

## **Tech Trends Reshaping Tomorrow: A Glimpse into Organizational Technology Adoption**

**Jeziano Rizkita Boyas<sup>1\*</sup>, Deri Prayudi<sup>2</sup>, Bryan Givan<sup>3</sup>**

<sup>1</sup>Universitas Nahdlatul Ulama Sidoarjo

<sup>2</sup>Universitas Kuningan

<sup>3</sup>Universitas Nusa Mandiri

Corresponding Author e-mail: [eziano403.mnj@unusida.ac.id](mailto:eziano403.mnj@unusida.ac.id)

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**Abstract:** *This study investigates the impact of emerging technologies, innovation culture, and employee training and development on organizational performance at PT Bias Nusatama. Utilizing a quantitative research design with a sample of 60 employees selected through random sampling, the research employs Smart PLS for data analysis. The results reveal that the direct effects of adopting emerging technologies and fostering an innovation culture significantly enhance organizational performance. Additionally, both factors indirectly influence performance through their effects on employee training and development. These findings emphasize the importance of integrating new technologies, nurturing an innovative culture, and investing in employee training to drive organizational success. The study provides valuable insights for organizations seeking to optimize their performance through strategic technology adoption and supportive work environments.*

### **Introduction**

In today's rapidly evolving business landscape, the adoption of emerging technologies is increasingly recognized as a critical driver of organizational success (Al-Jubouri, 2023). As companies strive to stay competitive, understanding the impact of technological advancements on organizational performance has become essential (Rustiawan et al., 2023). This research explores how the adoption of cutting-edge technologies and a strong culture of innovation influence organizational performance, with a particular focus on the role of employee training and development as an intervening factor (Usman et al., 2024). By examining these dynamics, this study aims to provide valuable insights into how organizations can strategically leverage technology to enhance their performance and maintain a competitive edge in the future (Rachakatla & Garrepalli, 2024).

Organizational performance refers to a company's effectiveness in achieving its strategic goals and objectives by optimizing various operations and processes (Chatterjee et al., 2024). It encompasses multiple dimensions, including financial outcomes, operational efficiency, and employee productivity. High performance is often reflected in strong financial results, such as increased profitability and revenue growth, coupled with streamlined processes that make the best use of resources to drive cost-effectiveness and agility (McElheran et al., 2024). Furthermore, a key aspect of organizational performance is fostering a positive work environment where employees are engaged, motivated, and aligned with the company's mission, contributing to overall productivity and success. Engaged employees not only boost morale but also drive innovation and efficiency, which are crucial for long-term competitiveness. To evaluate organizational performance, companies assess financial metrics like revenue, profit margins, and return on investment, along with operational metrics like process efficiency, quality, and innovation. Employee-related metrics, such as engagement, satisfaction, and retention rates, are also integral to understanding performance, as a motivated workforce is critical to sustained success (Bašić, 2023). Ultimately, analyzing these various metrics provides a holistic understanding of how well an organization is performing relative to its objectives, while highlighting areas for improvement to ensure sustainable growth and a competitive edge in the market.

The adoption of emerging technologies involves the strategic integration of innovative tools and systems into a company's operations to improve efficiency, productivity, and maintain competitiveness in a dynamic market (Kumari et al., 2023). This process begins with a thorough evaluation of technologies that align with the organization's objectives, followed by careful planning and implementation to ensure seamless integration into existing systems (Kim et al., 2023). Successful adoption extends beyond the technology itself, requiring adequate investment in employee training and change management to ensure that staff can use the new systems effectively. This holistic approach ensures that the technology not only functions within the technical infrastructure but also aligns with the company's workflows, enhancing overall productivity. The adoption of emerging technologies brings numerous advantages, including more streamlined processes, improved data analytics for better decision-making, and enhanced customer experiences through faster and more personalized service. These benefits can significantly boost a company's ability to stay competitive in a rapidly evolving market by fostering innovation, agility, and scalability (Zhang et al., 2023). Ultimately, adopting these technologies helps organizations respond quickly to market changes, remain competitive, and meet evolving customer demands, while positioning them for sustainable growth in the future (Garcia, 2023).

Innovation culture refers to an organizational environment that actively promotes creativity, experimentation, and the generation of new ideas, fostering an atmosphere where change is embraced, and continuous improvement is a priority (Mikalef, Islam, et al., 2023). This culture thrives on openness to change, a willingness to take calculated risks, and a mindset that views failure as a learning experience rather than a setback. Employees in such an environment are encouraged to challenge the status quo and think outside the box, knowing that their innovative contributions are valued and supported (Panjaitan et al., 2023). Leadership plays a pivotal role in cultivating this culture by articulating a clear vision for innovation,

providing necessary resources, and establishing an infrastructure that enables experimentation and creative problem-solving. Leaders also create a positive environment by recognizing and rewarding efforts to innovate, which motivates employees to continually explore new possibilities (Yoshikuni et al., 2023). In an innovation-driven culture, failures are seen as valuable learning opportunities, and success is built on persistent experimentation and adaptation. This approach not only drives the development of new products and services but also equips organizations with the flexibility to respond effectively to market shifts, ensuring long-term competitiveness (Fabian et al., 2023). As companies face rapid technological advancements and shifting consumer expectations, fostering a strong innovation culture becomes essential for maintaining relevance and growth. By embedding innovation into the organizational ethos, businesses can enhance their adaptability, develop cutting-edge solutions, and secure a competitive edge in an ever-changing marketplace (Gad David et al., 2023). Thus, an innovation culture serves as a critical driver for sustainable success, empowering organizations to not only keep pace with change but to lead it.

Employee training and development refer to strategic efforts aimed at improving the skills, knowledge, and abilities of employees to enhance their current job performance and prepare them for future roles within the organization (Shahadat et al., 2023). Training typically addresses immediate skill needs required for specific job functions, while development focuses on broader, long-term career growth and potential. Effective programs combine various methods such as workshops, seminars, on-the-job training, and mentoring to provide a comprehensive approach to learning (Veerasamy et al., 2023). These initiatives are crucial for closing skill gaps, fostering professional development, and ensuring that employees are equipped to meet the changing demands of their roles and industries (Sarwar & Mustafa, 2023). Organizations that invest in robust training and development programs not only enhance individual employee performance but also build a more capable, adaptable, and motivated workforce, which contributes to overall organizational success. Moreover, these programs play a critical role in employee engagement and retention, as they show a commitment to the growth and well-being of employees, helping to boost morale and loyalty. As roles and technologies evolve, continuous learning becomes essential, allowing employees to stay relevant and innovative in their fields (Shin et al., 2023). Additionally, a well-trained workforce leads to increased efficiency, better decision-making, and improved customer satisfaction, further driving organizational performance and competitiveness. Ultimately, by fostering a culture of learning and development, organizations not only enhance their internal capabilities but also ensure their workforce is prepared for future challenges and opportunities (Mikalef, Lemmer, et al., 2023).

At PT Bias Nusatama, the adoption of emerging technologies is critical for maintaining its competitive position in a rapidly evolving market. The company's organizational performance is deeply influenced by its ability to effectively integrate these technologies into daily operations. Central to this success is the establishment of an innovation-driven culture, which encourages employees to explore and implement new, cutting-edge solutions. This dynamic environment fosters creativity and a willingness to embrace change, allowing the organization to stay ahead of market trends. Employee training and development are vital

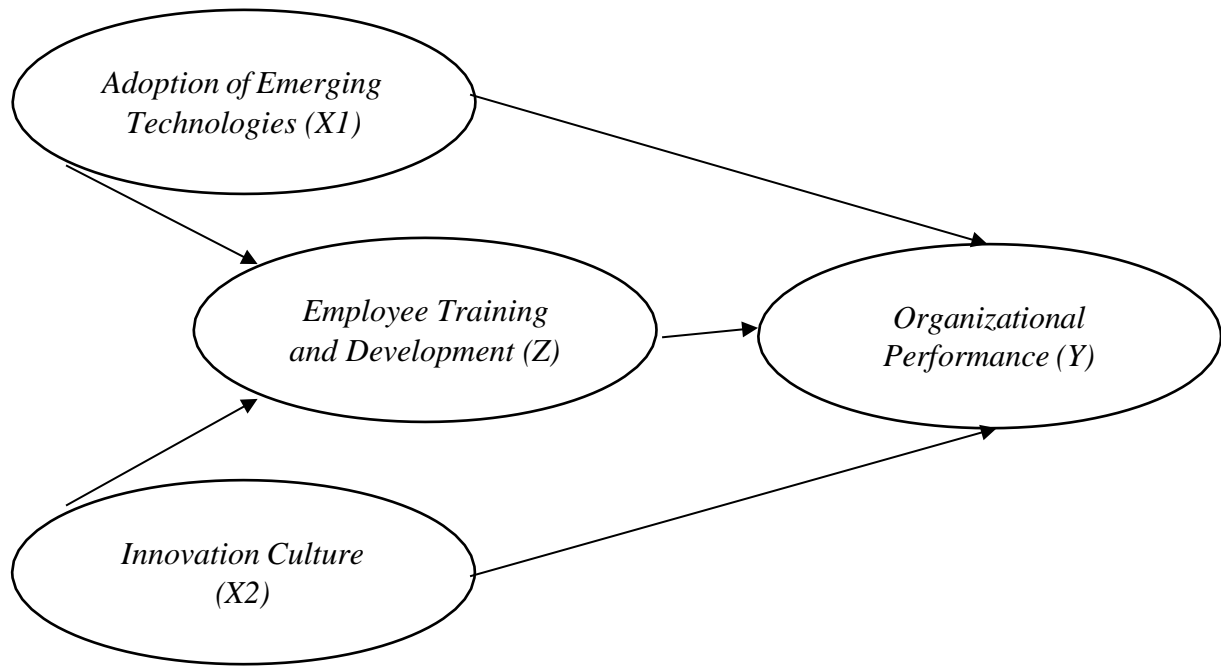
components of this process, ensuring that staff members not only become proficient in using new technologies but also possess the skills to apply them in ways that enhance productivity and operational efficiency. By investing in training, PT Bias Nusantara ensures its workforce remains adaptable and skilled, empowering employees to drive performance improvements across the board. The focus on these variables—emerging technologies, innovation culture, and employee development—not only boosts overall organizational performance but also prepares PT Bias Nusantara for sustainable, long-term success in a competitive market. This strategic approach positions the company to continuously innovate and evolve, ensuring its relevance in the future.

At PT Bias Nusantara, the integration of emerging technologies into existing operations presents significant challenges that impact overall organizational performance. While the company strives to cultivate an innovative culture, it faces obstacles such as resistance to change, insufficient employee training, and limited resources for technology adoption. These issues hinder the full realization of the potential benefits that new technologies can offer in terms of operational efficiency and performance improvement. The gap between the anticipated advantages of technology and their actual impact highlights the need for a more strategic approach. To overcome these challenges, PT Bias Nusantara must prioritize comprehensive training programs that equip employees with the necessary skills to adopt and effectively use new technologies. Additionally, fostering a culture of continuous learning and adaptation is essential to reducing resistance to change and encouraging employees to embrace innovation. Allocating resources effectively to support technology integration and creating an environment that supports experimentation and learning will be critical for ensuring the successful adoption of these advancements. Without addressing these barriers, PT Bias Nusantara risks falling short in leveraging technological innovations to their full potential, which could limit the company's ability to achieve sustained growth and remain competitive in a rapidly evolving market.

The research gap at PT Bias Nusantara emerges from the need to address several critical issues identified in recent studies. First, (Chima & Udoekanem, 2024) highlight the challenge of aligning emerging technologies with organizational strategies, suggesting that misalignment can hinder performance improvements. Second, (Mikalef, Islam, et al., 2023) emphasize the importance of cultivating an innovation culture to overcome resistance to change and drive successful technology adoption. Third, (Usman et al., 2024) stress the necessity of effective employee training programs to ensure that staff can fully utilize new technologies. These studies collectively point to a gap in understanding how these factors interact and impact organizational performance at PT Bias Nusantara, indicating a need for comprehensive research on integrating technology, fostering innovation, and enhancing employee capabilities.

The aim of this research is to investigate how the adoption of emerging technologies, coupled with a strong innovation culture and effective employee training, influences organizational performance at PT Bias Nusantara. Specifically, the study seeks to examine the interplay between these factors to identify how they collectively impact the company's ability to integrate new technologies and enhance operational efficiency. By exploring these dynamics, the research aims to provide actionable insights that can help PT Bias Nusantara overcome current challenges, optimize technology adoption strategies, and foster an environment conducive to continuous improvement and competitive advantage.

The following is the framework for this research:



**Figure 1.** Framework

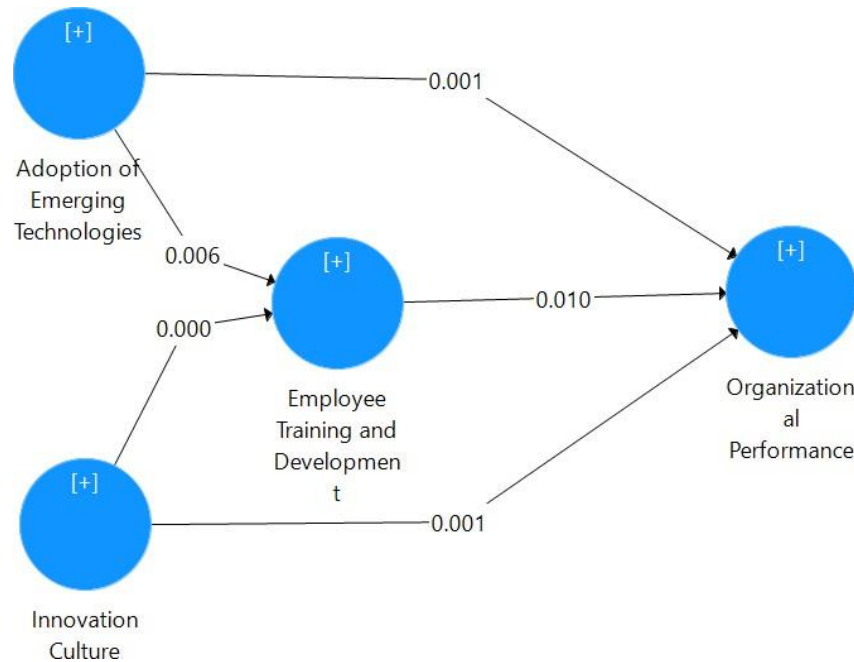
## Research Methods

The research methodology at PT Bias Nusatama utilizes a quantitative research design, employing random sampling to collect data from 60 employees. Random sampling is chosen to ensure that each employee has an equal probability of being selected, thereby improving the representativeness and reliability of the sample. This method enhances the accuracy of the findings by minimizing selection bias, allowing the results to reflect the perspectives of a broad cross-section of the organization. Data collection will be conducted through structured questionnaires aimed at assessing key variables such as the adoption of emerging technologies, innovation culture, and employee training. These variables are essential to understanding the factors that influence organizational performance and the effectiveness of technology integration within the company.

The collected data will be analyzed using Smart PLS (Partial Least Squares), a statistical tool designed to evaluate complex relationships between variables. This approach is particularly useful for testing the research hypotheses and understanding how different factors, such as innovation culture and employee training, interact to impact the successful adoption of new technologies. By applying Smart PLS, the study aims to provide a comprehensive analysis of how these variables collectively contribute to improving organizational performance at PT Bias Nusatama. The insights gained from this analysis will not only help the company identify areas for improvement but also guide strategic decisions on technology integration and workforce development, ultimately driving long-term success and competitiveness in the market.

## Result and Discussion

The validity and reliability tests conducted in this study have met the established standards, confirming that the measurement instruments are accurate and consistent. With these tests successfully completed, the research proceeds to the next phase, which involves hypothesis testing.



**Figure 2.** Hypothesis Testing

The following are the results of the hypothesis testing presented in table form:

**Table 1.** Indirect Effects

Path	Original Sample	P-Values	Decision
AET -> ETD	0,273	0.006	Significant
IC -> ETD	0,550	0.000	Significant
AET -> OP	0,297	0.001	Significant
IC -> OP	0,369	0.001	Significant
ETD -> OP	0,307	0.010	Significant

The path analysis results reveal significant insights into the relationships between the adoption of emerging technologies (AET), innovation culture (IC), employee training and development (ETD), and organizational performance (OP) at PT Bias Nusatama. The analysis for the relationship between AET and ETD shows a robust positive effect, with an original sample estimate of 0,273 and a p-value of 0.006. This result indicates that increased adoption of emerging technologies leads to notable improvements in employee training and development. The low p-value, significantly below the conventional threshold of 0.05, confirms the statistical significance of this relationship (Chatterjee et al., 2024). The significant impact underscores the importance of investing in new technologies, as it enhances training programs and development initiatives within the organization, thereby contributing to overall performance improvements (Kumari et al., 2023).

The analysis of the relationship between IC and ETD presents an original sample estimate of 0,550, with a p-value of 0.000. This finding suggests a significant positive effect, implying that a stronger culture of innovation is associated with better employee training and development outcomes (Yoshikuni et al., 2023). The p-value, below the 0.05 threshold, validates the statistical significance of this effect (Panjaitan et al., 2023). The result highlights that fostering an environment that promotes innovation significantly enhances the effectiveness of training programs, indicating that organizations should prioritize cultivating a supportive culture for creativity and new ideas to improve employee growth and skill acquisition (Fabian et al., 2023).

In examining the relationship between the AET and OP, the path analysis yields an original sample estimate of 0,297 and a p-value of 0.001. This significant positive effect suggests a strong association between increased adoption of new technologies and enhanced organizational performance (Shahadat et al., 2023). The exceptionally low p-value confirms the statistical significance of this relationship, emphasizing the critical role that integrating emerging technologies plays in improving overall effectiveness and performance outcomes (Garcia, 2023). Organizations that successfully implement new technologies can expect substantial improvements in their performance metrics, reinforcing the value of technology investments for achieving strategic goals (McElheran et al., 2024).

The path analysis for the relationship between IC and OP reveals an original sample estimate of 0,369, with a p-value of 0.001. This positive effect indicates that a robust culture of innovation correlates with improved organizational performance (Mikalef, Lemmer, et al., 2023). The p-value, below the 0.05 threshold, validates the statistical significance of this finding (Gad David et al., 2023). The result emphasizes the importance of nurturing a culture that supports and encourages innovation, as it positively impacts organizational effectiveness and success. By promoting creativity and new ideas, organizations can enhance their overall performance and adapt more effectively to market changes (Veerasamy et al., 2023). Lastly, the analysis of the relationship between ETD and OP shows an original sample estimate of 0,307 and a p-value of 0.010. This result indicates a significant positive effect, meaning that improvements in employee training and development are strongly associated with better organizational performance (Sarwar & Mustafa, 2023). The low p-value confirms that this effect is statistically significant and not likely due to random chance (Shin et al., 2023). This finding highlights the crucial role of investing in employee training and development to boost organizational effectiveness. Enhanced training and development initiatives contribute to a more skilled and capable workforce, which in turn drives improved performance and success across the organization (Mikalef, Lemmer, et al., 2023).

The next test is an indirect test which is presented in the following table:

**Table 2.** Indirect Effects

Path	Original Sample	P-Values	Decision
AET -> ETD -> OP	0,169	0.020	Significant
IC -> ETD -> OP	0,306	0.024	Significant

The path analysis results for the indirect effects of AET and IC through ETD on OP provide valuable insights into how these variables interact to influence overall performance at

PT Bias Nusantara. For the indirect effect of AET through ETD on OP, the analysis shows an original sample estimate of 0,169 with a p-value of 0.029. This significant indirect effect indicates that the positive impact of adopting new technologies on organizational performance is partially mediated by enhancements in employee training and development (Shahadat et al., 2023). The low p-value confirms the statistical significance of this effect, highlighting the critical role of not only integrating emerging technologies but also investing in comprehensive training programs to maximize the benefits. This mediation effect underscores that the advantages of technological advancements are significantly amplified when employees are adequately trained to utilize these technologies effectively, thereby improving organizational performance (Kumari et al., 2023).

Similarly, the analysis of the indirect effect of IC through ETD on OP reveals an original sample estimate of 0,306 with a p-value of 0.024. This result indicates a significant indirect effect, suggesting that a strong innovation culture positively influences organizational performance not only directly but also through its impact on employee training and development (Yoshikuni et al., 2023). The p-value, below the conventional threshold of 0.05, confirms the statistical significance of this mediation effect (Panjaitan et al., 2023). This finding highlights the dual role of an innovation-driven environment in enhancing organizational performance—both by fostering creativity and by improving training and development opportunities for employees. Nurturing an innovative culture thus contributes to organizational success by driving direct improvements in performance while also strengthening the effectiveness of training programs, which in turn further enhances performance outcomes (Fabian et al., 2023). This underscores the importance of creating a supportive culture for innovation to achieve comprehensive benefits in organizational effectiveness and long-term success.

## **Conclusion and Recommendation**

In conclusion, this research emphasizes the crucial roles that adopting emerging technologies, cultivating an innovation culture, and investing in employee training and development play in enhancing organizational performance at PT Bias Nusantara. The findings indicate that these factors significantly impact organizational success both directly and indirectly. The direct effects of adopting new technologies and fostering a culture of innovation are substantial, as these elements improve organizational performance by enhancing efficiency and driving innovation. However, the research also reveals the importance of indirect effects, where these variables influence organizational performance through their impact on employee training and development (Shahadat et al., 2023; Yoshikuni et al., 2023). The positive indirect effects demonstrate that improvements in training and development, driven by technological adoption and an innovative culture, contribute to better performance outcomes.

The study highlights that a strategic approach, which integrates emerging technologies, promotes an innovation-driven work environment, and invests in comprehensive employee training, is essential for achieving sustained organizational success. By understanding the interconnections between these factors, PT Bias Nusantara can implement targeted strategies that enhance both direct and indirect impacts on performance. The research provides actionable insights for improving organizational effectiveness and maintaining a competitive edge in the



market. Embracing new technologies, fostering an environment that supports innovation, and ensuring that employees are well-trained are critical steps for driving performance improvements and achieving long-term success (Kumari et al., 2023; Fabian et al., 2023).

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