Jurnal Teknologi Informasi dan Pendidikan P.ISSN: 2086 – 4981
Volume 18, No. 1, March 2025 E.ISSN: 2620 – 6390
https://doi.org/10.24036/jtip.v18i1.863 tip.ppj.unp.ac.id

The Impact of Digital Technology and 21st Century Skills on Employee Performance: A Systematic Literature review

Fanny Okta Yoma[1], Fadhli Ranuharja[2*]✉, Eka Fauzihardani[3], Rino[4]
[134]Faculty of Economic and Business, Universitas Negeri Padang, Padang, Indonesia
[2]Electrical Department Faculty of Engineering, Universitas Negeri Padang, Padang, Indonesia
Corresponding Author: fadhliranu@ft.unp.ac.id

Article Information

Article history:

No. 863
Rec. June 12, 2024
Rev. November 11, 2024
Acc. January 18, 2025
Pub. January 29, 2025
Page. 602 – 611

Keywords:

- *Digital Technology Adoption*
- *21st Century Skills*
- *Employee Performance Productivity*
- *Cloud Based Collaboration*
- *Digital World of Work*

ABSTRACT

In the midst of the rapid development of digital technology, understanding the impact of technology adoption and developing 21st century skills on employee performance is key to achieving organizational success. This systematic literature review analyzes the relationship between digital technology, 21st century skills, and improved employee performance by synthesizing 24 articles indexed in Scopus, Google Scholar, and Dimensions published between 2019 to 2024. The research results show that the adoption of digital technologies, such as devices cloud-based collaboration software, can increase employee productivity and effectiveness. Additionally, skills such as problem solving and digital communication contribute greatly to achieving organizational goals. However, several challenges, such as the digital divide and imbalances in skills development across various industrial sectors, were identified. These findings emphasize the need for more inclusive training and supportive policies to address these gaps to boost employee performance in the digital world of work. This article contributes to understanding of the use of 21st century technology and skills to improve employee performance and provides guidance for future research and policy.

How to Cite:

Yoma, F.O., et al. (2025). The Impact of Digital Technology and 21st Century Skills on Employee Performance: A Systematic Literature review. Jurnal Teknologi Informasi Dan Pendidikan, 18(1), 602-611.
https://doi.org/10.24036/jtip.v18i1.863

1. INTRODUCTION

In the midst of the rapid development of digital technology, its impact on employee performance has become one of the main topics in human resource management (HR) studies. Companies that successfully adopt digital technologies, such as project management software, cloud-based communications systems, artificial intelligence (AI), and data analytics, tend to experience significant increases in productivity. In fact, research shows that the productivity of companies that fully implement digital technology can increase by up to 25% [1]. This adoption also drives operational efficiency and helps make better decisions through deeper data analysis. However, although digital technology has been proven to improve performance, the main challenge companies face is how to integrate this technology with relevant 21st century skills to maximize employee potential.

21st century skills, such as critical thinking, creativity, collaboration and problem solving skills, are increasingly becoming a necessity for employees in the digital era [2]. In 2020, around 85% of companies in Asia Pacific rated these skills as key to surviving and thriving amidst rapid change [3]. Unfortunately, even though many companies in Indonesia have adopted digital technology, problems arise in terms of employee skill readiness to utilize this technology optimally. According to data from the Ministry of Communication and Information, more than 1 million workers in Indonesia have participated in digital training programs since 2019, but there are still many challenges faced in ensuring these skills can be applied in real work contexts. Therefore, developing digital and 21st century skills needs to be a priority, but this cannot be separated from various existing obstacles, both in terms of infrastructure, budget, and limitations in access to education and training.

In the Indonesian context, the adoption of digital technology has increased rapidly, with 73% of companies in Indonesia already utilizing digital technology in their daily operations [4]. However, even though this figure is quite significant, many companies still face difficulties in integrating digital technology with employee skills. A number of studies show that even though technology is widely used, not all employees can utilize this technology effectively. Many companies in Indonesia still experience a digital skills gap, especially among employees who are not yet accustomed to using more complex digital tools, such as artificial intelligence (AI) and data analytics. This creates a big challenge for companies to create a truly digital-ready environment, where technology and skills can go hand in hand to improve employee performance

Although a number of studies have examined the relationship between digital technology and employee performance, as well as the importance of 21st century skills, research that specifically examines how the two interact in the Indonesian context is still very limited. Most existing studies focus more on developed countries or countries with higher levels of digitalization. Therefore, this research aims to fill this gap by reviewing how digital technology and 21st century skills contribute to employee performance in Indonesia. This research will also analyze the challenges companies face in implementing digital technology, as well as strategies that can be implemented to overcome these obstacles. In addition, this research also focuses on identifying global and regional trends related to the application of digital technology and the development of 21st century skills, with special attention to Indonesia. Although there are several government and private sector initiatives to develop digital skills, such as digital training programs that have engaged more than 1 million workers, there is still room for improvement in terms of training quality and affordability. Therefore, this research will provide practical recommendations for companies and related stakeholders to accelerate the digitalization process while increasing employee competency so they are better prepared to face challenges in the digital era.

Most previous research has examined the relationship between digital technology and general organizational performance. However, very little research specifically examines the interaction between digital technology and 21st century skills in developing countries, such as Indonesia. Moreover, even though digital technology in Indonesia is increasingly developing, many companies still face obstacles in integrating this technology with improving employee skills. Therefore, there is a clear gap between the adoption of digital technology and employee skill readiness, which needs to be investigated in more depth. This research aims to fill this gap by analyzing how digital technology and 21st century skills can complement each other to improve employee performance in Indonesia. By focusing on developing countries like Indonesia, this research is expected to provide more applicable insight into how companies can overcome the challenges that exist in the digitalization process and develop employee skills.

2. RESEARCH METHOD

This research uses a systematic literature review approach to analyze the impact of digital technology and 21st century skills on employee performance. The literature search process was carried out through systematic and transparent steps to ensure relevant and valid results. The following is a detailed explanation of the research method steps carried out.

Identify Research Themes

The main theme of this research is the impact of digital technology and 21st century skills on employee performance. The focus is on how digital technology and modern skills influence employee effectiveness and productivity in various industrial sectors, with an emphasis on the Indonesian context. This theme was identified based on rapid developments in technology and the increasingly urgent need for 21st century skills to maximize employee potential in an increasingly technology-based world of work.

Conceptual Framework Development

The conceptual framework developed for this research identifies three main variables to be analyzed:
Digital Technology: Refers to the use of software, artificial intelligence (AI), cloud computing and other digital tools in company operations.
21st Century Skills: Includes skills such as critical thinking, creativity, problem solving and collaboration relevant to the digital world of work.
Employee Performance: Measuring employee effectiveness, productivity and efficiency in facing the challenges of the digital era. This framework helps researchers guide literature searches and ensure the relevance of selected articles to the research topic.

Database Identification

Literature searches were conducted through several leading academic databases, including: Mendeley Research, Scopus, Dimension "A search was conducted using relevant keywords, such as digital technology, 21st century skills, employee performance, and other appropriate variations to find articles that can support the objectives of this research.

Inclusion and Exclusion Criteria

The article selection process was carried out based on predetermined inclusion and exclusion criteria. Inclusion and exclusion criteria aim to ensure that the selected articles are relevant, up to date, and can contribute to the research objectives. Inclusion Criteria: Articles discussing the impact

P.ISSN: 2086 – 4981
E.ISSN: 2620 – 6390
tip.ppj.unp.ac.id

of digital technology and 21st century skills on employee performance. Articles published in the time frame 2019-2024 to ensure the most up-to-date and relevant information.

Articles published in English and available in full paper format.

Articles indexed in Scopus or Dimension Research to guarantee the quality and credibility of the source. Articles that are not directly related to the impact of digital technology and 21st century skills on employee performance. For example, articles that focus more on the technical aspects of technology or studies that are not related to individual or organizational performance. Articles published before 2019 do not reflect the latest developments in digital technology and 21st century skills. Articles that are in languages other than English or cannot be accessed in full paper. Articles that are not indexed in Scopus or Dimension Research, which are deemed not to meet the required academic standards.

Reasons for Exclusion of Certain Articles: Articles that were irrelevant or did not meet the inclusion criteria were excluded to ensure focus on literature that could truly provide insight into the interactions between digital technology, 21st century skills, and employee performance. For example, articles that only discuss the technical aspects of technology use without involving an analysis of its impact on employees or the organization will be excluded. Likewise, articles that are not indexed in credible academic databases will be excluded to maintain research integrity and quality.
Articles that meet the inclusion criteria will be selected and analyzed further.

This process is carried out in several stages: Initial Search: Using the keywords mentioned, a search is carried out to find relevant articles. Selection Based on Title and Abstract: Articles that appear relevant will be screened based on title and abstract to ensure suitability to the research theme. Screening Based on Inclusion and Exclusion Criteria: Articles that pass the initial selection will be further evaluated based on inclusion and exclusion criteria to ensure quality and relevance. In-Depth Analysis: Selected articles are then analyzed in-depth to identify key findings relating to the impact of digital technology and 21st century skills on employee performance.

Literature Analysis

Selected articles will be analyzed by synthesizing and comparing findings from various sources. This analysis aims to identify consistent patterns or trends regarding the impact of digital technology and 21st century skills on employee performance. This process will include: Identify main themes and relevant research results, Comparing findings from various literature to draw broader conclusions, Drawing conclusions about practical implications and future research directions.

Report Preparation

Once the analysis is complete, the main results of the literature review will be collected in a systematic and structured report. This report will cover: An overview of the relationship between digital technology, 21st century skills and employee performance, Identify the challenges faced by organizations in integrating digital technologies and developing 21st century skills in the workplace, Practical recommendations for companies and stakeholders in facing change and improving employee performance in the digital era.

Selection Process Flow Diagram. This flow diagram will provide a clearer picture of the article selection process used in this research. Database Search → Mendeley, Google Scholar, Scopus, etc. Selection Based on Title and Abstract → Relevant articles are selected. Screening Based on Inclusion and Exclusion Criteria → Articles that meet the inclusion and exclusion criteria are

Jurnal Teknologi Informasi dan Pendidikan
Volume 18, No. 1, March 2025
https://doi.org/10.24036/jtip.v18i1.863

continued. Analysis of Selected Articles → Filtering based on relevant findings and conclusions. Synthesis and Report Preparation → The report is prepared based on the main findings

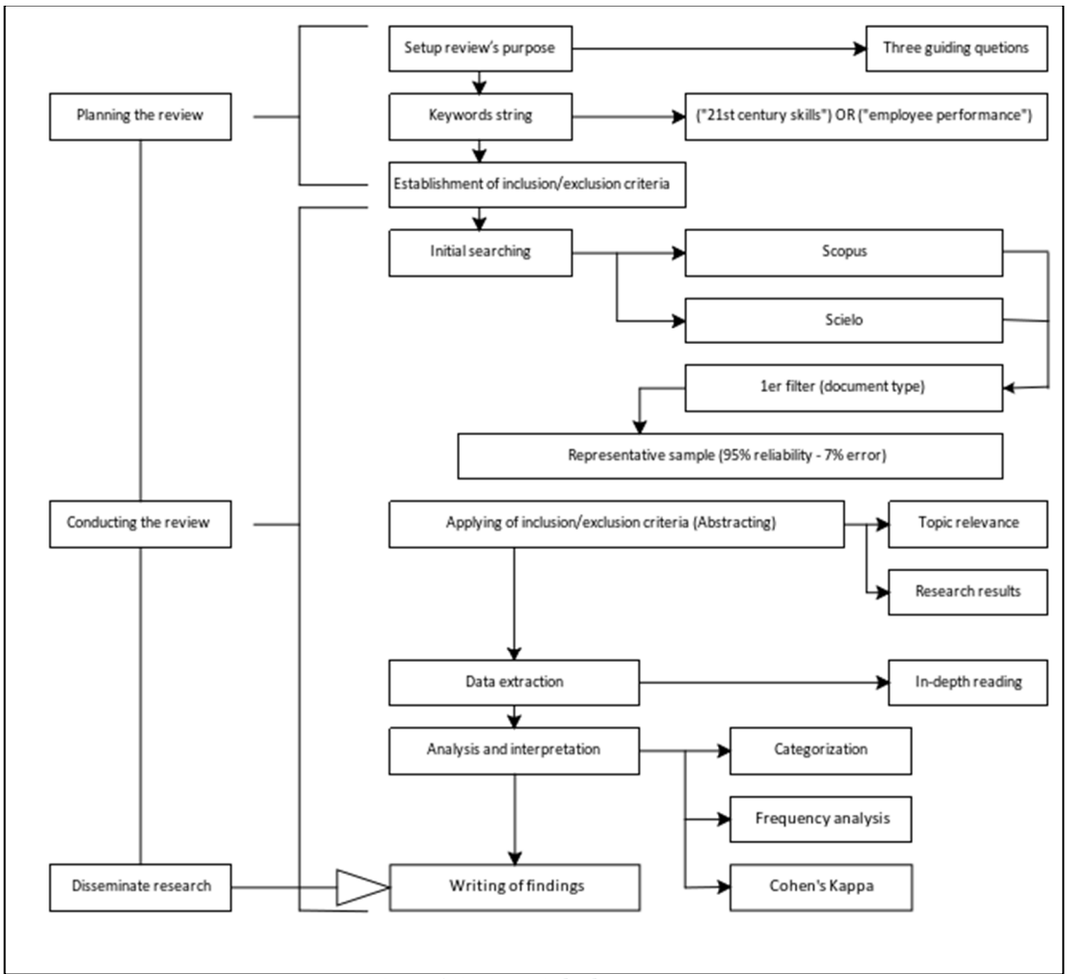

Figure 1 Review Method
Source: Author's Analysis

P.ISSN: 2086 – 4981
E.ISSN: 2620 – 6390
tip.ppj.unp.ac.id

3. RESULTS AND DISCUSSION

3.1. RESULT

Based on the literature review conducted, the main findings regarding the impact of digital technology and 21st century skills on employee performance are organized under three main subheadings: Digital Technology Adoption, 21st Century Skills, and Integration Challenges.

Digital Technology Adoption

The adoption of digital technology in various industrial sectors has been proven to have a significant impact on improving employee performance. Recent studies reveal that the implementation of digital technology, such as artificial intelligence (AI), big data, and collaborative tools, increases employee productivity and efficiency. For example, companies that apply technologies such as AI in project management and data analysis experience increased operational efficiency and faster decision making. In Indonesia, the SME (Small and Medium Enterprises) sector shows a significant increase in the creation of social and economic value after adopting digital technology, with a strong entrepreneurial orientation as a moderator that strengthens this impact [5]. In the technology sector, the implementation of teleworking during the pandemic, supported by digital technology, helped companies continue to operate well even under conditions of restrictions. Research also shows that organizations that successfully integrate digital technologies such as cloud-based systems, the Internet of Things (IoT), and project management software, succeed in increasing organizational ambidexterity (the ability to adapt and explore new opportunities), which in turn improves employee performance [6].

21st Century Skills

21st century skills, such as critical thinking, collaboration, creativity, and problem solving, have been proven to be key factors in improving employee performance in the digital era. Research shows that these skills not only support adaptation to new technologies, but also accelerate learning and application of innovations in everyday work. For example, communication and collaboration skills are essential for increasingly popular remote working, while problem-solving skills are highly needed in data-driven decision making [7]. Furthermore, these skills are strongly linked to increased productivity in the technology and higher education sectors. Training programs focused on 21st century skills have increased employee capacity in managing digital tools and adapting to rapidly changing market dynamics. Research also highlights the importance of digital skills training to deal with rapid digital transformation in various industrial sectors, including health, manufacturing, and education [8]. These skills are also a differentiating factor that allows individuals to remain competitive in an increasingly competitive labor market.

Integration Challenges

Although the adoption of digital technologies and the development of 21st century skills offer many opportunities, organizations face challenges in integrating the two. One of the main challenges is the skills gap that exists in many industry sectors. Many employees do not yet have sufficient digital skills to exploit the full potential of new technologies, while companies often struggle to provide sufficient training. In Indonesia, although there have been initiatives from the government and the private sector to provide digital training, challenges in terms of accessibility and quality of training are still the main obstacles [9]. Apart from that, companies are also faced with challenges in change management. The organizational culture changes required to accommodate digital technologies and 21st century skills are often not easy to achieve. Organizations that fail to manage this change can

experience internal resistance, which hinders technology adoption and skills development among employees. Recent research shows that employee involvement in decision making regarding technology implementation and skills development can increase the success of this integration [10]. Another challenge is the gap between theory and practice. Several studies show that despite theoretical understanding of the importance of 21st century skills, practical implementation in the field often falls short of expectations. This is caused by managers' lack of practical understanding of how these skills can be measured and developed effectively in the workplace [11].

Conclusions and Practical Implications

Based on these findings, it is clear that integration between digital technology and 21st century skills is a key factor in improving employee performance. However, the main challenges organizations face are skills gaps and resistance to change. Therefore, companies need to strengthen digital skills training efforts, facilitate adaptation to change, and ensure that employees are involved in this change process to achieve optimal results. Practical implications of this research are that companies must develop training programs that focus on 21st century skills and digital technology, ensure there is adequate support for employees in accessing this training, and create an organizational culture that is open to technological change [12]. Organizations also need to ensure that there are policies that support the implementation of new technology with a focus on sustainable employee competency development [13].

3.2. DISCUSSION

Correlation Between Digital Technology Adoption and Employee Performance

The findings from this literature review show that digital technology adoption has a significant positive correlation with increasing employee performance in various industrial sectors. Research conducted by [6] and [14] confirms that the use of digital tools, such as cloud-based collaboration platforms, digital project management systems, and artificial intelligence (AI) , substantially increasing employee productivity and efficiency. Reducing the time required for manual processes and increasing the ability to collaborate in virtual work environments are two of the main benefits of digital technology identified in these studies. However, it is important to question the extent to which the adoption of these technologies leads to sustainable success in the long term. One relevant approach in this regard is the Digital Transformation Framework which emphasizes deep integration between technology and organizational culture to produce maximum positive impact. According to this framework, the success of digital transformation depends not only on the technology itself, but also on changes in organizational structures and ways of working. This is in line with the findings in this review, which show that digital technology adoption is more effective when supported by an adaptive work culture and relevant skills [1][2].

21st Century Skills and Their Impact on Employee Performance

One of the important findings from this research is the recognition that 21st century skills, such as critical thinking, collaboration, problem solving, and digital literacy, play a vital role in improving employee performance. These skills serve as a catalyst in exploiting the full potential of digital technology. [6] state that the ability to think critically and collaborate with colleagues in a digital context determines how employees can optimize the use of technology in their daily work. On the other hand, [15] emphasize that although 21st century skills are highly valued, there are still large gaps in terms of the development of these skills in many organizations, especially in developing

P.ISSN: 2086 – 4981
E.ISSN: 2620 – 6390
tip.ppj.unp.ac.id

countries. This reflects the need to strengthen skills-based training in the workplace so that employees can be better prepared to face the changes and challenges presented by the digital revolution. The 21st century skills model provides additional insight into understanding the skills needed in the digital era. This model emphasizes that in addition to technical skills, social and emotional skills are also critical for creating effective collaboration and solving problems in an ever-evolving work environment [16].

Challenges in the Integration of Digital Technology and 21st Century Skills

In addition to the benefits offered by digital technology and 21st century skills, this research also identifies a number of challenges that organizations face in integrating these two aspects in the workplace. [17] noted that the main problem faced by many companies is the digital divide, especially in terms of technology accessibility and unequal skills training in various sectors or regions. This leads to a productivity gap between companies that can access the latest technology and those that have not been able to digitally transform. [18] research further highlights challenges in terms of resistance to change, Many employees and managers feel anxious or uncomfortable with the changes brought about by the adoption of new technology. Changing organizational culture and ways of working too quickly often triggers discomfort and anxiety among employees, which can ultimately hinder effective technology implementation and skills development.

The Change Management Framework can be used to explain how organizations can address these challenges [19]. The eight-step process in the framework, such as creating a sense of urgency and building a team of transformation leaders, can help companies reduce resistance to change and accelerate the process of technology adoption and skills development [20].

Regional Adoption Differences

One interesting aspect that emerges from these findings is the differences in digital technology adoption rates across regions, which are often influenced by factors such as digital infrastructure, workforce readiness, and government policy [21]. found that developed countries such as Japan and South Korea have higher technology adoption rates, which reflects the readiness of their digital infrastructure as well as policies that support technology adoption. Meanwhile, developing countries like Indonesia face major challenges in terms of technology accessibility and the digital skills gap [22]. This is in line with the findings in this review which show that in Indonesia, despite increasing adoption of digital technology, regional differences in digital infrastructure and access to skills training are significant barriers to achieving optimal employee performance development [23]. According to the Digital Readiness Model developed , the level of technological readiness and skills in a region or country contributes greatly to the speed and effectiveness of digital technology adoption in organizations [24].

Conceptual Framework Based on Findings

Based on these findings, the following conceptual framework can describe the interactions between digital technology, 21st century skills, and employee performance:

Digital Technology Adoption → Improve Employee Performance through increasing productivity and operational efficiency. 21st Century Skills → Support Digital Technology Adoption by increasing individuals' ability to adapt and use technology effectively. Integration Challenges → Influence the successful implementation of technology and development of 21st century skills in organizations.

Conclusions and Practical Implications

Overall, the findings of this review indicate that integration between digital technology and 21st century skills is critical in improving employee performance. Organizations must pay more attention to developing skills relevant to developments in digital technology, as well as facing integration challenges more strategically, both in terms of continuous learning and change management. By adopting a more integrated and holistic approach, organizations can maximize the potential of their workforce and prepare them to face future challenges in the digital era.

4. CONCLUSION

The conclusion of this article shows that the adoption of digital technology and mastery of 21st century skills has a significant positive impact on employee performance, increasing productivity and efficiency in various industrial sectors. Skills such as digital literacy, critical thinking, collaboration, and problem solving are proven to play a major role in supporting optimal performance in the workplace. Therefore, organizations must focus on the integration of digital technologies as well as the development of these skills through well-designed and structured training programs. While there are challenges such as resistance to change and the digital divide, the right strategies can help overcome these obstacles. This article makes an important contribution to the academic literature and business practice, but also emphasizes the need for further research to delve deeper into the relationship between digital technology and 21st century skills, and its impact on employee performance in the long term. Practical recommendations for organizations include strengthening 21st century skills training programs and sustainable digital technologies. Additionally, longitudinal studies on the long-term impact of upskilling programs will provide deeper insight into best practices that can be implemented to maximize employee potential in the digital era. Further research in this area would be beneficial to help organizations design more effective and sustainable strategies in the face of technological developments and changing skills needs in the future.

REFERENCES

[1] McKinsey & Company, "Technology Trends Outlook 2023," *McKinsey Digit.*, no. July, p. 5, 2023.
[2] "APJII Jumlah Pengguna Internet Indonesia Tembus 221 Juta Orang," Asosiasi Penyelenggara Jasa Internet Indonesia. Accessed: Jun. 05, 2024. [Online]. Available: https://apjii.or.id/berita/d/apjii-jumlah-pengguna-internet-indonesia-tembus-221-juta-orang
[3] Kim, S., & Lee, J. "Digital Adoption and Employee Performance: The Case of South Korea's Tech Industry". *Journal of Business and Technology, 9(1), 36-50.* 2023
[4] Manurung, E., & Wijaya, A. Digital Transformation in Indonesia: Barriers and Opportunities for Business Leaders. Indonesian *Journal of Business and Economics, 14(2), 70-85.* 2023.
[5] Z. Chen, "Artificial Intelligence - Virtual Trainer : Innovative Didactics Aimed at Personalized Training Needs," *J. Knowl. Econ.*, no. 29, pp. 2007–2025, 2025, doi: 10.1007/s13132-022-00985-0.
[6] Lee, H., & Jang, H. "Digital Skills Development for the Next Generation Workforce: A Look at Training Programs in Asia". *International Journal of Digital Education, 13(4), 159-173.* 2024.
[7] Wu, L., & Zhang, X. Collaboration and Problem-Solving in the Digital Era: The Role of 21st Century Skills in Enhancing Employee Performance. *Asia Pacific Journal of Human Resource Development, 12(4), 205-218.* 2024.

P.ISSN: 2086 – 4981
E.ISSN: 2620 – 6390
tip.ppj.unp.ac.id

[8] J. Polednov and I. Moln, "Heliyon Soft skills and their importance in the labour market under the ´ kov a athov a Luk a s Copu ˇ," vol. 9, no. July, 2023, doi: 10.1016/j.heliyon.2023.e18670.
[9] R. A. Garini and M. Muafi, "The effect of digital competence, work life balance and work stress towards service performance with moderation of emotional intelligence on employees of PT.X," *Int. J. Bus. Ecosyst. Strateg.*, vol. 5, no. 2, pp. 01–11, 2023, doi: 10.36096/ijbes.v5i2.403.
[10] H. Patria, M. A. Fatchul Alam, A. Mulyadi, and A. Setyarko, "The Influences of Digital Technology, Digital Literacy, and Digital Marketing On The Performance of SMEs in Bekasi," *Cakrawala Repos. IMWI*, vol. 6, no. 1, pp. 401–419, 2023, doi: 10.52851/cakrawala.v6i1.235.
[11] D. D. Bhatta, M. Sarfraz, L. Ivascu, and M. Pislaru, "The Nexus of Corporate Affinity for Technology and Firm Sustainable Performance in the Era of Digitalization: A Mediated Model," *Sustain.*, vol. 15, no. 12, 2023, doi: 10.3390/su15129765.
[12] T. A. Fahmi, J. H. Tjakraatmadja, and H. Ginting, "An Empirical Study of Emerging Digital Culture and Digital Attitudes in an Established Company," vol. 16, no. 2, pp. 342–362, 2023.
[13] Bianchi, R., & Suh, K. "The Role of 21st Century Skills in the Digital Workforce: A Comparative Study between Japan and Indonesia". *Asian Journal of Human Resource Management, 22(3), 101-118.* 2024.
[14] Pradipta, A., & Setiawan, S. Bridging the Skills Gap in Indonesia's Digital Economy: Insights from Workforce Training Programs. *Journal of Economic Development Studies, 21(3), 220-235.* 2024.
[15] Siregar, M., & Hidayati, F. Challenges in Implementing Digital Technologies in Indonesian Companies: A Case Study Approach. *Journal of Technology and Management, 18(2), 47-62*. 2023.
[16] F. Faisal, S. Ibraheem, and S. Al-hawary, "International Journal of Data and Network Science," vol. 7, pp. 911–920, 2023, doi: 10.5267/j.ijdns.2022.12.020.
[17] N. Ameen, S. Papagiannidis, A. R. S. Hosany, and E. Gentina, "It ' s part of the ' new normal ' : Does a global pandemic change employees ' perception of teleworking ?," vol. 164, no. April, 2023, doi: 10.1016/j.jbusres.2023.113956.
[18] C. Caraiani, C. I. Lungu, C. Dascalu, and C. Dascalu, "The impact of telework on organisational performance , behaviour , and culture : evidence from business services industry based on employees ' perceptions," *Econ. Res. Istraživanja*, vol. 36, no. 2, p., 2023, doi: 10.1080/1331677X.2022.2142815.
[19] A. Tziner and M. Persoff, "The interplay between ethics , justice , corporate social responsibility , and performance management sustainability," no. February, pp. 1–13, 2024, doi: 10.3389/fpsyg.2024.1323910.
[20] O. Ybarra, "The skills that help employees adapt : Empirical validation of a four-category framework," pp. 1–23, 2023, doi: 10.1371/journal.pone.0282074.
[21] Anderson, C., & Cheng, M. Impact of Artificial Intelligence on Workforce Productivity and Employee Efficiency: A Global Perspective. *Journal of Digital Transformation, 17(2), 45-62.* 2023
[22] G. Wang, Y. Niu, Z. Dato, Y. Choy, and Z. Yan, "Heliyon Unlocking digital potential : Exploring the drivers of employee dynamic capability on employee digital performance in Chinese SMEs-moderation effect of competitive climate," *Heliyon*, vol. 10, no. 4, p. e25583, 2024, doi: 10.1016/j.heliyon.2024.e25583.
[23] C. Chen, "Influence of Employees ' Intention to Adopt AI Applications and Big Data Analytical Capability on Operational Performance in the High - Tech Firms," *J. Knowl. Econ.*, no. 151, 2023, doi: 10.1007/s13132-023-01293-x.
[24] Turing, A., & Howard, D. Skills Development for Digital Transformation in Emerging Economies. *Global Business Review, 25(1), 54-69*. 2023