



Mapping the Future Skills: A Training Needs Analysis of Education Support Staff in a Vocational Faculty

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ABSTRACT

Educational staff, commonly referred to as administrative human resources, play a critical role as strategic assets in supporting the success of higher education institutions, including at the Vocational Faculty of Surabaya State University (UNESA). Institutional performance and service quality are closely linked to the competence and performance of these educational staff. Therefore, systematic training and development efforts are essential to enhance their competencies in line with the dynamic needs of the institution. One effective approach to designing relevant and impactful training programs is through Training Needs Assessment (TNA), which serves as a critical initial step in the training design process. TNA helps to identify gaps between existing competencies and future institutional demands, ensuring that training programs are targeted, responsive, and aligned with both institutional strategic objectives and individual performance improvement. This study aims to design a comprehensive training and development model for educational staff at the Vocational Faculty of Surabaya State University, based on a structured TNA process. The TNA will adopt both macro and micro approaches, mapping institutional-level needs as well as job-specific and individual performance gaps. The expected output is the development of an up-to-date, data-driven training and development model that can serve as a strategic reference for preparing faculty development plans and academic texts in the future, ensuring the sustainable improvement of educational staff competencies and institutional performance.

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1. INTRODUCTION

The Vocational Faculty of Surabaya State University (Unesa) currently manages 17 study programs, consisting of 7 Diploma Three (D3) programs and 10 Applied Bachelor (D4) programs. The Applied Bachelor programs were first introduced in the 2021-2022 academic year, when Unesa still held the status of a Public Service Agency (PTN BLU). Following the issuance of Government Regulation of the Republic of Indonesia Number 37 of 2022 on October 20, 2022, Unesa officially became a Legal Entity State University (PTNBH). As part of this transformation, the Vocational Program was elevated to become the Vocational Faculty. This institutional shift was further formalized through Rector's Decree Number 246/UN38/HK/KP/2023 concerning the appointment of the Dean of the Vocational Faculty for the 2023-2027 period.

These organizational changes have had a significant impact on institutional performance, particularly at the Vocational Faculty, where operational systems and human resource management are still undergoing adjustments [1]. One crucial aspect requiring attention is the competency development of educational staff, whose role is essential in ensuring the smooth administration and operational processes supporting academic activities [2][3]. In this context, training and development programs are seen as effective instruments to enhance the skills, performance, and adaptability of educational staff, ultimately contributing to improved institutional performance [4].

Training Needs Assessment (TNA) plays a critical role as an initial step in the design and implementation of effective training programs [5]. TNA is a systematic process that helps organizations identify existing performance gaps, future competency requirements, and training priorities [6][7]. By conducting a

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comprehensive needs analysis, institutions can design training programs that are targeted, relevant, and aligned with both individual performance improvement and organizational strategic goals [8]. According to Rosset and Arwady, TNA helps diagnose performance problems, particularly those linked to technological changes, new processes, or evolving job demands [9].

In practice, TNA can be carried out using two main approaches, namely:

1. Macro-Level TNA

This approach focuses on the overall organizational needs [10]. It is often referred to as Organization-Based Analysis, where the identified training to all employees within the institution [8]. Data sources for macro-level TNA typically include:

- Vision, mission, and strategic objectives of the institution.
- Current economic and financial conditions.
- Organizational culture shifts.
- Technological advancements.
- Specific institutional themes, such as cost reduction or quality improvement initiatives.

2. Micro-Level TNA

This approach focuses on specific groups or individuals, with two subcategories:

- Task-Based Analysis: Focused on the skills required to perform certain jobs and whether employees already possess these skills.
- Person-Based Analysis: Focused on whether individual employees are capable of meeting job performance standards.

Data sources for micro-level TNA include:

- Job descriptions
- Performance standards
- Performance evaluations
- Workplace observations
- Interviews, questionnaires, and checklists

However, despite its importance, the implementation of a structured and comprehensive TNA process at the Vocational Faculty of Surabaya State University has not been optimal. Changes in institutional status, structural adjustments following the transition to PTNBH, and the evolving demands placed on educational staff (*tendik*) have not been fully mapped into a systematic training needs assessment framework.

As a result, training programs are often conducted without a clear analysis of actual needs, leading to misaligned content, inefficient resource allocation, and limited impact on institutional performance [11]. Additionally, the absence of a standardized approach in implementing both macro and micro-level TNA makes it difficult to ensure that training initiatives align with institutional objectives and employee competency development [12].

This gap between the ideal implementation of TNA and the current practice highlights the urgent need to develop a more structured, data-driven, and participatory TNA mechanism that involves all relevant stakeholders, ensuring that training and development programs at the Vocational Faculty truly address organizational goals, employee performance gaps, and future institutional challenges [13].

2. MATERIALS AND METHOD

This research uses a descriptive quantitative approach with the aim of mapping the training needs of education support staff (*tendik*) at the Vocational Faculty of Universitas Negeri Surabaya. This approach was chosen to obtain a measurable overview of actual competencies, skill gaps, and training needs based on perceptions and situational analysis.

2.1. Subjects and Research Location

The subjects in this study are education support staff (*tendik*) in the Vocational Faculty, including academic administration staff, finance staff, general services staff, and laboratory technicians. The subjects were selected purposively by considering their active involvement in the operational processes of vocational education.

2.2. Data Collection Technique

Data were collected through the distribution of a closed-ended questionnaire designed based on the Training Needs Analysis (TNA) framework [14]. This instrument includes three main domains, namely:

- Organizational level: measures the extent to which institutional policies and vision are reflected in the training needs of the staff.
- Task level: analyzes the main tasks performed by the staff and the skills required.
- Individual level: identifies personal perceptions and readiness to participate in training.

The questionnaire was constructed using a five-point Likert scale and was complemented with openended questions to gather qualitative input.

2.3. Data Analysis Technique

The collected data were analyzed quantitatively using descriptive statistics, such as mean, percentage, and standard deviation [15]. This analysis was used to identify areas of competence with low scores as indicators of training gaps [16]. In addition, qualitative data were analyzed thematically to reinforce the interpretation of the results.

2.4. Instrument Validity and Reliability

Content validity was assessed through expert judgment from two experts in human resource development in higher education. Instrument reliability was tested using internal consistency (Cronbach's Alpha) with a threshold value of ≥ 0.7 [17].

3. RESULTS AND DISCUSSION

Human resource development is an important factor in determining the success and sustainability of an organization [18]. By investing time, effort, and resources in human resource development, organizations will create a team that is competent, adaptive, and motivated [19]. Human resources have a central role in increasing the efficiency and competitiveness of an organization [20]. Human resources also have an important role in recruiting and retaining the best talent [21]. By using the right selection process, human resources can identify high potential employees who will make maximum [22] contributions to the organization. The importance of human resource development is to improve employee skills, such as training in the use of the latest technology or improving leadership skills which can be done through training [23].

In this research, we discuss the Training Need Assessment required by educational staff at the Faculty of Surabaya State University to identify factors that help them in developing soft skills and hard skills. Through TNA, this research aims to understand specific needs in terms of training and skills development that can increase the work effectiveness of educational staff. The factors identified include aspects such as communication, time management, technical abilities, and other competencies relevant to their duties and responsibilities in the educational environment [24].

Based on the results of the research obtained by researchers, it shows that the educational staff at the Vocational Faculty of Surabaya State University is dominated by Civil Servants and the rest are permanent and honorary employees, indicating that job responsibilities and skills in technical skills show the most important needs, technical skills are a method for developing human resources to optimize employee performance in improving skills in accordance with the demands of their respective jobs. This confirms that the development of technical skills is a top priority in training and development programs for education personnel, to ensure that they have the capabilities needed to carry out their duties efficiently and effectively, and can adapt to technological developments and continuously changing operational needs [25].

Figure 1 shows that the skills most needed by employees are team work skills, namely 14 of 24 employees. Furthermore, in second place, there were 8 of 24 employees who stated that technical skills related to work implementation were the second skill needed by employees. Apart from technical abilities, communication and leadership skills also play an important role in supporting the work of educational staff at the Vocational Faculty of Surabaya State University [24]. This is because these two factors are key in building effective relationships [26]. Developing communication and leadership skills must also be the focus of training programs to improve the performance and effectiveness of education staff at the Vocational Faculty of Surabaya State University [27]. These factors not only support operational efficiency but also contribute to a positive and productive work atmosphere, where each individual feels valued and empowered to make their best contribution [28].

The specific abilities most needed to assist the completion of educational staff at the Vocational Faculty of Surabaya State University are teamwork and communication [21]. This means that the relationship between teamwork and communication can reduce conflict between employees. Employees will be more effective in communicating and working together with teams as a basis for good collaboration and a clear understanding of roles and expectations at work [29]. With strong communication skills, education staff can convey ideas, provide feedback, and resolve conflicts more effectively, all of which contribute to a harmonious and productive work environment. In addition, leadership skills help in directing a team towards achieving common goals, providing clear direction, and motivating team members to reach their best potential [30]. This not only improves operational efficiency, but also encourages innovation and individual growth within the organization [31].

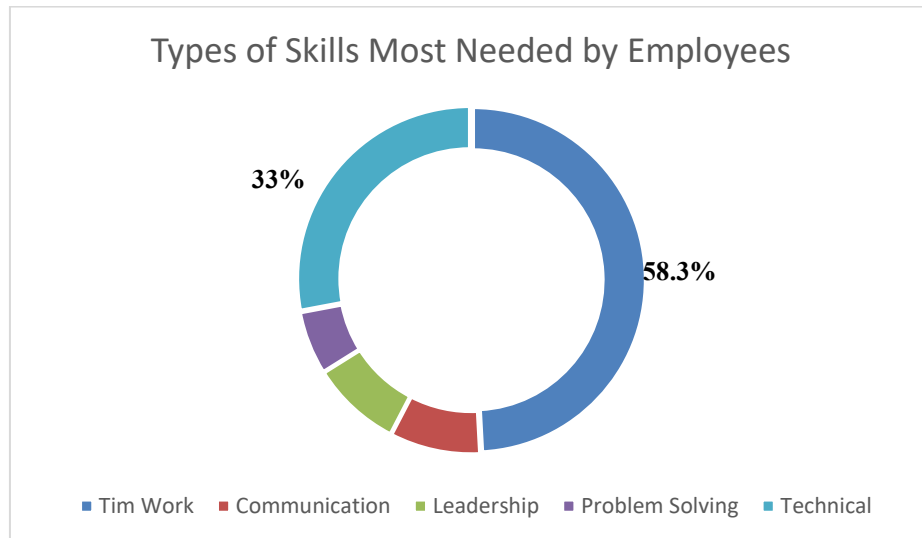


Figure 1. Types of Skills Most Needed by Employees

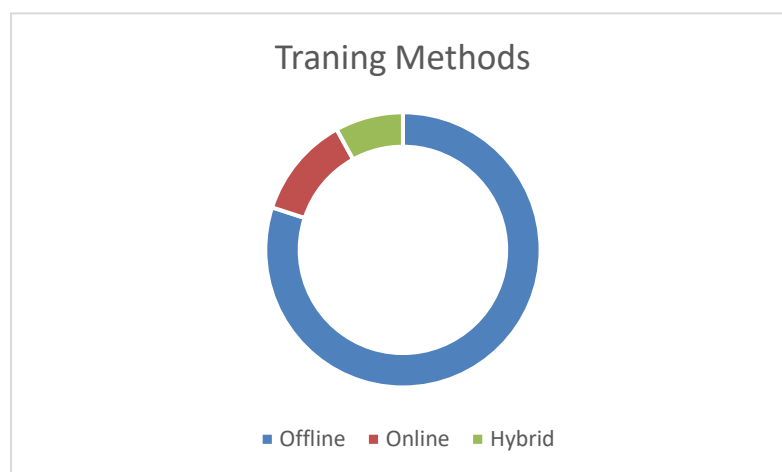


Figure 2. Training Methods

Figure 2 shows that the majority of employees, namely 20 out of 24 employees, want face-to-face training. Although existing data also shows that there are still employees who want online or hybrid training.) The most effective learning is face-to-face learning. The face-to-face method is still the best way for learning activities. The main advantage is the strong interaction between trainers and students which can provide an ideal environment for learning [23]. The downside is that not every individual has the same learning style and speed and needs [32]. Therefore, through the forms of training required for educational staff at the Vocational Faculty of Sura- baya State University, according to them, the most efficient one is face-to-face learning.

This is due to the method's ability to adapt to various individual needs directly, as well as providing the opportunity to address questions and obstacles in real-time. Additionally, face-to-face training allows trainers to provide immediate feedback, which is important for correcting errors and strengthening participants' understanding. Thus, face- to-face training is an option that is highly appreciated by educational staff at the Vocational Faculty of Surabaya State University in their efforts to improve the skills and competencies required in their work.

In general, the task of educational staff is to support and facilitate the educational process in the academic environment. They are responsible for various administrative and operational aspects that ensure the smooth running of teaching and learning activities [33]. These duties include managing academic administration, and managing educational facilities and resources, including laboratory equipment, classrooms, and libraries. They also play a role in student services, helping with information and guidance regarding study programs, as well as handling various requests and complaints. By carrying out these tasks, educational staff ensure that the educational environment runs efficiently and effectively, so that lecturers and students can focus on teaching and learning activities optimally [34].

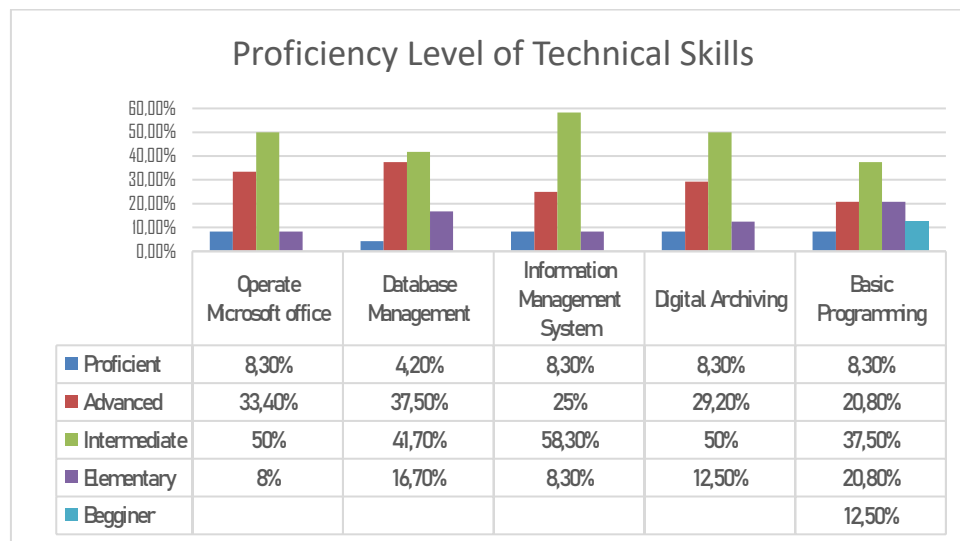


Figure 3. Proficiency Level of Technical Skills

Figure 3 shows the employee's ability to master each technical skill, including Operating Microsoft Office, Database Management, Information Management System, Digital Archiving, and Basic Programming [34]. Where mastery of these skills can be explained at each level of proficiency starting from beginner to proficient. So, based on the results seen in Figure 3, it shows that the majority of skills needed by education staff at the Vocational Faculty of Surabaya State University are skills in mastering Microsoft Office, database management and information management systems, which is useful training to support their administrative tasks. These skills are considered essential as they help in managing data and information efficiently, which is an important part of their job.

Mastery of Microsoft Office makes it easy to create reports, data analysis, and formal communications, while skills in managing databases and information management systems help ensure that student data, schedules, and other important documents are well organized and easy to access [36]. Thus, training in this field not only increases the productivity of educational staff, but also contributes to improving the quality of administrative services at the Vocational Faculty, Surabaya State University, supporting the achievement of overall educational goals.

Based on this, the Training Need Assessment aims to assess needs by carrying out a data collection process to determine what training needs exist so that training can be developed to help the organization achieve its goals. Conducting a needs assessment is fundamental to the success of a training program [37][6]. From the results of the needs analysis that must be carried out before the training that the researcher has carried out, there are specific problems in the organization that must be carried out immediately through training.

One of the main problems identified is the lack of technical skills in the use of software and information management systems among education personnel. These deficiencies hinder operational efficiency and negatively impact the overall performance of the organization [38]. In addition, it was also found that many education workers need improved skills in communication and time management, which are important for improving team collaboration and individual productivity. Therefore, training that focuses on improving technical, communication and time management skills is expected to be able to overcome these problems, so that it can support the Vocational Faculty of Surabaya State University in achieving its vision and mission more effectively.

The solution to the problem is to implement training programs specifically designed to address the lack of technical, communication and time management skills among education personnel. This training program should include modules that focus on mastery of software such as Microsoft Office and information management systems, which are vital for operational efficiency [3][39]. In addition, communication training will help education staff convey information more clearly and effectively, as well as improve their ability to collaborate with colleagues [40].

By holding regular and ongoing training sessions, as well as providing constructive support and feedback, it is hoped that education staff can develop the skills needed to improve their performance. This step will not only increase daily work effectiveness but will also contribute significantly to achieving the strategic goals of the Faculty of Vocational Studies, State University of Surabaya. Timely and sustainable implementation of TNA will ensure that the training provided is always relevant to the organization's needs and supports optimal human resource development [41][42].

4. DISCUSSION

The findings of this study affirm that the development of technical competencies is the primary need of education support staff at the Vocational Faculty of Universitas Negeri Surabaya. This aligns with the findings of [25] which highlight the critical importance of technical skill enhancement to ensure that staff can perform administrative tasks efficiently and effectively. Proficiency in software such as Microsoft Office, database management, and management information systems serves as a foundational requirement to support work processes in today's digital era.

Beyond technical aspects, the need to develop soft skills such as teamwork, communication, and leadership also emerges as a significant priority. Approximately 58% of staff identified teamwork as the most essential competency, followed by communication and leadership. These findings are in line with the research of Ansorimala & Chandraa [29], which emphasizes the importance of interpersonal skills in reducing conflict and fostering collaboration in the workplace. Effective communication and leadership abilities directly contribute to creating a positive and productive work atmosphere, ultimately supporting the institution's overall goals.

The most preferred training method is face-to-face training, with 83% of respondents expressing a preference for this mode. The advantages of in-person training such as direct interaction, real-time feedback, and hands-on practice are perceived as highly effective in addressing learning challenges and facilitating comprehension of complex materials [23]. However, considering the diverse nature of training needs and time constraints, the development of a blended learning model can serve as an effective solution to balance the need for flexibility with the effectiveness of training delivery.

The data on staff's technical skill proficiency also reveal a gap between current capabilities and job requirements, particularly in managing information systems and databases. This gap is a matter of concern, as such disparities can hinder operational efficiency and the quality of academic services. Therefore, training programs should be designed with a strong emphasis on practical and job-relevant technical competencies.

This study also underscores the importance of conducting Training Needs Assessments (TNA) on a regular basis. By routinely carrying out TNA, the Vocational Faculty can ensure that staff development programs remain aligned with organizational needs and technological developments [42]. Such an approach maintains the relevance of training and supports the sustainability of human resource capacity development.

Overall, the discussion highlights that competency development for education support staff must be holistic encompassing both hard and soft skills and tailored to effective learning methods. Investing in structured and continuous training programs will enhance organizational capability, support educational quality, and contribute significantly to the achievement of the faculty's vision and mission.

5. CONCLUSION

Human resource development plays a crucial role in ensuring the success and sustainability of organizations, including educational institutions such as the Vocational Faculty of Universitas Negeri Surabaya. Through a comprehensive Training Needs Assessment (TNA), this study identified key areas where education support staff require competency improvement to enhance performance and support the achievement of institutional goals [10].

The findings indicate that technical skills particularly proficiency in Microsoft Office, database management, and management information systems are the most critical competencies needed to optimize administrative efficiency [43]. These technical abilities are essential for the smooth handling of data, academic services, and overall operational processes. In addition to technical skills, teamwork skills needed by 58% (14 out of 24) of staff as well as communication and leadership skills, are also vital in fostering effective collaboration, reducing workplace conflict, and creating a positive work environment.

The majority of the staff, around 83% (20 out of 24), prefer face-to-face training methods, as they offer direct interaction, real-time feedback, and hands-on learning experiences that enhance understanding and application of training materials. This preference aligns with the nature of administrative tasks, which often require direct problem-solving and collaboration [44].

The analysis of the gap between current and expected skill levels shows that staff proficiency in technical competencies has not yet reached the desired standard. Therefore, targeted training programs focused on improving software and information system skills are urgently needed. Staff proficiency in Microsoft Office and data management systems remains at an intermediate level, emphasizing the need for practice-based training interventions tailored to job requirements [45].

By implementing well-structured and continuous training programs, along with regular evaluations, the Vocational Faculty of Universitas Negeri Surabaya can ensure that human resource development remains aligned with institutional needs and technological advancements. Investing in the competency development of education support staff will not only enhance day-to-day work effectiveness but also contribute significantly to the achievement of the faculty's overall strategic vision and mission.

REFERENCES

- [1] A. Alhamad, "The effect of electronic human resources management on organizational health of telecommunications companies in Jordan," *Int. J. Data Netw. Sci.*, vol. 6, no. 2, pp. 429–438, 2022, <https://doi.org/10.5267/j.ijdns.2021.12.011>
- [2] L. Zhang, "Caring for the environment: How human capital, natural resources, and economic growth interact with environmental degradation in Pakistan? A dynamic ARDL approach," *Sci. Total Environ.*, vol. 774, 2021, <https://doi.org/10.1016/j.scitotenv.2021.145553>
- [3] H. J. A. Biemans, "Students' experiences with different learning pathways to higher professional bachelor programmes," *Int. J. Res. Vocat. Educ. Train.*, vol. 7, no. 1, pp. 1–20, 2020, <https://doi.org/10.13152/10.13152/IJRVET.7.1.1>
- [4] K. Watson, "Factors influencing management of agitation in aged care facilities: A qualitative study of staff perceptions," *J. Clin. Nurs.*, vol. 30, no. 1, pp. 136–144, 2021, <https://doi.org/10.1111/jocn.15530>
- [5] A. Markaki, "Training needs assessment: tool utilization and global impact," *BMC Med. Educ.*, vol. 21, no. 1, 2021, <https://doi.org/10.1186/s12909-021-02748-y>.
- [6] J. Brown, "Training needs assessment: A must for developing an effective training program," *Public Pers. Manage.*, vol. 31, no. 4, 2002, <https://doi.org/10.1177/009102600203100412>
- [7] M. Bin Othayman, "The challenges confronting the training needs assessment in Saudi Arabian higher education," *Int. J. Eng. Bus. Manag.*, vol. 14, 2022, <https://doi.org/10.1177/18479790211049706>.
- [8] J. T. Allen, "Needs assessment of menopause education in United States obstetrics and gynecology residency training programs," *Menopause*, vol. 30, no. 10, pp. 1002–1005, 2023, <https://doi.org/10.1097/GME.0000000000002234>.
- [9] A. Rokhim, "Need Analysis for The Development of Pogil-Ssi Based Natural Science e-Modul to Improve Creative Thinking Ability in The Pandemic Period," *AIP conference proceeding*, vol. 2540, no.1, 2023, <https://doi.org/10.1063/5.0106199>.
- [10] M. Thohir, S. Maarif, J. Rosyid, H. Huda, and A. Ahmadi, "From Disruption To Mobilization: Ire Teachers' Perspectives on Independent Learning Policy," *J. Cakrawala Pendidik.*, vol. 40, no. 2, pp. 359–373, 2021, <https://doi.org/10.21831/cp.v40i2.39540>.
- [11] A. Jahanger, "The linkages between natural resources, human capital, globalization, economic growth, financial development, and ecological footprint: The moderating role of technological innovations," *Resour. Policy*, vol. 76, 2022, <https://doi.org/10.1016/j.resourpol.2022.102569>.
- [12] D. J. Zimmel, "Public Health Workforce Development during and beyond the COVID-19 Pandemic: Findings from a Qualitative Training Needs Assessment," *J. Public Heal. Manag. Pract.*, vol. 28, no. 5, 2022, <https://doi.org/10.1097/PHH.0000000000001524>.
- [13] A. Karman, A. Jaya, and T. S. Wibowo, "Identification of Human Resource Management Best Practices in the MSME Sector," *Enrich. J.*, 2022, <https://doi.org/10.35335/enrichment.v12i2.590>
- [14] Q. A. Nisar, "Green human resource management practices and environmental performance in Malaysian green hotels: The role of green intellectual capital and pro-environmental behavior," *J. Clean. Prod.*, vol. 311, 2021, <https://doi.org/10.1016/j.jclepro.2021.127504>.
- [15] A. K. Mutoharoh and W. Rahmaningtyas, "Pengaruh Praktik Kerja Industri, Lingkungan Keluarga, Bimbingan Karier dan Motivasi Kerja terhadap Kesiapan Kerja," *Sains J. Manaj. dan Bisnis*, vol. 12, no. 1, p. 38, 2019, <https://doi.org/10.35448/jmb.v12i1.6241>.
- [16] I. Lestari and B. T. Siswanto, "the Effect of School on-the Job Experiences, Student Achievement in Productive and Social Support on Student Work Readiness of Vocational High Scholl," *J. Pendidik. Vokasi*, vol. 5, no. 2, pp. 183–194, 2015.
- [17] A. Narlan and D. T. Juniar, "Pengembangan Instrumen Keterampilan Olahraga Futsal," *J. Siliwangi*, vol. 3, no. 2, p. 245, 2017.
- [18] Y. M. Yusoff, "Linking Green Human Resource Management Practices to Environmental Performance in Hotel Industry," *Glob. Bus. Rev.*, vol. 21, no. 3, pp. 663–680, 2020, <https://doi.org/10.1177/0972150918779294>.
- [19] Y. K. Dwivedi *et al.*, "Setting the future of digital and social media marketing research: Perspectives and research propositions," *Int. J. Inf. Manage.*, vol. 59, no. May 2020, p. 102168, 2021, <https://doi.org/10.1016/j.ijinfomgt.2020.102168>.
- [20] S. W. Cooley, "Human alteration of global surface water storage variability," *Nature*, vol. 591, no. 7848, pp. 78–81, 2021, <https://doi.org/10.1038/s41586-021-03262-3>.
- [21] S. A. Hendrawan, Afdhal Chatra, Nurul Iman, Soemarno Hidayatullah, and Degdo Suprayitno, "Digital Transformation in MSMEs: Challenges and Opportunities in Technology Management," *J. Inf. dan Teknol.*, vol. 6, pp. 141–149, 2024, <https://doi.org/10.60083/jidt.v6i2.551>.
- [22] P. Budhwar, "Human resource management in the age of generative artificial intelligence: Perspectives and research directions on ChatGPT," 2023, <https://doi.org/10.1111/1748-8583.12524>.
- [23] E. Bonifacino, "Mentorship of Underrepresented Physicians and Trainees in Academic Medicine: a Systematic Review," 2021, <https://doi.org/10.1007/s11606-020-06478-7>.
- [24] C. M. Ringle, "Partial least squares structural equation modeling in HRM research," *Int. J. Hum. Resour. Manag.*, vol. 31, no. 12, pp. 1617–1643, 2020, <https://doi.org/10.1080/09585192.2017.1416655>.
- [25] Fatmawati, A. Chaerul, and A. Syahid, "Implementasi Planning, Organizing, Leading, Controlling (POLC) Program Pelatihan Pengelasan Untuk Meningkatkan Kesiapan Kerja Peserta Didik Lembaga Kursus dan Pelatihan Nusa Citra Indonesia," *J. Ilm. Wahana Pendidik.*, vol. 8, no. 19, p. 120, 2022.

- [26] S. Ahmed and S. Sur, "Change in the uses pattern of digital banking services by Indian rural MSMEs during demonetization and Covid-19 pandemic-related restrictions," *Vilakshan - XIMB J. Manag.*, vol. 20, no. 1, pp. 166–192, 2023, <https://doi.org/10.1108/xjm-09-2020-0138>.
- [27] J. Duggan, "Algorithmic management and app-work in the gig economy: A research agenda for employment relations and HRM," 2020, <https://doi.org/10.1111/1748-8583.12258>.
- [28] V. Dwiyantri, A. Ana, and I. Widianingsih, "Industrial Education Impact on Vocational Student Social Skills," *Innov. Vocat. Technol. Educ.*, vol. 14, no. 2, p. 98, 2018, <https://doi.org/10.17509/invotec.v14i2.14362>.
- [29] H. P. P. Ansorimala and T. Chandraa, "Journal of Applied Business and Technology," *J.*, vol. 5, no. 1, pp. 51–60, 2022.
- [30] S. Rahim, "Do natural resources abundance and human capital development promote economic growth? A study on the resource curse hypothesis in Next Eleven countries," *Resour. Environ. Sustain.*, vol. 4, 2021, <https://doi.org/10.1016/j.resenv.2021.100018>.
- [31] Y. Ah Shin, J. Yeo, and K. Jung, "The effectiveness of international non-governmental organizations' response operations during public health emergency: Lessons learned from the 2014 ebola outbreak in sierra leone," *Int. J. Environ. Res. Public Health*, vol. 15, no. 4, 2018, <https://doi.org/10.3390/ijerph15040650>.
- [32] O. B. Adedoyin and E. Soykan, "Covid-19 pandemic and online learning: the challenges and opportunities," *Interact. Learn. Environ.*, vol. 31, no. 2, pp. 863–875, 2023, <https://doi.org/10.1080/10494820.2020.1813180>.
- [33] G. Awada, "Effect of whatsapp on critique writing proficiency and perceptions toward learning," *Cogent Educ.*, vol. 3, no. 1, pp. 1–25, 2016, <https://doi.org/10.1080/2331186X.2016.1264173>.
- [34] Z. Dobrowolski, "Understanding the Impact of Generation Z on Risk Management—A Preliminary Views on Values, Competencies, and Ethics of the Generation Z in Public Administration," *Int. J. Environ. Res. Public Health*, vol. 19, no. 7, 2022, <https://doi.org/10.3390/ijerph19073868>.
- [35] Andi Miranda, Isti Prabawani, and Ririn Kusumawati, "Pengaruh Komunikasi Internal Terhadap Kinerja Karyawan PT.XYZ," *J. Mhs. Kreat.*, vol. 1, no. 3, pp. 34–42, 2023, <https://doi.org/10.59581/jmk-widyakarya.v1i3.227>.
- [36] U. Baruah, "Adaptation of an online training and support program for caregivers of people with dementia to Indian cultural setting," *Asian J. Psychiatr.*, vol. 59, 2021, <https://doi.org/10.1016/j.ajp.2021.102624>.
- [37] A. Wei, "Jailbroken: How Does LLM Safety Training Fail?," 2023.
- [38] W. A. A. Amri et al., "The effect of religiosity and service quality on job satisfaction: A case study of MSME employees," *Int. J.*, 2021.
- [39] E. Edelhauser and L. Lupu-Dima, "Is Romania prepared for elearning during the COVID-19 pandemic?," *Sustain.*, vol. 12, no. 13, 2020, <https://doi.org/10.3390/su12135438>.
- [40] S. Blomqvist, "Using augmented reality technology for balance training in the older adults: a feasibility pilot study," *BMC Geriatr.*, vol. 21, no. 1, 2021, <https://doi.org/10.1186/s12877-021-02061-9>.
- [41] M. H. Yimam, "Impact of training on employees performance: A case study of Bahir Dar university, Ethiopia," *Cogent Educ.*, vol. 9, no. 1, 2022, <https://doi.org/10.1080/2331186X.2022.2107301>.
- [42] S. P. Gonçalves, "COVID-19 and people management: The view of human resource managers," *Adm. Sci.*, vol. 11, no. 3, 2021, <https://doi.org/10.3390/admsci11030069>.
- [43] A. Ghorbanian, "Improved land cover map of Iran using Sentinel imagery within Google Earth Engine and a novel automatic workflow for land cover classification using migrated training samples," *ISPRS J. Photogramm. Remote Sens.*, vol. 167, pp. 276–288, 2020, <https://doi.org/10.1016/j.isprsjprs.2020.07.013>.
- [44] S. Teles, "Training and support for caregivers of people with dementia: The process of culturally adapting the World Health Organization iSupport programme to Portugal," *Dementia*, vol. 20, no. 2, pp. 672–697, 2021, <https://doi.org/10.1177/1471301220910333>.
- [45] D. T. P. Phytanza, "Accuracy Training Program: Can Improve Shooting Results of Petanque Athletes Aged 15-20 Years?," *Int. J. Hum. Mov. Sport. Sci.*, vol. 10, no. 1, pp. 121–130, 2022, <https://doi.org/10.13189/saj.2022.100117>.