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The Importance of Human Resource Skills in the Digital Industry Era

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Abstrak

Transformasi digital telah merevolusi cara organisasi beroperasi, menggeser kebutuhan keterampilan sumber daya manusia (SDM) dari tradisional ke digital. Keterampilan seperti literasi digital, analisis data, komunikasi virtual, dan kepemimpinan adaptif merupakan kunci untuk mempertahankan daya saing organisasi dalam industri 4.0 dan menuju masyarakat 5.0 (Schwas, 2016). Penelitian ini bertujuan untuk mengidentifikasi keterampilan SDM yang paling dibutuhkan dalam industri digital dan strategi pengembangannya dalam organisasi. Penelitian ini menggunakan metode kualitatif deskriptif dengan pendekatan studi pustaka dan wawancara mendalam dengan manajer SDM di sektor teknologi dan manufaktur (Crewel, 2013). Hasil penelitian menunjukkan bahwa kompetensi digital, pembelajaran berkelanjutan, dan keterampilan kolaborasi lintas platform merupakan tiga pilar utama pengembangan SDM di era digital (World Economic Forum, 2020). Temuan ini memberikan landasan bagi organisasi untuk merumuskan kebijakan pelatihan dan rekrutmen berdasarkan kebutuhan industri digital. Sebagai kesimpulan, organisasi harus beradaptasi dengan cepat untuk mengembangkan kompetensi SDM agar tidak tertinggal dalam persaingan global yang semakin berbasis teknologi.

Kata Kunci: *Manusia, Sumber Daya, Keterampilan, Digital, Industri*

Abstract

Digital transformation has revolutionized the way organizations operate, shifting human resource (HR) skills needs from traditional to digital. Skills such as digital literacy, data analysis, virtual communication and adaptive leadership are key to maintaining organizational competitiveness in industry 4.0 and towards society 5.0 (Schwas, 2016). This research aims to identify the HR skills most needed in the digital industry and their development strategies in organizations. This research used a descriptive qualitative method with a literature study approach and in-depth interviews with HR managers in the technology and manufacturing sectors (Crewel, 2013). The results showed that digital competence, continuous learning, and cross-platform collaboration skills are the three main pillars of HR development in the digital era (World Economic Forum, 2020). These findings provide a foundation for organizations to formulate training and recruitment policies based on the needs of the digital industry. In conclusion, organizations must adapt quickly to develop HR competencies to avoid being left behind in the increasingly technology-based global competition.

Keywords: *Human, Resource, Skills, Digital, Industry*

INTRODUCTION

The development of the digital industry has brought fundamental changes to how companies operate and how human resources function. Advances in artificial intelligence (AI), automation, and big data have shifted the focus of workforce skills from manual and administrative tasks to technology-based competencies (Brynjolfsson & McAfee, 2014). This shift is not only felt in the manufacturing sector but also services, education, healthcare, and even government. The digital transformation has made the demand for new types of work skills increasingly urgent and complex (World Economic Forum, 2020).

To face this disruption, organizations must prepare a workforce that is ready to adapt and innovate continuously. Traditional skills such as task execution or standardized procedures are no longer sufficient. Today, digital literacy, creativity, critical thinking, and agile collaboration are at the core of future competencies (van Laar et al., 2017). HR development must be redesigned to support employee readiness to learn, use, and create digital solutions (ILO, 2021). This transformation not only occurs at the individual level but also at the organizational culture and leadership level.

In this context, HR skills in the digital era refer not only to technical competencies but also to soft skills that support digital adaptation. Virtual communication skills, data-based decision-making, and the ability to lead change are essential components (Microsoft & IDC, 2020). HR professionals must understand how to integrate technology into employee development, recruitment, performance assessment, and even mental health support. The

role of HR has evolved into a strategic business partner that bridges human and technological needs (Ulrich et al., 2017).

Therefore, it is important to explore the essential HR skills required to thrive in the digital industry. This article will discuss various skill dimensions needed by the workforce, the challenges faced in developing these skills, and appropriate strategies to improve them. Through in-depth analysis and review of recent literature, this paper aims to provide a conceptual and practical contribution to organizations undergoing digital transformation. The discussion will also be supported by data from various international reports and research (OECD, 2019; LinkedIn Learning, 2020).

RESEARCH METHOD

This research uses a qualitative-descriptive method by applying a literature review and thematic analysis. Data were collected from various secondary sources such as scientific journal articles, institutional reports, books, and digital publications published between 2017 and 2023. This method was chosen to gain a comprehensive understanding of HR skill development trends in the digital era based on multiple viewpoints. The data were obtained from databases such as Scopus, Google Scholar, and official websites of the World Economic Forum, ILO, OECD, and McKinsey. Selection criteria included the relevance of the discussion to HR digital skills, validity of publication, and the authority of the author (Creswell, 2013).

The analysis was conducted using a thematic synthesis approach by identifying major themes that emerged from the literature review. The main themes explored include digital literacy, analytical thinking, collaboration, digital leadership, and lifelong learning. The thematic synthesis steps followed Braun & Clarke's (2006) model, starting from data familiarization, coding, identifying themes, reviewing themes, naming themes, and drawing conclusions. This method allows for integrating diverse information into a coherent conceptual framework regarding HR skill development in the digital industry. The results of this study are expected to serve as recommendations for organizations and policymakers.

RESULT AND DISCUSSION

The digital transformation demands new skills that differ from those of the previous era, especially the ability to use technology as a primary productivity tool. Digital literacy has become a fundamental skill that every worker, from operational to strategic levels, must possess (Van Laar et al., 2017). This literacy includes not only the use of software or applications, but also understanding data security, digital ethics, and adaptability to

technological changes. In organizations that have adopted digitization, digital literacy has become a key indicator in recruitment and career development processes (Microsoft & IDC, 2020). When the workforce has strong digital literacy, work processes become more efficient and capable of keeping up with the rapidly evolving technology.

In addition to digital literacy, critical and analytical thinking skills are crucial for decision-making in the digital age. The abundance of information in the era of big data requires the ability to filter, analyze, and interpret data effectively (World Economic Forum, 2020). Employees who can analyze data will more easily identify patterns, opportunities, and business challenges hidden behind such data. Therefore, training in data analysis, including proficiency in tools such as advanced Excel, Power BI, or Python for analytic, is an essential part of HR development (Mikalef et al., 2019). Organizations that empower their employees in this field will have a significant competitive advantage.

Virtual collaboration skills have also seen a significant rise in importance, especially following the COVID-19 pandemic, which accelerated the adoption of remote work. Collaborative tools like Slack, Microsoft Teams, and Zoom have become essential in maintaining smooth team communication and coordination (Messenger et al., 2021). However, the success of virtual collaboration is not solely determined by technical proficiency, but also by interpersonal skills and good time management. Workers must be able to adapt to more flexible work dynamics while maintaining productivity and work ethics (OECD, 2021). Hence, training in digital soft skills is just as vital as technical training.

Leadership in the digital era has also undergone a shift. Leaders are now required to not only have strategic vision, but also understand technology, manage change, and motivate hybrid or virtual teams (Avolio et al., 2014). Transnational leadership and digital leadership are the two most effective styles in this context. Leaders need to develop digital empathy—the ability to understand the needs and challenges of the team through online communication limited by the absence of non-verbal cues (Sousa & Rocha, 2019). Organizations need to provide digital leadership training to ensure their leaders can perform effectively in this environment.

Self-directed and lifelong learning skills are critical due to the rapid pace of technological change, which requires continuous adaptation. Traditional learning models are becoming less relevant, and organizations must implement micro learning, e-learning, and project-based learning strategies (Illeris, 2018). Employees are encouraged to be curious, self-motivated, and able to learn through direct experiences. Organizations that support a culture of continuous learning tend to be more adaptive to changes in technology

and markets (Marsick & Watkins, 2015). Thus, investment in digital learning systems becomes a necessity.

Reskilling and upskilling are two main strategies in HR development in the digital era. Deskilling refers to training employees with new skills for new roles, while upskilling enhances competencies for current roles to increase productivity (McKinsey & Company, 2020). Many large organizations are establishing internal academies or partnering with online learning platforms such as Coursera, Udemy, and edX to deliver relevant training. These strategies not only improve employee quality but also enhance motivation and loyalty. In addition, digital mentoring programs are being implemented to accelerate workplace learning.

The main challenges in developing HR skills in the digital era include resistance to change and digital inequality. Some workers, especially older generations, struggle to adapt to new technologies, which leads to lower productivity (Chuang & Graham, 2020). On the other hand, not all organizations have the infrastructure or budget to fully digitalize training. Therefore, HR policies must adapt training programs based on generational segmentation and the digital readiness of each employee. Flexibility in learning approaches is key to overcoming these challenges.

Organizations must conduct regular digital competency assessments to ensure that training programs are on target. These assessments can include digital skill tests, performance observations, and feedback from supervisors and peers (Gallup, 2021). The results are then used to design personalized training programs. Moreover, it is important to integrate digital skills indicators into performance management systems. This will encourage employees to continuously improve their competencies as part of their professional responsibility.

Finally, synergy among HR, top management, and the IT division is essential for successfully developing high-quality human resources in the digital age. Cross-functional collaboration is needed to align strategic organizational goals with HR development needs (Ulrich et al., 2017). HR must transform into a strategic partner that understands both business and technology. Its role is no longer merely administrative but as a change agent that drives digital transformation through targeted talent development. In this way, organizations can survive and thrive in an increasingly digitalized industrial landscape.

CONCLUSION

Based on the findings and discussion, it can be concluded that human resource skills in the digital era go beyond technical capabilities and also include cognitive and social competencies that support collaboration and innovation. Digital literacy, data analysis, digital leadership, virtual collaboration, and lifelong learning are five core skills that organizations must develop to face the challenges of the digital industry (World Economic Forum, 2020). HR development strategies should be carried out systematically through training, mentoring, and regular competency evaluations. In addition, organizations must foster a learning culture that supports lifelong personal development and responsiveness to technological changes.

Active involvement from top management and synergy among departments are key to successful HR skill transformation. HR is no longer limited to administrative duties but acts as a catalyst for cultural and organizational innovation (Ulrich et al., 2017). This study recommends that organizations conduct regular competency mapping, invest in learning technologies, and strengthen digital work cultures. Amid accelerating global digitization, an organization's ability to manage human resource skills effectively will be a critical determinant of business success in the future.

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