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The Effect of A Learning Organization On Enhancing Digital-Based Human Resource Competencies At The Center For Textiles In Bandung City

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Abstract: Digital transformation demands organizations to enhance digital-based human resource competencies by strengthening a Learning Organization culture. This study aims to analyze the effect of a Learning Organization on the enhancement of digital-based human resource competencies at the Center for Textile (Balai Besar Tekstil) in Bandung City. A descriptive quantitative method with a verificative approach was employed. The sample comprised 58 employees out of a total population of 138 employees at the Center for Textile, selected using a simple random sampling technique based on the Slovin formula. Data were collected via questionnaires and analyzed using simple linear regression aided by SPSS 27. The results of the study indicate that the Learning Organization has a positive and significant effect on enhancing digital-based human resource competencies ($\beta = 0.455$; $p < 0.05$), with a coefficient of determination (R^2) of 0.314, a t-value of 5.069, and an F-value of 25.690 with a significance value of 0.000. These findings prove that the implementation of a Learning Organization is capable of enhancing human resource competencies through a continuous learning culture; thus, continuously strengthening an organizational learning culture is proven effective in bridging employees' digital competency gaps.

Keywords: Learning Organization, Human Resource Competency, Digital Competency

Abstrak: Transformasi digital menuntut organisasi untuk meningkatkan kompetensi sumber daya manusia berbasis digital melalui penguatan budaya organisasi pembelajar (Learning Organization). Penelitian ini bertujuan untuk menganalisis pengaruh Learning Organization terhadap Peningkatan Kompetensi Sumber Daya Manusia Berbasis Digital di Balai Besar Tekstil Kota Bandung. Metode penelitian menggunakan kuantitatif deskriptif dengan pendekatan verifikatif. Sampel penelitian terdiri atas 58 dengan total populasi 138 pegawai di Balai Besar Tekstil yang dipilih menggunakan teknik simple random sampling dengan rumus slovin. Pengumpulan data melalui kuesioner dan dianalisis menggunakan regresi linier sederhana dengan bantuan SPSS 27. Hasil penelitian ini menunjukkan bahwa Learning Organization berpengaruh positif dan signifikan terhadap peningkatan kompetensi sumber daya manusia berbasis digital ($\beta = 0,455$; $p < 0,05$), dengan nilai koefisien determinasi (R^2) sebesar 0,314, nilai t sebesar 5,069, nilai F sebesar 25,690 dengan nilai signifikansi 0,000. Temuan ini membuktikan bahwa penerapan Learning Organization mampu meningkatkan

kompetensi sumber daya manusia melalui budaya belajar berkelanjutan, sehingga penguatan budaya belajar organisasi berkelanjutan terbukti efektif memangkas kesenjangan kompetensi digital pegawai.

Kata Kunci : *Learning organization, Kompetensi Sumber Daya Manusia, Kompetensi Digital.*

INTRODUCTION

The textile and textile products (TPT) industry is one of the priority sectors in the Making Indonesia 4.0 roadmap initiated by the Indonesian government. In response to the Industrial Revolution 4.0, the global and national textile industry landscape has undergone significant transformation. Manufacturing processes that previously relied on conventional methods are gradually being replaced by interconnected production systems supported by digital technologies, including the Internet of Things (IoT), machine automation, Big Data analytics, and cloud-based certification and reporting systems. In the public sector, the success of digital transformation is determined not only by the availability and adoption of digital technologies but also by the digital competencies of human resources. The Center for Textiles in Bandung City, as a technical institution engaged in research, testing, and development within the textile industry, plays an important role in supporting the advancement of Indonesia's national textile industry. To perform these functions comprehensively, the institution requires human resources who possess not only expertise in textiles but also the ability to utilize digital technologies in work processes, data management, and innovation development. The Center for Textiles in Bandung City also serves as a supporting institution and provider of testing, standardization, calibration, and certification services for the textile and textile products industry in Indonesia. To effectively serve and facilitate an industry that is rapidly moving toward digitalization, the Center for Textiles must first undertake digital transformation within its internal organization. Such transformation cannot be achieved without adequate digital competencies among its human resources. However, field observations indicate that disparities remain in the utilization of digital technologies, suggesting that digital competencies have not yet developed evenly among employees.

Improving digital-based human resource competencies cannot be achieved through only one or two training sessions; rather, it requires a continuous learning process. The rapid development of digital technologies requires organizations to continuously adapt to changes in the working environment. Organizations are expected not only to improve performance but also to continuously develop the competencies of their human resources so that employees possess sufficient capabilities to respond to technological developments and digital transformation. The primary challenge faced by the Center for Textiles in Bandung City in its digital transformation process is the existence of a digital skills gap among employees, as clearly demonstrated by the descriptive statistical analysis of 58 respondents. The findings indicate that although the mean score of the digital-based human resource competency improvement variable was 36.7241, the recorded standard deviation was relatively high at 8.20311. This high standard deviation is further reflected in the wide distribution of respondents' scores, ranging from a minimum of 19.00 to a maximum of 51.00. This wide range demonstrates that digital technology proficiency among employees remains uneven. While some employees have achieved a relatively high level of proficiency in operating digital systems and managing digital data, others still demonstrate limited capabilities. This competency gap is further supported by the findings for the Learning Organization (X) variable, which recorded a standard deviation of 10.11765, with scores ranging from 29.00 to 68.00. These findings indicate that the organizational learning culture, particularly in terms of sharing digital knowledge, has not yet been implemented optimally and consistently throughout the organization.

The importance of strengthening human resource competencies is consistent with the perspective of Spencer and Spencer (1993), who define competency as an underlying characteristic of an individual that is directly related to effective job performance. Competency consists of five main characteristics: motives, traits, self-concept, knowledge, and skills. In the digital era, these five elements need to be continuously developed, particularly knowledge and skills related to digital technologies. UNESCO (2018) defines digital competency as the ability to use digital technologies critically, creatively, and effectively. According to Wibowo (2017) and W. H. Adjii (2022), achieving standardized competencies requires continuous learning interventions and workplace training. To address competency gaps, the concept of a Learning Organization becomes highly relevant. Senge (1990) defines a Learning Organization as an organization in which people continuously expand their capacity to create the results they truly desire, develop new patterns of thinking, and continuously learn together. Marquardt (2011) further explains that a Learning Organization is capable of transforming knowledge into concrete actions through individual and group learning supported by technology. This study is also supported by several previous studies that consistently demonstrate the importance of strengthening organizational learning culture. Ardianto et al. (2025) and Sadida et al. (2026), in their studies on employee competency development in the digital era, found that continuous organizational learning processes are positively associated with improvements in employees' knowledge, skills, and technological adaptability. These findings are consistent with the study conducted by Rina et al. (2022) at PT Industri Telekomunikasi Indonesia, which concluded that digital-based training interventions had a positive and significant effect on improving employees' capabilities and work efficiency in the Industrial Revolution 4.0 era.

Based on the conditions observed in the field and the digital competency gaps faced by the Center for Textiles in Bandung City, this study formulates three main research questions: (1) How is the implementation of the Learning Organization (X) at the Center for Textiles in Bandung City? (2) What is the current condition of digital-based human resource competency improvement (Y)? and (3) To what extent does the Learning Organization (X) influence digital-based human resource competency improvement (Y) at the Center for Textiles in Bandung City? To address these research questions, two hypotheses are formulated. The null hypothesis (H0) states that the Learning Organization (X) does not have a positive effect on digital-based human resource competency improvement (Y) at the Center for Textiles in Bandung City. Meanwhile, the alternative hypothesis (H1) states that the Learning Organization (X) has a positive and significant effect on digital-based human resource competency improvement (Y) at the Center for Textiles in Bandung City. The primary objective of this study is to examine and empirically demonstrate the extent to which the implementation of a Learning Organization can contribute to improving employees' digital competencies. In addition to describing the implementation of a continuous learning culture and the current condition of employees' digital competencies, the analysis focuses on measuring the magnitude of the influence of the Learning Organization in addressing the digital competency gaps identified in the field.

This study is expected to provide both theoretical and practical contributions. From a theoretical perspective, the findings are expected to contribute to the development of human resource management knowledge in the public sector, particularly regarding the implementation of Learning Organization strategies in government institutions. From a practical perspective, the findings may serve as a basis for the Center for Textiles in Bandung City in formulating more effective and equitable digital training and knowledge-sharing policies, thereby strengthening the institution's readiness to support the implementation of the Making Indonesia 4.0 roadmap. The novelty of this study lies in its focus on identifying and addressing a concrete organizational problem encountered in the field. Unlike most previous studies that have predominantly focused on the private sector, this study examines a government technical institution that plays a strategic role in providing guidance, testing,

standardization, calibration, and certification services for the national textile industry. Furthermore, this study specifically examines the role of the Learning Organization in addressing disparities in employees' digital capabilities, as indicated by the relatively high standard deviation observed in the preliminary data. Therefore, the study is expected to provide practical and applicable recommendations for strengthening digital competencies within public-sector organizations.

METHODS

This study employed a descriptive quantitative method with a verification approach. The descriptive method was used to provide an overview of the conditions of the Learning Organization and the improvement of digital-based human resource competencies, while the verification approach was used to test the research hypothesis through field data collection in order to determine whether the independent variable (Learning Organization) influences the dependent variable (Digital-Based Human Resource Competency Improvement). According to Sugiyono (2018), the quantitative method is based on the philosophy of positivism and is used to examine a particular population or sample. Data were collected through questionnaires containing statements or questions that respondents answered according to their actual conditions. The questionnaire items were developed based on the indicators of each research variable and measured using a Likert scale. The data were analyzed statistically to test the predetermined hypotheses. This study used primary data collected directly from employees at the research site.

The population of this study consisted of all 138 employees of the Center for Textiles in Bandung City. Considering the size of the population, a representative sample was selected to represent the population. The sampling technique used was simple random sampling, in which respondents were randomly selected without considering specific strata within the population. The sample size was determined using the Slovin formula with a margin of error of 10% ($e = 0.10$). Based on the calculation, the required sample size was $n = 57.98$, which was rounded up to 58 respondents. Data were processed using IBM SPSS Statistics Version 27 through several stages. First, descriptive statistical analysis was conducted to describe the characteristics and distribution of the research variables. Second, classical assumption tests were performed, including the Kolmogorov–Smirnov normality test and the Glejser heteroscedasticity test. Third, a simple linear regression analysis was conducted using the equation $Y = a + bX$ to determine the effect of the Learning Organization on digital-based human resource competency improvement. Fourth, the correlation coefficient (R) and coefficient of determination (R^2) were analyzed to determine the strength of the relationship and the proportion of variance in the dependent variable explained by the independent variable. Finally, hypothesis testing was conducted using the t-test (partial test) and F-test (simultaneous test) at a significance level of $\alpha = 0.05$.

RESULTS AND DISCUSSION

1. Descriptive Statistical Analysis

Descriptive statistical analysis was conducted to provide a general overview of the research data, particularly the Learning Organization (X) variable and the Digital-Based Human Resource Competency Improvement (Y) variable, based on data collected from 58 respondents at the Center for Textiles in Bandung City. The data were processed using IBM SPSS Statistics Version 27, and the results are presented in the following table.

Table 1. Descriptive Statistics of the Research Variables

	N	Minimum	Maximum	Mean	Std. Deviation
X	58	29.00	68.00	49.8103	10.11765
Y	58	19.00	51.00	36.7241	8.20311
Valid N (listwise)	58				

2. Classical Assumption Test Results

2.1 Normality Test

The normality test was conducted to determine whether the residuals generated from the regression model were normally distributed. The normality test was performed using the One-Sample Kolmogorov–Smirnov Test on the unstandardized residuals.

**Table 2. Normality Assumption Test
One-Sample Kolmogorov–Smirnov Test**

		Unstandardized Residual
N		58
Normal Parameters ^{a,b}	Mean	.0000000
	Std. Deviation	6.79184235
Most Extreme Differences	Absolute	.080
	Positive	.045
	Negative	-.080
Test Statistic		.080
Asymp. Sig. (2-tailed)		.200

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

Based on Table 2, the Asymp. Sig. (2-tailed) value was 0.200, which is greater than the significance level of $\alpha = 0.05$ ($0.200 > 0.05$). Therefore, it can be concluded that the residuals in the regression model are normally distributed. Thus, the regression model satisfies the normality assumption and is appropriate for further hypothesis testing.

2.2 Heteroscedasticity Test

The heteroscedasticity test was conducted using the Glejser test, in which the absolute residual values (*ABRESID*) were regressed against the independent variable, *Learning Organization* (X). If the significance value of the *Learning Organization* (X) variable is greater than 0.05, the regression model is considered to have no indication of heteroscedasticity.

Table 3. Heteroscedasticity Test (Glejser Test)

		Coefficients ^a			
Model		Unstandardized Coefficients		Standardized Coefficients	Sig.
		B	Std. Error	Beta	
1	(Constant)	10.300	2.572		.000
	X	-.097	.051	-.248	.061

a. Dependent Variable: ABRESID

The results presented in Table 3 show that the significance value of the Learning Organization (X) variable on the absolute residual is 0.061, which is greater than 0.05 ($0.061 > 0.05$). This indicates that there is no evidence of heteroscedasticity in the regression model. Therefore, the residual variance can be considered homogeneous, and the regression model is appropriate for further statistical analysis.

3. Simple Linear Regression Analysis

Simple linear regression analysis was conducted to determine the magnitude of the effect of *Learning Organization* (X) on Digital-Based Human Resource Competency Improvement (Y) at the Center for Textiles in Bandung City.

Table 4. Results of Simple Linear Regression Analysis

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	14,077	4.558		3.088	.003
	X	.455	.090	.561	5.069	.000

a. Dependent Variable: Y

Based on **Table 4**, the following simple linear regression equation was obtained:

$$Y = 14.077 + 0.455X$$

The constant value of **14.077** indicates that when *Learning Organization* (X) is equal to zero, the level of Digital-Based Human Resource Competency (Y) is estimated to be **14.077**. Meanwhile, the regression coefficient of the *Learning Organization* (X) variable is **0.455** and has a positive direction, indicating that every one-unit increase in *Learning Organization* is associated with an increase of **0.455 units** in Digital-Based Human Resource Competency, assuming that other factors remain constant.

The positive regression coefficient indicates that the relationship between the two variables is **positive and unidirectional**. In other words, the better the implementation of *Learning Organization*, the higher the level of Digital-Based Human Resource Competency among employees at the Center for Textiles in Bandung City.

4. Correlation Coefficient and Coefficient of Determination Analysis

Table 5. Results of the Correlation Coefficient and Coefficient of Determination Analysis

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.561 ^a	.314	.302	6.85222

b. Dependent Variable: Y

The correlation coefficient (R) presented in Table 5 is 0.561, indicating that the relationship between Learning Organization (X) and Digital-Based Human Resource Competency Improvement (Y) is moderate and positive. This positive correlation indicates that better implementation of Learning Organization tends to be associated with higher levels of digital-based human resource competency. The coefficient of determination (R Square) is 0.314, indicating that Learning Organization (X) explains 31.4% of the variation in Digital-Based Human Resource Competency Improvement (Y). Meanwhile, the remaining 68.6% is explained by other factors outside the research model, such as work motivation, technological infrastructure and facilities, leadership, organizational culture, and other factors that were not examined in this study.

5.1 Simultaneous/Model Significance Test (F-Test)

a. Dependent Variable: Y

b. Predictors: (Constant), X

Table 6. ANOVA Test Results (F-Test)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1206.226	1	1206.226	25.690	.000 ^b
	Residual	2629.360	56	46.953		
	Total	3835.586	57			

The results of the F-test show an F-statistic of 25.690 with a significance value of 0.000 (0.000 < 0.05). These results indicate that the regression model examining the effect of Learning Organization on Digital-Based Human Resource Competency Improvement is statistically significant and appropriate for predicting the dependent variable.

5.2 Partial Significance Test (t-Test) and Hypothesis H1 Testing

Hypothesis testing was conducted by comparing the significance value (Sig.) of the Learning Organization (X) variable presented in Table 4 with the significance level of $\alpha = 0.05$, as well as by comparing the calculated t-value (t-statistic) with the critical t-value (t-table). Based on Table 4, the Learning Organization (X) variable obtained a t-statistic of 5.069 with a significance value of 0.000, which is lower than 0.05. Furthermore, the calculated t-value of 5.069 is greater than the critical t-value of approximately ± 2.003 at $df = 56$ and $\alpha = 0.05$. Therefore, H_0 is rejected and H_1 is accepted.

Thus, it can be concluded that Learning Organization has a positive and statistically significant effect on Digital-Based Human Resource Competency Improvement at the Center for Textiles in Bandung City. These findings provide empirical evidence supporting H_1 , indicating that better implementation of Learning Organization is associated with greater improvement in employees' digital-based competencies.

DISCUSSION

The results of data analysis using IBM SPSS Statistics Version 27 demonstrate that Learning Organization (X) has a positive and significant effect on Digital-Based Human Resource Competency Improvement (Y) among employees at the Center for Textiles in Bandung City. This is indicated by a regression coefficient of 0.455, a t-statistic of 5.069 (Sig. = 0.000), and a coefficient of determination of 31.4% (R Square = 0.314). These findings confirm the argument presented in the background of this study that digital transformation at the Center for Textiles cannot be successfully achieved without human resources possessing adequate digital mindsets and digital skills. Such competencies can be strengthened through the continuous implementation of an organizational learning culture (Learning Organization). This finding is consistent with Senge (1990), who states that a Learning Organization continuously expands its capacity to create desired outcomes, encourages new patterns of thinking, and promotes collective learning. Therefore, the stronger the implementation of the five disciplines—systems thinking, personal mastery, mental models, building a shared vision, and team learning—within the Center for Textiles, the greater the employees' capacity to develop digital competencies and effectively address digital-related problems.

These findings also support the argument of Ardianto et al. (2025, p. 333), who state that employee competency development in the digital era can be strengthened through continuous organizational learning processes, enabling employees to improve their knowledge,

skills, and ability to utilize digital technologies. In other words, efforts to improve employees' digital competencies at the Center for Textiles in Bandung City should not rely solely on temporary or occasional training programs. Instead, these efforts should be integrated into a continuous organizational learning ecosystem that facilitates knowledge sharing, collaborative learning, technological adaptation, and ongoing competency development. Although the effect identified in this study is statistically significant, the contribution of Learning Organization accounts for only 31.4% of the variation in digital-based human resource competency improvement. The remaining 68.6% is explained by other factors outside the research model. These factors may include the availability of technological infrastructure and facilities, leadership styles, individual motivation, organizational culture, and human resource policies implemented within the institution.

Furthermore, the classical assumption test results demonstrate that the regression model satisfies the normality assumption and shows no evidence of heteroscedasticity. These results support the statistical adequacy of the regression model used to estimate the effect of Learning Organization on Digital-Based Human Resource Competency Improvement. Accordingly, the empirical findings provide an appropriate basis for drawing conclusions and formulating practical recommendations within the scope of this study. From a practical perspective, these findings imply that the management of the Center for Textiles in Bandung City should continuously strengthen its organizational learning culture as part of its digital transformation strategy. This can be achieved by reinforcing a shared vision of digital transformation, systematically developing employees' individual capacities and digital skills, encouraging knowledge sharing and continuous learning, and strengthening team learning across organizational units. The implementation of these strategies is expected to reduce digital competency gaps among employees and accelerate the development of digitally competent human resources. Ultimately, strengthening the Learning Organization can support the Center for Textiles in effectively performing its core duties and functions while responding to the technological and organizational demands of the Industrial Revolution 4.0.

CONCLUSIONS AND RECOMMENDATIONS

Conclusion

Based on the results of this study, it can be concluded that the implementation of a Learning Organization has a positive and significant effect on Digital-Based Human Resource Competency Improvement at the Center for Textiles in Bandung City. This conclusion is supported by the statistical analysis, which demonstrates a significant relationship between organizational learning and employees' digital competencies. The continuous learning process encouraged through the implementation of a Learning Organization enables employees to improve their knowledge, skills, and ability to adapt to technological developments.

Nevertheless, the contribution of Learning Organization to employees' digital competency improvement is 31.4%, indicating that other factors also contribute to the development of digital-based human resource competencies. These factors may include leadership, work motivation, organizational policies, and the availability of technological facilities and infrastructure. Therefore, the implementation of a Learning Organization can serve as an important organizational strategy for strengthening employees' digital competencies and supporting the Center for Textiles in responding effectively to the continuously evolving demands of digital transformation.

Limitations

This study has several limitations that should be considered when interpreting the findings. First, the research was conducted specifically at the Center for Textiles in Bandung City with a sample of 58 employees; therefore, the findings may not be directly generalized to other government institutions, textile organizations, industrial sectors, or geographical areas

with different organizational characteristics. Second, this study focused primarily on Learning Organization as the independent variable, which explained 31.4% of the variation in Digital-Based Human Resource Competency Improvement. The remaining 68.6% may be associated with other factors not examined in this study, such as leadership, work motivation, organizational culture, human resource policies, and technological infrastructure. Third, the study employed a cross-sectional quantitative approach, in which data were collected within a specific period. Consequently, the research could not fully capture changes in organizational learning practices and digital competencies over time. Future studies are therefore encouraged to include additional variables, involve broader samples and different organizational contexts, and adopt longitudinal or mixed-method approaches to provide a more comprehensive understanding of digital competency development.

Recommendations

Future studies are recommended to expand the scope of research by involving other government institutions, technical agencies, or organizations within the textile and manufacturing sectors to improve the generalizability of the findings. Increasing the sample size and extending the observation period are also recommended to provide a more comprehensive understanding of changes in Learning Organization practices and digital-based human resource competencies over time.

Future research should also incorporate additional variables that may influence digital competency development, such as leadership, work motivation, organizational culture, human resource development policies, digital infrastructure, and technology readiness. Furthermore, more advanced analytical approaches, including Structural Equation Modeling (SEM), System Dynamics, Artificial Intelligence (AI)-based analysis, mixed-method designs, or longitudinal approaches, may be employed to examine more complex relationships among variables and provide deeper insights into the mechanisms through which Learning Organization contributes to the development of digital-based human resource competencies.

Author Contributions

All authors made significant contributions to this study. These contributions included research conceptualization, development of the theoretical framework, data collection, data analysis, interpretation of results, manuscript preparation, scholarly revision, and final approval of the manuscript for publication. All authors confirm that they have read and approved the final version of the article.

REFERENCE

- Amarullah, A., Imaniah, I., & Muthmainnah, S. (2022). Pengembangan sumber daya manusia (SDM) di era digital melalui pelatihan sertifikasi kompetensi di universitas. *Prosiding Simposium Nasional Multidisiplin*, 4, 479–486.
- Ardianto, D., Wihartika, D., Astuti, W., & Gandung, M. (2025). Pengembangan kompetensi karyawan di era digital melalui pembelajaran organisasi. *Jurnal Management dan Bisnis*, 12(3), 333–345.
- Faidz, N., & Kuswinarno, M. (2024). Pengembangan SDM di era digital: Transformasi dan adaptasi kompetensi. *Jurnal MEDIA Akad*, 2(11), 1–12.
- Hidayat, R., Wibowo, A., & Lestari, S. (2022). Analisis pembelajaran organisasi dalam meningkatkan kesiapan SDM menghadapi transformasi digital. *Journal of Innovative and Creativity*, 6(2), 30001–30010. <https://joecy.org/index.php/joecy>
- Ismunandar, A. (2025). Strategi peningkatan kemampuan sumber daya manusia di era digital: Tantangan dan adaptasi pada lembaga pendidikan. *Business Management Journal*, 3(1), 27–36.

- Marquardt, M. J. (2011). *Building the learning organization: Achieving strategic advantage through a commitment to learning* (3rd ed.). Nicholas Brealey Publishing.
- Novianti, R., Rahardja, S. J., Muhyi, H. A., & Purbasari, R. (2024). Urgensi learning organization dengan peran kepemimpinan digital dan penerapannya sebagai budaya organisasi. *Jurnal USAHA*, 5(1), 8–19. <https://doi.org/10.30998/juuk.v5i1.2516>
- Nugrahaningtyas, I. A., & Zulianti, N. (2026). Pengaruh learning organization terhadap kinerja dan kepuasan kerja PPPK: Bukti empiris dari Badan Kepegawaian Negara. *Indonesian Journal of Humanities and Social Sciences*, 7(2). <https://doi.org/10.33367/ijhass.v7i2.9228>
- Rina, A., Megasari, M., & Adji, W. H. (2022). Pengaruh pelatihan berbasis digital terhadap kemampuan kerja karyawan di era 4.0 (Studi kasus terhadap karyawan PT. Industri Telekomunikasi Indonesia). *Management Studies and Entrepreneurship Journal (MSEJ)*, 3(1), 2022.
- Sadida, Q., Khofifah, S., & Bachtiar, M. (2026). Strategi pengembangan SDM berbasis digital learning dalam meningkatkan daya saing organisasi. *Al-Zayn: Jurnal Ilmu Sosial & Hukum*, 4(2), 3899–3914. <https://doi.org/10.61104/alz.v4i2.4877>
- Sedarmayanti. (2017). *Manajemen sumber daya manusia: Reformasi birokrasi dan manajemen pegawai negeri sipil*. PT Refika Aditama.
- Senge, P. M. (1990). *The fifth discipline: The art and practice of the learning organization*. Doubleday.
- Silalahi, E. E., Sangapan, L. H., Manurung, A. H., & Machdar, N. M. (2025). Strategi peningkatan kompetensi digital karyawan melalui manajemen sumber daya manusia strategik. *JUNI*, 1(2).
- Spencer, L. M., & Spencer, S. M. (1993). *Competence at work: Models for superior performance*. John Wiley & Sons, Inc.
- Sugiyono. (2018). *Metode penelitian kuantitatif, kualitatif, dan R&D*. Alfabeta.
- Suryani, S., & Syahbudi, M. (2022). Peran learning organization dalam meningkatkan kinerja pegawai Badan Pusat Statistik Kabupaten Deli Serdang. *Sibatik Journal: Jurnal Ilmiah Bidang Sosial, Ekonomi, Budaya, Teknologi, dan Pendidikan*, 1(5), 707–716. <https://doi.org/10.54443/sibatik.v1i5.84>
- Sutrisno, E. (2019). *Manajemen sumber daya manusia*. Kencana.
- Suwardhani, A. D. (2025). Strategi pengembangan SDM berbasis kompetensi di era digital. *RIGGS: Journal of Artificial Intelligence and Digital Business*, 4(1), 88–96. <https://doi.org/10.5281/zenodo.19389445>
- UNESCO. (2018). *A global framework of reference on digital literacy skills for indicator 4.4.2*. UNESCO Institute for Statistics.
- Wibowo. (2017). *Manajemen kinerja* (Edisi ke-5). PT RajaGrafindo Persada.
- Yusuf, B. (2018). *Manajemen sumber daya manusia di lembaga keuangan syariah*. Rajawali Pers.
- Zainal, V. R., Ramly, H. M., Mutis, T., & Arafah, W. (2018). *Manajemen sumber daya manusia untuk perusahaan*. PT RajaGrafindo Persada.