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THE IMPACT OF ARTIFICIAL INTELLIGENCE AND WORK TRAINING ON HUMAN RESOURCE PERFORMANCE: A CASE STUDY OF PT SATRIA BAHANA SARANA

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ABSTRACT

This study aims to analyze the influence of artificial intelligence (AI) and work training on human resource performance at PT Satria Bahana Sarana (SBS). The research employed a quantitative approach with data collection conducted through questionnaires distributed to 165 office employees as respondents. Data analysis was performed using Partial Least Squares-Structural Equation Modeling (PLS-SEM) to test the research hypotheses. The findings indicate that artificial intelligence has a significant and positive effect on HR performance with a path coefficient of 0.47 ($p < 0.01$), suggesting enhanced efficiency and productivity in the workplace. Work training also contributes positively and significantly with a path coefficient of 0.38 ($p < 0.01$), where structured training programs prove to improve employee competencies and facilitate the achievement of organizational objectives. The research model yielded an R-square value of 0.622, indicating that artificial intelligence and work training collectively explain 62.2% of the variance in HR performance, while the remaining 37.8% is influenced by variables outside the model. This study highlights the crucial role of AI integration and comprehensive work training programs as key strategies for optimizing employee performance in the era of digital transformation.

KEYWORDS *Digital Transformation, Workforce Training, AI in HR, Structural Equation Modeling*

INTRODUCTION

The advent of digital transformation has profoundly altered operational frameworks across industries, with artificial intelligence (AI) serving as a fundamental catalyst in this evolution. As organizations navigate the Fourth Industrial Revolution's complexities, AI applications have become essential for organizational sustainability in competitive marketplaces rather than merely advantageous additions (Purwaamijaya & Prasetyo, 2022). Converting traditional

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business processes into digital formats represents a strategic necessity for enhancing service quality, operational efficiency, and productivity metrics (Sakinah et al., 2024).

AI's transformative capacity extends through both governmental institutions and industrial sectors, creating unprecedented opportunities for process refinement and service enhancement. The integration of AI mechanisms within human resource management frameworks constitutes a particularly noteworthy development (Purwaamijaya & Prasetyo, 2022). While AI offers considerable advantages for workplace efficiency, several limitations require careful examination. A primary concern involves potential workforce displacement as automated systems increasingly assume responsibilities traditionally performed by human personnel. Research by UGM emphasizes that "This condition certainly raises concerns about work processes that are starting to be replaced by machines and robots" (UGM, 2024). Additionally, algorithmic decision-making processes may inadequately incorporate essential human values, as highlighted by Good News From Indonesia: "HR must address new challenges in integrating technology into the workplace, and ensure that human values and ethics are maintained in the application of artificial intelligence" (GNFI, 2024).

Organizational innovation objectives remain fundamentally human endeavors requiring substantial knowledge repositories and skill proficiencies. Consequently, strategic human resource development initiatives represent critical components in both immediate operational concerns and long-term institutional planning. Human resource competencies function as determinative factors in achieving organizational objectives and fostering internal innovation ecosystems (Akbar et al., 2022). Previous research indicates that despite Indonesia's promising perception regarding AI integration, significant limitations persist in human resource capabilities, necessitating enhanced collaboration among diverse stakeholders to ensure effective implementation (Mariska et al., 2021).

Corporate training programs serve as essential mechanisms for developing employee competencies and technical proficiencies. These educational initiatives enhance individual performance capabilities while facilitating smoother organizational operations. Effective training structures should address technical skills, theoretical knowledge, conceptual understanding, and ethical frameworks comprehensively. Organizations recognizing human resources as valuable strategic assets implement systematic employee development programs as integral components of competitive advantage strategies (Fitri et al., 2023).

Improperly designed training initiatives may impede performance improvement efforts. According to Dibimbing.id, "Failure to identify specific needs can lead to training programs that are irrelevant or less effective" (Dibimbing.id, 2024). Even following implementation, outcomes frequently diverge from anticipated results, as highlighted by GreatDayHR: "Training programs may seem to be running well, but when viewed from the perspective of performance and productivity improvement, the results are often unsatisfactory" (GreatDayHR, 2024).

Artificial intelligence encompasses computational systems designed to recognize and model human cognitive processes. As technological advancement

continues accelerating, AI is anticipated to introduce substantial transformations to business ecosystems through process optimization initiatives (Purwaamijaya et al, 2024). (Akbar et al., 2022) delineate multiple dimensions fundamental to AI assessment, including Natural Language Processing, Computer Vision, Complex Problem-Solving capacities, Machine Learning capabilities, Decision-Making mechanisms, Human-Machine Interface systems, and Autonomy features.

Work training provides employees with opportunities to enhance workplace-relevant skills and knowledge. While individual potential varies significantly, acquired skills may not consistently align with specific organizational requirements. Consequently, implementing structured training programs becomes instrumental in ensuring employees comprehend task expectations and appropriate methodologies. According to (Manunggal et al., 2022), effective training initiatives include explicitly defined objectives, comprehensive materials, interactive methodologies, established participant qualification criteria, and appropriate trainer requirements.

Human resource performance within corporate contexts refers to work quality metrics within specific timeframes, influenced by employee capabilities, skills, and motivational factors. Enhanced performance facilitates more effective task completion while contributing to organizational profitability (Lubis, 2023). (Olan et al., 2022) identify four essential performance indicators: work quality, work quantity, time management, and collaborative capacity.

While extensive literature examines artificial intelligence and work training as separate variables affecting human resource performance, a significant research gap exists regarding their combined impact, particularly within Indonesia's mining industry. Previous studies have predominantly focused on either technological implementation or training program effectiveness in isolation, without adequately exploring potential synergistic effects between these complementary approaches.

PT Satria Bahana Sarana (PT SBS), operating within Indonesia's mining sector, demonstrates significant evolution in human resource performance metrics over a five-year observation period. The following visualization illustrates human resource performance trends:

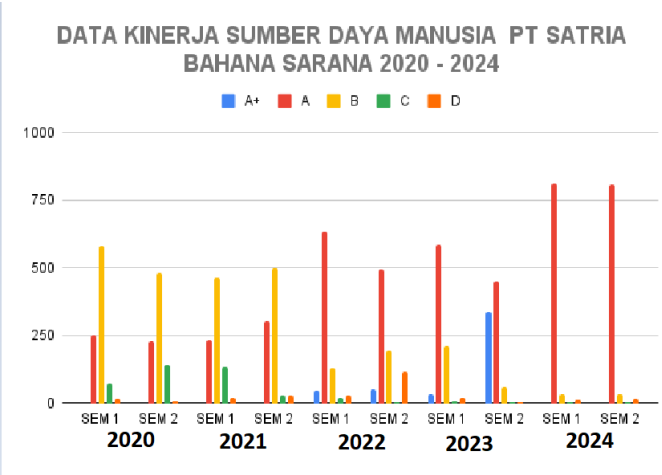

Figure 1. PT SBS HR Performance Graph 2020-2024
Source: Processed data (2025)

Figure 1 demonstrates performance distribution among PT SBS employees from 2020-2024, categorized into five performance levels (A+, A, B, C, and D). The visualization reveals consistently lower proportions of employees achieving premium performance categories compared to those in lower classifications. From 2020 through 2022, moderate increases occurred in categories B and C, suggesting performance improvement without reaching optimal levels. However, 2023 and 2024 witnessed substantial growth in categories C and D, while premium performance representations remained minimal.

PT Satria Bahana Sarana has demonstrated consistent commitment to workforce development through progressive expansion of training initiatives between 2020 and 2024, as illustrated below:

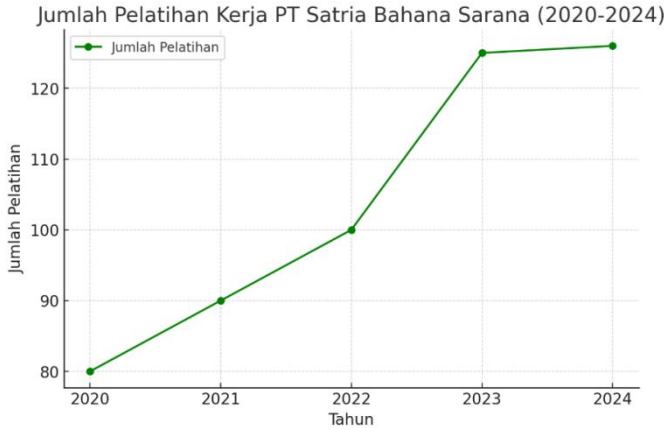

Figure 2. Graph of the Number of PT SBS Work Training 2020-2024
Source: Processed data (2025)

As shown in Figure 2, annual training sessions increased incrementally from 80 sessions in 2020 to 126 sessions in 2024. Despite expanded training provisions, questions persist regarding effectiveness in enhancing workforce performance, as substantial employee populations continue occupying categories C and D.

Recently, PT SBS has incorporated artificial intelligence technologies to expedite decision processes, enhance operational efficiencies, and support innovative managerial strategies. PT SBS operations span dual environments—office-based and field-based—with differential AI implementation strategies. Office personnel utilize software-based AI applications including Chat GPT and Gemini, while field employees employ specialized tools such as anti-sleep devices. This research specifically examines AI utilization among office-based personnel.

This research aims to address identified gaps through four primary objectives: (1) analyzing how artificial intelligence implementation influences human resource performance metrics; (2) evaluating the effectiveness of work training programs in enhancing employee competencies; (3) identifying potential synergistic interactions between artificial intelligence applications and structured training initiatives; and (4) formulating evidence-based strategic recommendations for enhancing human resource performance through integrated technological adoption and competency development frameworks.

Through detailed investigation of this case study, this research seeks to contribute meaningfully to theoretical and practical knowledge regarding human resource optimization strategies in contemporary digital environments, with particular relevance to Indonesia's mining industry context.

RESEARCH METHODS

Types and Design of Research

This investigation employs quantitative methodologies, utilizing numerical data collection and statistical analysis procedures. The primary research objective involves analyzing collected empirical evidence to evaluate hypotheses concerning observed phenomena (Sugiyono, 2019). Specifically, this study examines the relationships between artificial intelligence implementation, work training initiatives, and human resource performance outcomes at PT Satria Bahana Sarana (SBS).

Population and Distribution of Sample

The target population encompasses all employees within PT Satria Bahana Sarana, totaling 866 personnel distributed across office environments (280 individuals) and field operations (586 individuals). As described by Sugiyono (2013), a population represents a collection of elements characterized by specific attributes determined by researchers to facilitate relevant conclusion formation. The sampling approach implements Non-Probability techniques, specifically Purposive Sampling, which Indriantoro and Supomo (2014) define as participant selection based on predetermined criteria established to address specific research objectives. According to (Sugiyono, 2017), samples constitute subsets reflecting population characteristics, while (Arikunto, 1992) characterizes samples as representative portions of studied populations. This research specifically examines office-based personnel utilizing artificial intelligence technologies.

Population and Sampling Techniques

The population in this study consists of 280 employees at PT SBS who are distributed to work both in the office. Thus, it can be drawn up to the following conclusion using the Slovin formula as follows:

$$n = \frac{N}{1 + Ne^2}$$

$$n = \frac{280}{1 + 280 \cdot (0.05)^2}$$

$$n = \frac{280}{1 + 280 \cdot 0.0025}$$

$$n = \frac{280}{1 + 0.7}$$

$$n = \frac{280}{1.7}$$

$$n \approx 164.7$$

So, the sample size calculated using the Slovin's formula is 164.5, which is rounded to 165.
Information:
n = sample size/number of respondents
N = population size
e = percentage of the looseness of the accuracy of the selection that is still can be tolerated

The sampling determination employed Slovin's. The participant selection process implemented stratified random sampling to ensure proportional representation across departments. Departmental selection quotas were established based on the department's percentage within the total office population. Within each department, simple random sampling was applied to select individual participants, providing every eligible employee an equal chance of selection. This two-stage approach balanced representativeness with research practicality while minimizing potential selection bias.

Analysis Method

Partial Least Squares Structural Equation Modeling (PLS-SEM) This research employs PLS-SEM for hypothesis testing and relationship analysis between variables due to several methodological considerations. First, PLS-SEM accommodates this study's exploratory nature examining emerging technological impacts in organizational contexts. Unlike covariance-based approaches requiring robust theoretical foundations, PLS-SEM permits exploratory model development appropriate for investigating artificial intelligence's relatively nascent implementation in corporate environments. Second, PLS-SEM demonstrates superior capability handling complex models with multiple constructs and indicators while maintaining statistical power with relatively modest sample sizes. This advantage proves particularly valuable given this study's sample constraints of 165 respondents. Additionally, PLS-SEM accommodates both reflective and formative measurement constructs, providing flexibility in operationalizing the multifaceted concepts of artificial intelligence adoption and human resource performance. Finally, PLS-SEM's distribution assumptions exhibit less restrictiveness than traditional covariance-based approaches, avoiding normality requirements that might prove problematic with technological adoption data potentially exhibiting non-normal distributions. The analysis will be executed using SmartPLS software, facilitating both measurement model assessment (reliability and validity) and structural model evaluation (path coefficients, R^2 values, and prediction relevance).

Research paradigm

In Quantitative Research, which is based on the assumption that a phenomenon is causal (cause and effect), the research is conducted by focusing on only a few variables. The pattern of the relationship between the variables to be studied will later be referred to as the research paradigm (Sugiyono, 2018). The following is the research paradigm depicted in Figure 1 below:

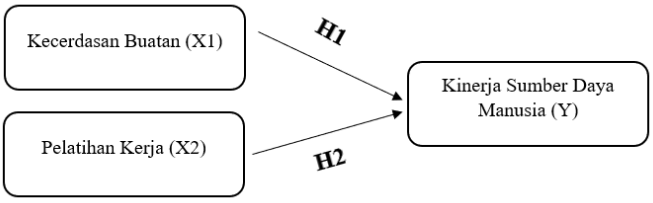

Figure 3. Research Paradigm

Research Hypothesis

The research hypothesis is a temporary answer to the problem formulation, with existing theories serving as the basis for the provided answer (Sugiyono, 2014). Therefore, the following hypothesis is formulated in the table:

Table 1. Hypothesis

H1	The artificial intelligence variable has a significant and positive impact on the human resource performance variable.
H2	The work training variable has a significant and positive effect on the human resource performance variable.
H3	The artificial intelligence variable does not have a significant and positive effect on the human resource performance variable.
H4	The work training variable does not have a significant and positive effect on the human resource performance variable.

This research was conducted on employees at PT Satria Bahana Sarana (SBS). This research uses artificial intelligence variables (X1), work training (X2) as independent variables, and human resource performance (Y) as the dependent variable.

The data collection was conducted using a physical questionnaire distributed to respondents as part of the information gathering process for this research. The measurement of the level is conducted using an interval scale, and the responses are measured using a Likert scale because the evaluation uses weight and length.

RESULTS AND DISCUSSION

Respondent Profile

As many as 165 respondents were asked to fill out the provided questionnaire, and the results of the questionnaire filling can be seen in the following table:

Table 2. Respondent Profile

No	Explanation	Number of Respondents	Percentage
1.	**Gender**		
	Man	138	83,6%
	Women	27	16,4%

	Amount	175	100%
2.	**Age**		
	20-25 Years	2	1,2 %
	26-30 Years	45	27,3 %
	31-35 Years	35	21,2 %
	36-40 Years	35	21,2 %
	41-45 Years	24	14,5%
	46-50 Years	20	12,1 %
	51-55 Years	4	2,4 %
	Amount	175	100%
3.	**Last Education**		
	High School/Equivalent	80	48,5%
	D3	28	17%
	S1	55	33,3%
	S2	2	1,2%
	Amount	175	100%
4.	**Long Working Hours**		
	1-5 Years	31	18,8%
	6-10 Years	134	81,2%
	Amount	175	100%

Source: Processed data (2025)

Results and Evaluation of the Outeir Model Test

Outer Model Evaluation

The initial model assessment revealed validity concerns with items X1.3, X1.16, and X2.10, which demonstrated factor loading values below the 0.7 threshold recommended by (Hair Jr et al., 2021). Upon removing these items and conducting re-evaluation, item X2.9 still presented validity issues with a loading of 0.666. A second retest was performed after removing X2.9, resulting in all remaining instruments demonstrating validity, as illustrated in Figure 5.

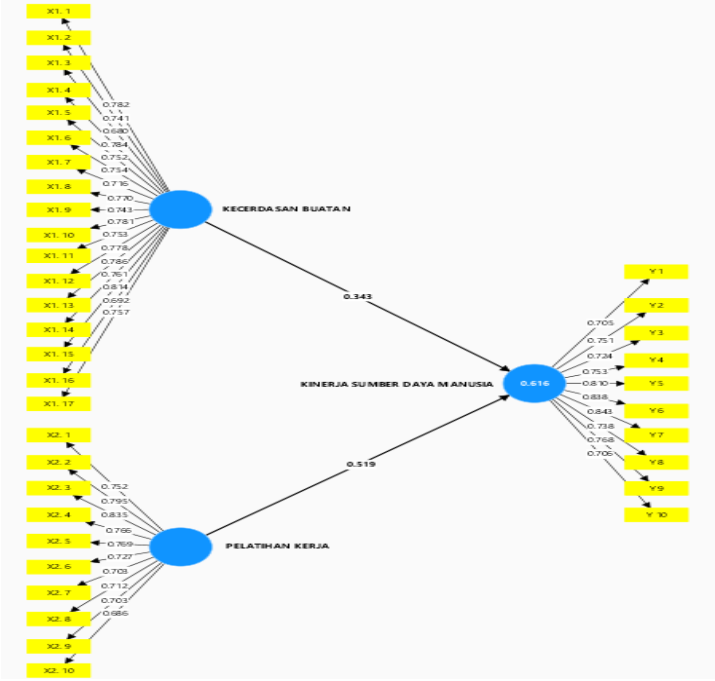

Figure 4. Outer Model Results
Source: Processed data (2025)

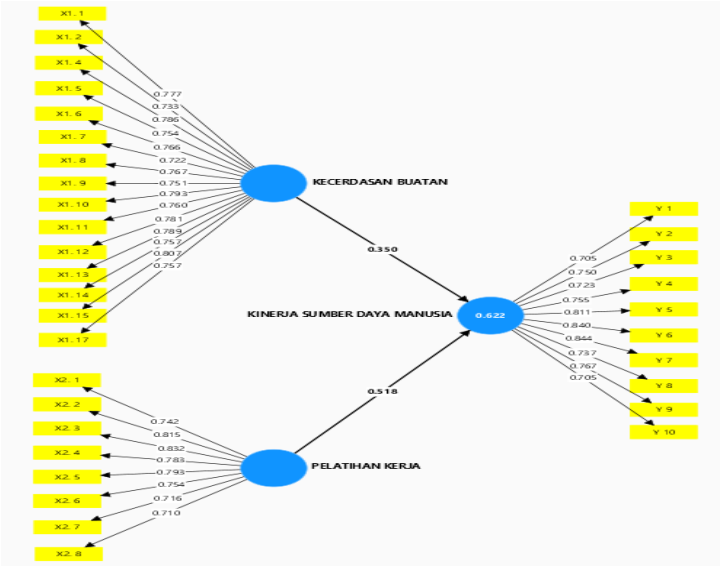

Figure 5. Evaluation 2 of the Outer Model Results
Source: Processed data (2025)

The Average Variance Extracted (AVE) assessment, presented in Table 3, confirms construct validity with all values exceeding 0.5. The Fornell-Larcker criterion (Table 4) further validates discriminant validity, demonstrating that each construct's AVE square root exceeds its correlation with other variables. Reliability

analysis using Composite Reliability (Table 5) shows all constructs exceeding the 0.7 threshold (Hair Jr et al., 2021), confirming internal consistency.

Table 3. AVE Value

Variabel	AVE	Explanation
Artificial Intelligence	0.588	Valid
Work Training	0.586	Valid
Human Resource Performance	0.592	Valid

Source: Processed data (2025)

Table 4. Forneill-Larckell Test Results

	Artificial Intelligence	Work Training	Human Resource Performance
Artificial Intelligence	0.767		
Work Training	0.680	0.765	
Human Resource Performance	0.636	0.741	0.769

Source: Processed data (2025)

Table 5. Reliability Test Results

Variabel	Composite Reliability	Explanation
Artificial Intelligence	0.955	Reliabel
Work Training	0.934	Reliabel
Human Resource Performance	0.920	Reliabel

Source: Processed data (2025)

Multicollinearity examination using Variance Inflation Factor (VIF) values (Table 6) yielded results of 1.679, substantially below the problematic threshold of 3.3 specified by (Sugiyono, 2018), indicating no significant collinearity issues among the variables.

Table 6. VIF Value Results

	Artificial Intelligence	Work Training	Human Resource Performance
Artificial Intelligence		1.679	
Work Training			
Human Resource Performance		1.679	

Source: Processed data (2025)

Based on the analysis results using the Variance Inflation Factor (VIF) in Figure 6, it is shown that the VIF values for the Human Resource Performance and Work Training variables against their respective dependent variables are 1.679.

According to (Shmueli et al., 2019), the VIF value is used to identify the presence of multicollinearity issues, in a regression model VIF < 3.3 indicates that there are no serious multicollinearity problems. Because the VIF value in this analysis is around 1.679, it can be concluded that there is no significant multicollinearity problem in the tested model.

Inner Model Test

The predictive capability of the model is evidenced by an R-squared value of 0.622 for Human Resource Performance (Table 7), indicating that Artificial Intelligence and Work Training collectively explain 62.2% of the variation in performance outcomes. According to (Hair Jr et al., 2021), this places the model in the moderate explanatory power category ($0.50 \leq R^2 < 0.75$). The adjusted R-squared value of 0.617 reinforces this assessment while accounting for model complexity.

Table 7. R Square Value

	R-Square	R-Square adjusted
Human Resource Performance	0.622	0.617

Source: Processed data (2025)

Model fit evaluation using Standardized Root Mean Square Residual (SRMR) yielded a value of 0.072 (Table 8), below the 0.08 threshold recommended by Hair (2019), confirming appropriate model fit.

Table 8. SRMR Value

	Saturated Model	Estimated Model
SRMR	0.072	0.072

Source: Processed data (2025)

Hypothesis Testing

The hypothesis test in this study was conducted by examining the significance value indicated by the T-Statistics value and the P-Value, while the magnitude of the influence between variables is shown through the value in the Original Sample column. Here are the results of the hypothesis testing in this study, which can be found in Table 6. Based on the hypothesis testing results, it can be seen that all hypotheses in this study are accepted because the p-values are below 0.05.

Table 8. Hypothesis Testing Results

Hypothesis	Influence Path	T Statistics	Original Sample	P Value	Explanation
H1	Artificial Intelligence -> Human	4.572	0.350	0.000	Accepted

	Resource Performance				
H2	Work Training -> Human Resource Performance	7.470	0.518	0.000	Accepted

Source: Processed data (2025)

Based on the hypothesis test results that can be seen in table 8, it means that: the relationship between Artificial Intelligence and Human Resource Performance. Path coefficient (Original Sample O): 0.350, T-statistic: 4.527, P-value: 0.000. Because the T-statistic value > 1.96 and P-value < 0.05, the relationship between Artificial Intelligence and Human Resource Performance is significant. This indicates that the increase in the application of artificial intelligence contributes positively to the improvement of human resource performance.

Meanwhile, the relationship between Work Training and Human Resource Performance Path coefficient (Original Sample): 0.518, T-statistic: 7.470, P-value: 0.000. Similar to the previous relationship, because the T-statistic value > 1.96 and P-value < 0.05, the relationship between work Training and Human Resource Performance is significant. In other words, the more effective the work training program provided, the more the performance of human resources will improve.

According to (Hair Jr et al., 2021), hypothesis testing in PLS-SEM uses T-statistic and P-value, with the following criteria:

T-statistic > 1.96 for a 5% significance level ($\alpha = 0.05$), P-value < 0.05 indicates a significant relationship. From these results, it can be concluded that both Artificial Intelligence and Work Training have a partial influence on Human Resource Performance, with Work Training having a greater impact (0.518) compared to Artificial Intelligence (0.350).

Thematic Analysis of Artificial Intelligence Impact on Human Resource Performance

AI-Driven Efficiency and Productivity Enhancement

The empirical findings demonstrate that AI implementation at PT Satria Bahana Sarana significantly enhances human resource performance ($\beta=0.350$, $p<0.001$). This improvement manifests primarily through increased work efficiency, heightened decision-making accuracy, and automated handling of repetitive tasks. By delegating routine operations to AI systems, employees can redirect their attention toward assignments requiring creativity and analytical thinking, thereby elevating overall productivity.

These outcomes align with observations by (Olan et al., 2022), who acknowledged that contemporary performance metrics increasingly reflect innovation capabilities facilitated by cross-departmental collaboration and

knowledge-sharing advancements. Similarly, (Sakinah et al., 2024) has documented AI's pivotal role in organizational digital transformation across diverse industries, noting its contribution to operational streamlining and enhanced decision-making processes.

AI Integration Challenges and Limitations

Despite its benefits, our investigation reveals potential constraints in AI implementation. Consistent with (Susilo et al., 2022), we observed that while AI solutions excel at efficiency-oriented tasks, they have yet to adequately address employees' security and social interaction requirements, which remain influential determinants of performance outcomes. Additionally, as highlighted by (Murugesan et al., 2023), increasing reliance on AI-driven data collection introduces cybersecurity vulnerabilities that organizations must proactively address through robust information security frameworks.

Theoretical Framework and Practical Implications for AI Implementation

The documented AI influence on human resource performance substantiates (Murugesan et al., 2023) Technology and Innovation Theory, which emphasizes that technology adoption patterns significantly shape organizational outcomes. Furthermore, our findings reinforce the Task-Technology Fit theory (Goodhue & Thompson, 1995), indicating that AI implementation yields optimal performance benefits when precisely aligned with specific task requirements.

For HR practitioners, these insights suggest several practical applications:

1. **Targeted AI Deployment**: Prioritize AI implementation in areas where automation can effectively address repetitive tasks while preserving human oversight for creative and strategic functions.
2. **Competency Development Programs**: Establish initiatives focusing on soft skill enhancement, as emphasized by (Devianto & Dwiasnati, 2020), to ensure workforce adaptability amid advancing AI technologies.
3. **Data Security Protocols**: Develop comprehensive security measures addressing potential vulnerabilities associated with increased employee data collection, as recommended by (Murugesan et al., 2023).
4. **Continuous Assessment**: Implement ongoing evaluation mechanisms tracking both quantitative productivity metrics and qualitative indicators of employee satisfaction with AI integration.

Thematic Analysis Of Work Training Impact On Human resource Performance

Skill Enhancement and Competency Development

The research findings establish a substantial positive relationship between work training initiatives and human resource performance at PT Satria Bahana Sarana ($\beta=0.518$, $p<0.001$). This relationship underscores how structured learning

opportunities significantly bolster employees' technical proficiencies and adaptability to technological advancements within their operational environment.

This outcome corresponds with findings by (Putra & Adriansyah, 2022), who documented proportional relationships between training quality and performance outcomes. Additionally, (Akbar et al., 2022) identified that maximized training effectiveness occurs when content delivery aligns precisely with employee requirements and incorporates adaptive evaluation methodologies. Further supporting evidence comes from (Suciati & Deswarta, 2024),(Fitri et al., 2023), and (Suryanti, 2021), all establishing positive correlations between comprehensive training programs and enhanced workforce capabilities.

Training Implementation Strategies and Challenges

Our investigation highlights key considerations for effective training implementation. Echoing (Putra & Adriansyah, 2022), we observed that distinct approaches are required for new versus experienced employees—orientation training facilitates workplace integration for newcomers, while skill-specific training maintains performance standards among established personnel. Additionally, (Suciati & Deswarta, 2024) emphasize training's multifaceted benefits beyond immediate performance, including digital literacy development, business acumen enhancement, and innovation stimulation.

However, our research also acknowledges operational constraints identified by (Sakinah et al., 2024), who noted that competing organizational priorities—particularly revenue targets—frequently restrict training resource allocation. This observation underscores the necessity for strategic training integration within broader business objectives.

Theoretical Framework and Practical Implications for Training Implementation

The demonstrated relationship between training and performance substantiates Human Capital Theory (Huang et al., 2023), which positions skill development as a fundamental driver of productivity enhancement. Additionally, our findings support Behavioral Learning Theory (Izzati, 2021), highlighting how reinforcement mechanisms within training contexts significantly influence knowledge retention and application. Furthermore, the Resource-Based View (Manunggal et al., 2022) contextualizes our results, emphasizing that distinctive competencies developed through training constitute competitive advantages that competitors cannot readily replicate.

For HR practitioners, these insights suggest several practical applications:

1. **Customized Training Frameworks**: Develop differentiated training approaches addressing both foundational orientations for new employees and advanced skill development for experienced personnel.
2. **Technology-Specific Modules**: Implement dedicated training components focusing on AI utilization and integration with existing workflows to maximize adoption effectiveness.

3. **Reinforcement Mechanisms**: Incorporate recognition systems acknowledging successful skill application post-training to enhance motivation and retention.
4. **Strategic Alignment**: Position training initiatives as integral components of organizational strategy rather than isolated activities, ensuring consistent resource allocation despite competing priorities.
5. **Continuous Learning Culture**: Establish organizational norms supporting ongoing professional development beyond formal training events, fostering innovation and adaptability.

CONCLUSION

Based on the results of the research that has been conducted, it was revealed that the implementation of artificial intelligence has a positive and significant effect on HR performance at PT Satria Bahana Sarana (SBS), confirming the acceptance of the first hypothesis. Likewise, work training shows a significant positive impact on HR performance, supporting the second hypothesis. These two independent variables together contribute 62.2% to the variability of HR performance, while the remaining 37.8% is influenced by factors outside this research model. For HR practitioners and policy makers, it is recommended to: (1) adopt an AI integrated system for performance management, (2) design continuous training that combines technological understanding and adaptive skill development, and (3) create a data-based evaluation framework to monitor the effectiveness of training programs and AI implementation. The balance between technological advancement and HR competency development needs to be a strategic focus of the company. Future research can explore the impact of AI and training on operational employee groups, not limited to office staff, to compare variations in influence based on work culture. In addition, it is also important to investigate mediating factors such as technology readiness, resistance to change, and organizational culture that may influence the relationship between AI, work training, and HR performance.

REFERENCE

Akbar, M., Suhrah, S., Wahid, A., & Afnir, N. (2022). Islamic Boarding School as a Role Model for Character Education. *KnE Social Sciences*, *2022*, 623–632. https://doi.org/10.18502/kss.v7i8.10780

Arikunto, S. (1992). *Prosedur Penelitian: Suata Pendekatan Praktek*. Rineka Cipta. https://books.google.co.id/books?id=aO5BAQAACAAJ

Devianto, Y., & Dwiasnati, S. (2020). Kerangka Kerja Sistem Kecerdasan Buatan dalam Meningkatkan Kompetensi Sumber Daya Manusia Indonesia. *Jurnal Telekomunikasi Dan Komputer*, *10*(1), 19. https://doi.org/10.22441/incomtech.v10i1.7460

Fitri, M. A., MDK, H., & Putri, I. D. (2023). Pengaruh Pelatihan Kerja Dan Kompensasi Terhadap Kinerja Pegawai Dinas Pemadam Kebakaran Dan Penyelamatan Kota Bengkulu. *EKOMBIS REVIEW: Jurnal Ilmiah Ekonomi Dan Bisnis*, *11*(1), 329–342. https://doi.org/10.37676/ekombis.v11i1.2912

Goodhue, D. L., & Thompson, R. L. (1995). Task-technology fit and individual performance. MIS Quarterly, 19(2), 213–236. https://doi.org/10.2307/249689.

Hair Jr, J. F., Hult, G. T. M., Ringle, C. M., Sarstedt, M., Danks, N. P., & Ray, S. (2021). *Partial least squares structural equation modeling (PLS-SEM) using R: A workbook*. Springer Nature.

Huang, X., Yang, F., Zheng, J., Feng, C., & Zhang, L. (2023). Personalized human resource management via HR analytics and artificial intelligence: Theory and implications. *Asia Pacific Management Review*, *28*(4), 598–610. https://doi.org/10.1016/j.apmrv.2023.04.004

Izzati, Y. (2021). *PENGARUH KEBIJAKAN KEUANGAN TERHADAP TAX AVOIDANCE Farida Idayati Sekolah Tinggi Ilmu Ekonomi Indonesia (STIESIA) Surabaya*. 1–20.

Lubis. (2023). Monografi Kompetensi Sumber Daya Manusia 5.0 Berbasis Spiritualitas dalam Meningkatkan Kinerja Karyawan. In *Sustainability (Switzerland)* (Vol. 11, Issue 1). http://scioteca.caf.com/bitstream/handle/123456789/1091/RED2017-Eng-8ene.pdf?sequence=12&isAllowed=y%0Ahttp://dx.doi.org/10.1016/j.regsciurbeco.2008.06.005%0Ahttps://www.researchgate.net/publication/305320484_SISTEM_PEMBETUNGAN_TERPUSAT_STRATEGI_MELESTARI

Manunggal, N., Santoso, I. T., & Wicaksana, S. (2022). Pengaruh Sistem Informasi Sumber Daya Manusia (HRIS) dan Kecerdasan Buatan Terhadap Kinerja Industri Pertahanan. *Journal of IIdustrial Engineering & Management Research*, *3*(6), 111–120. https://www.jiemar.org/index.php/jiemar/article/view/346

Mariska, B. P., Prasetyo, Y., & Fadhilah, F. (2021). Perception and Prospective Analysis of Artificial Intelligence on Human Capital and its Impact on Human Resources in The Industrial Revolution Era 4.0. *Enrichment: Journal of*

Management, *12*(1), 146–151.

Murugesan, U., Subramanian, P., Srivastava, S., & Dwivedi, A. (2023). A study of Artificial Intelligence impacts on Human Resource Digitalization in Industry 4.0. *Decision Analytics Journal*, *7*(February), 100249. https://doi.org/10.1016/j.dajour.2023.100249

Olan, F., Ogiemwonyi Arakpogun, E., Suklan, J., Nakpodia, F., Damij, N., & Jayawickrama, U. (2022). Artificial intelligence and knowledge sharing: Contributing factors to organizational performance. *Journal of Business Research*, *145*(February), 605–615. https://doi.org/10.1016/j.jbusres.2022.03.008

Purwaamijaya, B. M., Guntara, R. G., Junaini, S. N. (2024). Menggali Potensi Kecerdasan Buatan Dalam Pengelolaan Sumber Daya Manusia. Yogyakarta: Deepublish Digital.

Purwaamijaya, B. M., & Prasetyo, Y. (2022). The Effect of Artificial Intelligence (AI) on Human Capital Management in Indonesia. *Jurnal Manajemen Dan Kewirausahaan*, *10*(2), 168–174. https://doi.org/10.26905/jmdk.v10i2.9130

Putra, D. A., & Adriansyah, A. (2022). Pengaruh Pelatihan Kerja, Motivasi Kerja, dan Employee Engagement Terhadap Kinerja Tenaga Ahli Fraksi X DPR RI. *Jurnal Ekonomi, Manajemen Dan Perbankan (Journal of Economics, Management and Banking)*, *8*(3), 124. https://doi.org/10.35384/jemp.v8i3.344

Sakinah, R., Kuswinarno, M., & Madura, U. T. (2024). *Dampak Kecerdasan Buatan Terhadap Digitalisasi Dan Kinerja Sumber Daya Manusia : Peluang Dan Dampak Kecerdasan Buatan Terhadap Digitalisasi Dan Kinerja Sumber Daya Manusia : Peluang Dan*. *2*(9).

Shmueli, G., Sarstedt, M., Hair, J. F., Cheah, J. H., Ting, H., Vaithilingam, S., & Ringle, C. M. (2019). Predictive model assessment in PLS-SEM: guidelines for using PLSpredict. *European Journal of Marketing*, *53*(11), 2322–2347. https://doi.org/10.1108/EJM-02-2019-0189

Suciati, T. A., & Deswarta, D. (2024). Pengaruh Pelatihan Kerja, Tingkat Pendidikan, dan Pengalaman Kerja terhadap Kinerja Karyawan Generasi Z di Selat Panjang. *Al Qalam: Jurnal Ilmiah Keagamaan Dan Kemasyarakatan*,

18(1), 58. https://doi.org/10.35931/aq.v18i1.3008

Sugiyono. (2018). *Metode Penelitian Kuantitatif*. Alfabeta.

Sugiyono. (2019). *Metode Penelitian Kuantitatif, Kualitatif, dan R&D* (Issue January).

Sugiyono, P. D. (2017). Metode penelitian bisnis: pendekatan kuantitatif, kualitatif, kombinasi, dan R&D. *Penerbit CV. Alfabeta: Bandung*, *225*(87), 48–61.

Suryanti, R. (2021). Pengaruh Pelatihan Kerja, Motivasi Kerja, Dan Displin Kerja Terhadap Kinerja Karyawan. *Jurnal Dimensi*, *10*(1), 14–30. https://doi.org/10.33373/dms.v10i1.2834

Susilo, B., Wardi, A., & Prasastono, S. (2022). Pengaruh Kecerdasan Buatan(AI) Dan Big Data Terhadap Kinerja Karyawan. *Profit: Jurnal Manajemen, Bisnis Dan Akuntansi*, *1*, 113–121. https://doi.org/10.58192/profit.v1i3.2051