$, and positive original sample coefficients indicating positive relationships. Mediation tests confirmed that self-efficacy partially mediates the impact of digital competence on employability (H_6 : Coefficient = 0.284, $t = 3.898$, $p = 0.000$) and the impact of digital literacy on employability (H_7 : Coefficient = 0.244, $t = 4.175$, $p = 0.000$).

Table 4. Direct Effect Hypothesis Testing Results (Direct Effects)

Hypothesis	Path	Coefficient	t-statistic	p-values
H_1	Digital Competence > Self-Efficacy	0,573	7,998	0,000
H_2	Digital Literacy > Self-Efficacy	0,493	7,534	0,000
H_3	Digital Competence > Employability	0,334	3,771	0,000
H_4	Digital Literacy > Employability	0,241	2,942	0,003
H_5	Self-Efficacy > Employability	0,495	4,901	0,000

Source: SmartPLS 4 Processed Data, 2026

Table 5. Indirect Effect Hypothesis Testing Results (Specific Indirect Effects)

Hypothesis	Path	Coefficient	t-statistic	p-values
H ₆	Digital Competence > Self-Efficacy > Employability	0,284	3,898	0,000
H ₇	Digital Literacy > Self-Efficacy > Employability	0,244	4,175	0,000

Source: SmartPLS 4 Processed Data, 2026

Discussion

Digital competence exerts a positive and significant effect on self-efficacy, recording the highest coefficient among paths leading to self-efficacy. This aligns with Inriana and Fatimah (2026) as well as Ratnasari and Irwan (2025). Practical skills in retrieving, filtering, and evaluating digital information build graduate confidence in handling digital work tasks. Higher digital competence directly strengthens self-efficacy among fresh graduates in Madiun City.

Digital literacy also positively and significantly impacts self-efficacy, though its effect size is slightly smaller than digital competence. This finding aligns with Sari et al. (2025), confirming self-efficacy as a central connecting path. Critical thinking toward digital content fosters confidence when navigating workplace digital challenges.

Self-efficacy serves as the strongest direct predictor of employability, supporting Widiyawati (2024) and Bandura's (1994) foundational theory. Confident individuals take proactive steps to enter the job market. Digital competence and digital literacy also exert direct positive effects on employability, matching findings by Saidu et al. (2025) and Caroline & Coun (2025).

Mediation analysis shows that self-efficacy partially mediates the effects of both digital competence and digital literacy on employability. Because direct effects remained significant when self-efficacy was included, self-efficacy reinforces rather than replaces direct linkages. This supports findings by Potgieter et al. (2023) and Shi et al. (2025). Furthermore, these results resolve empirical inconsistencies identified in Suhada et al. (2025) and Fatihahsari & Achmad (2026) by proving that digital competence and digital literacy systematically drive employability when evaluated alongside self-efficacy.

D. CONCLUSIONS

This study proves that digital competence and digital literacy positively influence self-efficacy and employability among higher education fresh graduates in Madiun City. Self-efficacy directly enhances employability and acts as a partial mediator between digital skills and overall employability. Self-efficacy represents the single strongest determinant of employability in the model. Graduate competitiveness requires both technical digital skills and the self-confidence built from those skills. Technical competencies supply essential capabilities, but self-efficacy provides the core psychological readiness needed to enter the digital workforce. Limitations include restricting geographic scope to Madiun City and evaluating three core explanatory constructs.

E. SUGGESTIONS

Higher education institutions should integrate practical digital applications into core curricula rather than relying solely on theoretical instruction, enabling students to build self-confidence before entering the job market. Fresh graduates should proactively upgrade digital skills independently and seek practical experiences such as internships or certified training to build confidence. Local government agencies and vocational training centers in Madiun City should design digital programs combining technical skills with psychological readiness. Future researchers are advised to introduce additional employability variables, expand sampling beyond Madiun City, and incorporate moderating variables to enrich digital workforce models.

REFERENCES

- Antara. (2025). Throughout 2024, the Department of Manpower, Cooperatives, Small and Medium Enterprises of Madiun City Issued 606 Yellow Cards. *Jatim.Antaranews.com*. <https://jatim.antaranews.com/berita/905689/selama-2024-disnaker-kukm-kota-madiun-terbitkan-606-kartu-kuning>
- Badan Pusat Statistik. (2025). Open Unemployment Rate (TPT) by Regency/City (%), 2025. *Jatim.Bps.Go.Id*. <https://jatim.bps.go.id/id/statistics-table/2/NTQjMg==/tingkat-pengangguran-terbuka--tpt--menurut-kabupaten-kota.html>
- Badan Pusat Statistik. (2026). Percentage of Youth (Aged 15–24) Not in Education, Employment, or Training (%), 2025. *Bps.Go.Id*. <https://www.bps.go.id/id/statistics->

table/2/MTE4NiMy/%tase-usia-muda--15-24-tahun--yang-sedang-tidak-sekolah--
bekerja-atau-mengikuti-pelatihan--%-.html

Badan Pusat Statistik. (2026). Indonesian Open Unemployment Rate (TPT) Reached 4.68%. Bps.Go.Id. <https://www.bps.go.id/id/pressrelease/2026/05/05/2574/tingkat-pengangguran-terbuka--tpt--sebesar-4-68-%--rata-rata-upah-buruh-sebesar-3-29-juta-rupiah-.html>

Badan Pusat Statistik. (2026). Open Unemployment Rate (TPT) by Province (%), 2026. Bps.Go.Id. <https://www.bps.go.id/id/statistics-table/2/NTQzIzI=/tingkat-pengangguran-terbuka--agustus-2025.html>

Badan Pusat Statistik. (2026). Open Unemployment Rate by Educational Attainment, 2025. Bps.Go.Id. <https://www.bps.go.id/assets/statistics-table/2/MTE3OSMy/tingkat-pengangguran-terbuka-berdasarkan-tingkat-pendidikan.html>

Bandura, A. (1989). Social Cognitive Theory. *Annals of Child Development*, 6, 1–60.

Bandura, A. (1994). Self-Efficacy. In V. S. Ramachaudran (Ed.), *Encyclopedia of Human Behavior* (Vol. 4, pp. 71–81). Academic Press.

Bawden, D. (2008). Origins and Concepts of Digital Literacy. *Digital Literacies: Concepts, Policies and Practices*, 17–32.

Becker, G. S. (1993). *Human Capital: A Theoretical and Empirical Analysis, with Special Reference to Education* (3rd ed.). The University of Chicago Press. <https://doi.org/10.7208/chicago/9780226041223.001.0001>

Betz, N. E., & Hackett, G. (2006). Career Self-Efficacy Theory: Back to the Future. *Journal of Career Assessment*, 14(1), 3–11. <https://doi.org/10.1177/1069072705281347>

Biztech Academy. (2025). From Campus to Corporate: Effective Strategies for Fresh Graduates to Conquer the Competitive Tech World. Biztechacademy.Id. <https://biztechacademy.id/dari-kampus-ke-korporat-strategi-jitu-untuk-fresh-graduate-menaklukkan-dunia-teknologi-yang-kompetitif/>

Caroline, A., & Coun, M. J. H. (2025). A Systematic Literature Review On Digital Literacy, Employability, And Innovative Work Behavior: Emphasizing The Contextual Approaches In HRM Research. *Frontiers in Psychology*, 15. <https://doi.org/10.3389/fpsyg.2024.1448555>

Chang, L. (1994). A Psychometric Evaluation Of 4-Point And 6-Point Likert-Type Scales In Relation To Reliability And Validity. *Applied Psychological Measurement*, 18(3), 205–215. <https://doi.org/10.1177/014662169401800302>

Cohen, J. (1988). *Statistical Power Analysis for the Behavioral Sciences* (2nd ed.). Lawrence Erlbaum Associates. <https://doi.org/10.4324/9780203771587>

Creswell, J. W. (2024). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (6th ed.). SAGE Publications.

- Dewi, N. P., Nurhatisyah, N., Elkarima, N., & Pawar, A. (2025). Transformational Leadership, Digital Competence, and Employee Performance: Examining the Mediating Role of Self-Efficacy and the Moderating Influence of Perceived Organizational Support. *Journal of Business Management*, 16(1), 47–72.
- Diana, R. D., Fahmy, R., & Rivai, H. A. (2025). The Effect of Digital Literacy on Employability with Self-Efficacy as a Mediating Variable among Vocational Training Alumni. *Journal of Information Technology and Computer Science*, 7, 162–168. <https://doi.org/10.37034/infec.v7i2.1116>
- Disnaker KUKM Kota Madiun. (2025). NAKER FEST 2025. Disnaker.Madiunkota.Go.Id. <https://disnaker.madiunkota.go.id/naker-fest-2025/>
- Eshet-Alkalai, Y. (2004). Digital Literacy: A Conceptual Framework for Survival Skills in the Digital Era. *Journal of Educational Multimedia and Hypermedia*, 13(1), 93–106.
- Fatihahsari, R. D., & Achmad, N. (2026). The Influence of Soft Skills and Self-Efficacy on the Job Readiness of Generation Z Students with Digital Literacy as an Intervening Variable on Students of Muhammadiyah University of Surakarta. *Management Studies and Entrepreneurship Journal (MSEJ)*, 7(3), 2042–2058. <https://doi.org/10.37385/msej.v7i3.10470>
- Ferrari, A. (2013). DIGCOMP: A Framework for Developing and Understanding Digital Competence in Europe. Luxembourg: Publications Office of the European Union. <https://doi.org/10.2788/52966>
- Fugate, M., Kinicki, A. J., & Ashforth, B. E. (2004). Employability: A psycho-social construct, its dimensions, and applications. *Journal of Vocational Behavior*, 65(1), 14–38. <https://doi.org/10.1016/j.jvb.2003.10.005>
- Gao, M. (2024). Relationship between Digital Literacy and Employment Ability of Vocational Undergraduate Students: The Parallel Mediating Role of Future Time Perspective and Career Decision Self-Efficacy. *Journal of Education and Educational Research*, 8(12), 82–87.
- Ghozali, I. (2023). Partial Least Square Smart PLS 4.0. Semarang: Diponegoro University Publishing Agency.
- Gilster, P., & Watson, T. (1997). Digital Literacy. New York: Wiley Computer Publishing.
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2019). *Multivariate Data Analysis* (8th ed.). Cengage Learning.
- Inriana, H. L., & Fatimah, R. (2026). The Effect of Soft Skills and Digital Competence on Job Readiness Mediated by Self-Efficacy in Generation Z Students Facing Industry 4.0. *Journal of Economics, Management, Accounting, and Finance*, 7(1), 1–15.
- Irwan, S., & Ratnasari, R. (2025). The Effect of Digital Competence on Work Productivity with Self-Efficacy as an Intervening Variable among Generation Z Employees in Samarinda City. *GICI Journal of Finance and Business*, 17(2), 477–487.

- Jian, C., Zou, D., & Mahadi, N. (2025). Social Media, Digital Literacy, And Career Competence: A Mixed Methods Study Among University Students In China. *Frontiers in Psychology*, 16. <https://doi.org/10.3389/fpsyg.2025.1700213>
- Kiderlin, S. (2023). Goldman Sachs says generative A.I. could impact 300 million jobs here's which ones. *CNBC.com*. <https://www.cnbc.com/2023/03/28/ai-automation-could-impact-300-million-jobs-heres-which-ones.html>
- Leopold, T. (2025). Future of Jobs Report 2025: The jobs of the future and the skills you need to get them. *Weforum.Org*. <https://www.weforum.org/stories/2025/01/future-of-jobs-report-2025-jobs-of-the-future-and-the-skills-you-need-to-get-them/>
- Likert, R. (1932). A Technique For The Measurement Of Attitudes. *Archives Of Psychology*, 22(140), 1–55.
- Masoem University. (2026). 2026 Fresh Graduates Struggle to Find Jobs Not Because of GPA: Data and Solutions. *Masoemuniversity.Ac.Id*. <https://masoemuniversity.ac.id/artikel/fresh-graduate-2026-susah-dapat-kerja-bukan-karena-ipk-ini-data-dan-solusinya/>
- McKinsey. (2023). The economic potential of generative AI: The next productivity frontier. *Mckinsey.Com*. <https://www.mckinsey.com/capabilities/tech-and-ai/our-insights/the-economic-potential-of-generative-ai-the-next-productivity-frontier>
- McQuaid, R. W., & Lindsay, C. (2005). The Concept of Employability. *Urban Studies*, 42(2), 197–219. <https://doi.org/10.1080/0042098042000316100>
- Potgieter, I. L., Coetzee, M., & Ferreira, N. (2023). University Students' Digital World Of Work Readiness In Relation To Their Employability Competency. *Journal of Learning Development in Higher Education*, 27. <https://doi.org/10.47408/jldhe.vi27.922>
- Saidu, M. S., Taiye, O. E., Haddy, I., & Ajoge, N. S. (2025). Impact Of Digital Skills Development On Employability Among University Graduates In Nigeria: The Mediating Role Of Digital Competence. *CUSTECH International Journal of Education*, 193–209.
- Sari, P. M., Aswardi, A., Candra, O., & Giatman, M. (2025). The Influence of Digital Literacy, Independence, and Learning Motivation on Student Learning Effectiveness Through Self-Efficacy. *Journal of Education, Teaching and Learning*, 10(2), 151–158. <https://doi.org/10.26737/jetl.v10i2.7715>
- Sari, N., Indriasari, I., & Nastiti, P. R. (2025). The Influence of Digital Literacy, Entrepreneurial Knowledge, and Family Environment on Student Entrepreneurial Intentions with Self-Efficacy as an Intervening Variable. *Journal of Cultural and Economic Studies*, 1(1), 1–10.
- Sekaran, U., & Bougie, R. (2016). *Research Methods for Business: A Skill-Building Approach* (7th ed.). Wiley.

- Shi, Q., Xu, X., Zhang, Y., & Hu, B. (2025). Research on Psychological Resilience, Digital Competence, and Self-Efficacy in Online TCFL Teachers. *Behavioral Sciences*, 15(3), 1–24. <https://doi.org/10.3390/bs15030366>
- Sriulina, R., Anatan, L., & Maranatha, U. K. (2025). The Influence of Self-Efficacy, Soft Skills, and Motivation on the Job Readiness of Fresh Graduates at University X. *Executive Journal*, 14, 1–16.
- Sugiyono. (2013). *Quantitative, Qualitative, and R&D Research Methods*. Bandung: Alfabeta.
- Sugiyono. (2017). *Quantitative, Qualitative, and R&D Research Methods*. Bandung: Alfabeta.
- Sugiyono. (2019). *Quantitative, Qualitative, and R&D Research Methods*. Bandung: Alfabeta.
- Sugiyono. (2023). *Quantitative, Qualitative, and R&D Research Methods*. Bandung: Alfabeta.
- Suhada, S., Idries, F. A., Wulandari, N. D., Romandhani, A. O., & Riyadho, A. (2025). Digital Skills And Work Readiness: Unveiling The Mediating Effect Of Digital Self-Efficacy. *Journal of Management Application*, 23(1). <https://doi.org/10.36406/jam.v23i1.262>
- Tempo. (2025). The Decline of Digital Literacy in the AI Era. Tempo.Co. <https://www.tempo.co/newsletter/anjloknnya-literasi-digital-di-era-ai-2080393>
- Vuorikari, R., Kluzer, S., & Punie, Y. (2022). DigComp 2.2: The Digital Competence Framework for Citizens. Luxembourg: Publications Office of the European Union. <https://doi.org/10.2760/115376>
- Widiawati, N., Violinda, Q., & Nastiti, P. R. (2025). The Influence of Future Time Perspective, Career Adaptability, and Digital Literacy on Job Readiness among Final-Year Students in Semarang City. *Journal of Management and Business*, 4(2), 71–82.
- Widiyawati. (2024). Analysis of Students' Soft Skills and Self-Efficacy in Preparing Job Readiness in the Industrial Revolution 4.0 Era. *Journal of Mirai Management*, 9(2), 357–367. <https://doi.org/10.37385/mirai.v9i2.7608>
- Zuñiga-Collazos, A., Miguel, J., Orozco, V., & Rojas-Ospina, A. (2025). Digital Competences and Their Impact on Employability in the Tourism Sector — An Applied Study. *Sustainability*, 17(13), 1–17. <https://doi.org/10.3390/su1713613>