HUMAN RESOURCES IN THE DIGITAL TRANSFORMATION ERA : A LITERATURE REVIEW STUDY

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ABSTRACT
This research aims to explain the challenges faced by human resources in the digital transformation era and what strategies can be used to face these challenges. The research method in this study utilized a systematic literature review. Data from this research was obtained through several international journal articles with the keywords human resources in the digital transformation era. Data analysis in this research utilized qualitative data analysis. The research results show several challenges faced by human resources in the digital transformation era, including technology-induced unemployment, platform work, work polarization, and non-standard work. Apart from that, some strategies can be utilized to overcome these various challenges, including talent selection, training and development, evaluative functions, and digital employee services.

Keywords: Human Resources, Digital Transformation, Challenge, Strategies.

INTRODUCTION

Business success depends on understanding how external forces such as globalization, demographics, and sustainability impact a company's strategy and competitive position (Dobbs et al., 2015). Success also depends on leveraging a robust and affordable digital infrastructure that includes mobile technology, particularly smartphones; cloud computing, particularly software as a service for applications such as artificial intelligence and machine learning; wired and wireless networks; and the Internet of things (Gurbaxani & Dunkle, 2019:209). In fact, digital technology platforms have become the foundation of increasing economic growth.

Digital technology enables the development of new or improved products and services that are delivered to customers more efficiently. These technologies also enable fundamentally new ways of organizing business (Johnson et al., 2008). Digital transformation is the reinvention of a company's vision and strategy, organizational structure, processes, capabilities and culture. This transformation not only changes companies, but also markets and entire industries.

Digital transformation not only has a major impact on all aspects of our lives, but also has a significant impact on the processes and roles of human resource management (HR) (Schmid & Pscherer, 2021). As new digital technologies continue to develop, the way HR interacts with information and data is also changing. Several human resource processes, such as employee recruitment, performance evaluation, and human resource development, have been deeply revised through the use of digital technology, which improves service delivery to stakeholders (Mosca, 2020).

The integration and exploitation of new digital technologies are some of the main challenges facing companies today (Hess et al., 2016). This is caused by the high intensity of people always being connected to electronic devices (Bag et al., 2021). These changes can bring many benefits, such as increased efficiency, access to new markets, or improved brand image or reputation (Ferreira et al., 2019). This revolution is driven by internal forces (for example changes in organizational structures and required skills and training) and external forces, such as changes in the application of technology (Telukdarie et al., 2018).

To achieve digital transformation, companies need two fundamental aspects: the first aspect is related to the use of technology in the value chain and the other aspect is related to changes that affect human resources, culture and knowledge. The resources a company needs to achieve digital transformation consist of tangible resources (IT infrastructure), human resources (technical and management skills) and intangible resources (knowledge, customer orientation and synergy) (Bharadwaj, 2000). Human resources provide a competitive advantage in any organization and companies need to integrate operations management with operations management to provide the best results (Bag et al., 2021). In addition, advances in Industry 4.0 technologies, such as artificial intelligence and the Internet of Things, have led to the automation of many jobs, resulting in changes in job requirements. Technical skills requirements will include experience in programming, big data analysis, robotics, and intelligent systems maintenance (Bag et al., 2021). Apart from that, soft skills, continuous learning, analytical, innovative and critical thinking are also increasingly needed in the era of digital transformation (German et al., 2020).

RESEARCH METHODS

The research method used is a literature review. This research uses a literature study type of research review) with the selected review model is narrative review. The study was conducted using the narrative review model, namely comparing data from several international journals which have been analyzed and summarized based on the author's experience, existing theories and models.

RESEARCH RESULTS

Human Resources in The Era of Digital Transformation

Digital transformation can be characterized as an important change in an organization, supported, built and sustained by digital technologies that change the approach to business operations (Bilgeri et al., 2017). Over time, they will implement digital initiatives to achieve an important reform in the way the business is managed, resulting in significant change in the organization or industry as a whole. Digital transformation changes the way the entire organization operates, especially business processes and tasks (Amit & Zott, 2001). In addition, this transformation can help organizations to interact better with external customers through innovative technology (Singh & Hess, 2017). Thus, digital technology can support organizations in utilizing existing core competencies or developing potential core competencies to gain competitive advantage. Due to the application of digital technologies, digital transformation is intrinsically linked to strategic changes in business models (Sebastian et al., 2020). In short, digital transformation is a widespread phenomenon in organizations where an organization's business model is fundamentally changed by innovative digital technologies. Therefore, in realizing digital transformation, organizations need to balance existing business models with new business models. As digital transformation advances, existing business models will experience obsolescence (Teece, 2010). Organizations need to transform their existing businesses from partial digital changes and gradually shift to new digital businesses.

Human resources in the digital transformation era are described as using computer systems, telecommunications networks, and interactive electronic media to carry out human resource functions (Vardarlier, 2020). Zang & Chen (2023) also supports the vision of digital transformation as a process. He refers to the transformation of human resources in the digital era as a process of change in which human resources are transformed into digital so that they become data-based and automated. The use of digital technology allows human resource operations to change.

Challenges Faced by Human Resources in the Era of Digital Transformation

The human resources department faces several challenges in the era of digital transformation due to the sudden need to carry out digital transformation (Al-Alawi et al., 2023). One of the main challenges of human resource management during this era of digital transformation is adapting to change and ensuring that human resources can adapt to the uncertainty and fear that accompanies it. In this case, employees must adapt to digital transformation (Carnevale & Hatak, 2020). The urgency of the role of human resource managers is that they must remain positive during difficult times and support their employees to remain creative, enthusiastic and motivated towards achieving organizational goals (Kaushik & Guleria, 2020).

Resource practices need to be managed strategically to suit changing scenarios. The shift in traditional communication methods and remote work systems resulting from changes in the digital transformation era is a challenge in itself in maintaining the stability of employee performance. The transformation requires significant system, process, architectural and operational changes. Therefore, it is a proven fact that the era of digital transformation is forcing organizations to plan and implement new business strategies. The human resources department also plays an important role in this implementation as it plans, manages and supports the employees. In addition, innovative leadership that plans and implements tactics correctly will also contribute to the well-being of members and the organization (Shil et al., 2020).

a. Technological Change Towards The Digitalisation of Work

Those who are optimistic about digitalization see changes in this era of digital transformation as a major restructuring that requires new work skills and work organizations to enrich life, business and the world economy (Hirsch-Kreinsen, 2016). They thought that computers could increase our mental powers, just as steam engines increased our muscular powers in the past, and bring about revolutionary changes comparable to the electrification of the late nineteenth century.

Optimists argue that digital transformation results in zero marginal costs (Chen et al., 2022), free services (Anderson, 2009), improved work through robotization (Graetz & Michaels, 2018), educational transformation (Demartini et al., 2020), and worker empowerment through micro-entrepreneur networks (Sundarajan, 2017). There are also those who see that some tasks will be difficult to automate because they ignore workers' creative and social intelligence. However, despite the loss of a number of jobs, econometric studies show the positive impact of digitalization. They emphasize the positive aspects of wider adoption, lower prices, increased productivity, and the opening of new job markets. These experts emphasize that the creation of new jobs will always be greater than the loss of old jobs (Jarrahi, 2018). They also argue that it is time to dispel the myth of job losses due to technology because history has shown that such concerns never come to fruition.

b. Labour Platform Existence

Employment platforms are taking on an increasingly important role in the workplace through network effects, company concentration, and opaque algorithmic management, thereby impacting the lives of many people (Huws et al., 2019). These platforms provide new socio-technical work systems (Kittur et al., 2013), representing unique governance mechanisms that differ from conventional labor markets (Vallas & Schor, 2020). By disrupting labor markets and labor-capital relations, the boundaries between workers and employers are blurred. There is some concern around the idea that platform-mediated work could achieve a dominant market position, which would then impact the social and cultural organization of work (Huws et al., 2019).

Our ideas about employment today are changing. Anyone can make money if they have a smartphone, tablet, computer, or Internet connection (Degryse, 2017). It is now possible to start a company and establish a position previously only accessible to those with capital. Job platforms are especially beneficial for low-income households. Thanks to this method, households are no longer limited by the local labor market and can often obtain better salary levels by expanding their reach through global platforms (Lehdonvirta et al., 2018). Vulnerable occupational groups (people with disabilities, older workers, the uneducated, young workers, long-term unemployed, and migrants) can also benefit from reduced barriers to entry (Pesole et al., 2018).

Proponents of employment platforms argue that algorithmic management frees workers from drudgery and traditional or outdated work environments. In turn, it allows them to break away from strict institutionalization and, instead, have the freedom, creativity, flexibility, and entrepreneurship to try something different (Armano & Murgia, 2013). Workers can adopt various types of flexible or freelance work, thereby becoming molecular capitalists or independent micro-entrepreneurs (Sundararajan, 2017). These jobs often prove more profitable than traditional jobs in companies with established hierarchies and strict regulations (Sundarajan, 2017). Therefore, digitalization has the potential to end employment without ending work itself. As new forms of employment enter the world of work, discussions about labor rights, employers, workers, permanent employment contracts, precarious employment, or even national unemployment rates will be fruitless.

c. The Polarisation of Work

Dividing or polarizing jobs is driven by technological advances that are partisan or build invisible barriers between different job pyramids (Meske et al., 2020). Higher levels of education, sophisticated analysis, advanced problem-solving abilities, and abstract jobs, such as managerial, professional, and technical jobs, are favored by this advancement. Educated roles are well paid (Goos et al., 2014). Optimists look forward to the revival of creative work and the elimination of isolating, monotonous, and repetitive tasks. Pessimists worry about increasing polarization, inequality, and precarious employment as middle-level and middle-wage jobs slowly disappear. Many routine tasks, such as clerical and repetitive production, require workers to have simple qualifications. If these jobs are replaced, even mid-level workers will become unemployed, moved to poor platform jobs, or moved to non-routine service jobs with lower wages. This situation means that both low-educated workers and those in the middle class could be at risk of losing their jobs. Any position that can be replaced through algorithmic processing and automation may eventually be lost. Very high- and very low-wage jobs at each extreme will increase (Scholz, 2016).

d. Non Standard Employment

Non-standard work models include workforce platforms that subvert traditional business models. These platforms raise several ethical, legal, and regulatory issues regarding worker protection, as these regulations predate the digital era (Todoli-Signes, 2017). Work on platforms is often associated with job insecurity, poor working conditions, low wages, and civil exclusion. This leads to a situation that creates a class of precariat (Standing, 2017), cybercariat (Todoli-Signes, 2017), globalization losers (Degryse, 2017), and disparities in poverty and broader socio-economic factors (Atkinson, 2015).

Platform workers essentially function as virtual communities of micro-entrepreneurs, partners, and subcontractors (Todoli-Signes, 2017). However, these digital precariat workers must learn to manage pension funds, social protection, unemployment and occupational diseases (Degryse, 2017). The platforms they work on are usually not subject to taxes or social security contributions (Palier, 2019). Important worker protection schemes, which until recently were typically provided by employer agencies, are no longer the responsibility of organizations (Ford, 2015). Thus, the legal status of workers collapses and labor rights are eroded. Therefore, socio-economic researchers and public policy decision makers must act quickly to uncover the potential impacts of digital work practices to prevent the degradation of workers and the loss of their employment rights (Scholz, 2016).

Strategies Used in Overcoming Various Human Resources Challenges in the Era of Digital Transformation

Modern organizations need to reposition the value of human resource operations and create end-to-end, closed-loop human resource processes with the help of digital technology and digital operations thinking. Digital transformation has a positive influence on human resources and will produce real changes in selection, training & development, performance and service quality (Betchoo, 2016).

a. Talent Selection

Recruitment and staffing have become a major focus of digital technology adoption in human resources organizations. DiRomualdo et al. (2018) noted that the adoption of digital human resource practices has reduced the labor intensity of selecting candidates, analyzing the skill requirements needed to fill vacant positions, and selecting who to hire.

Along with the widespread use of the Internet, the process of recruiting human resources in companies is also changing (Vardarlier, 2020). Before entering the era of digital transformation, talent recruitment was mainly done through traditional methods such as job postings and newspapers. Recently, recruitment initiatives from professional networks and job websites have flourished in the online environment.

b. Training and Development

Technological advances resulting from digital transformation are now having a major influence on the role of human resource development specialists (Betchoo, 2016). Previously, human resource

development technology was used primarily in educational settings to support employee training (Benson et al., 2002). The emergence of digital technology today allows for greater flexibility and integration. Digital technology is fundamentally redefining the future of the training and development function.

The company's digital training activities are a collection of systems that will be built within the company, it is possible to create training groups that prioritize diversity (Vardarlier, 2020). Employees will be able to determine their own training, they will be able to allocate training time at specific times, and they will be able to access identified training and training materials from their location. Professional human resources will be able to train new staff in a more effective way (Nawaz, 2017). With remote access to company information and training programs, trainers do not need to work directly with new employees on all training programs.

c. Evaluative Functions

Regarding talent inventory, judgment, and motivation, collectively referred to as the evaluative function. Today, these evaluations are becoming more and more accurate as more and more employee behavior is left behind in data platforms. This means that employee behavior and performance are increasingly data-based and recorded. All information must be generated and executed based on data. It is much easier to integrate the operational information obtained into a digital context (Vardarlier, 2020). Data relating to employees will form a personal data account which includes behavior at work, attendance, attitude inventory and competency evaluation.

The big data concept that we live with has significant opportunities for human resources (Vardarlier, 2020). Big data transforms information into a meaningful and applicable format. When integrating digitally, there is a need to clarify what type of information will be available for big data purposes and determine appropriate information collection and analysis instruments. Collecting and tabulating information by comparing the volume of data that continues to increase every day with past information is very useful for achieving results that will be useful in the process of making policies for the human resources function.

d. Digital Employee Services

The main goal of human resources is to ensure that employees work to achieve organizational goals by making human resources outside of administrative functions (Thite, 2020). In the era of digital transformation, human resources around the world are using digital applications, artificial intelligence, and bots to create employee experience platforms that support today's employee needs.

With the effective use of digital in all human resources functions. Thus, they meet employee needs by offering speed, quality, and cost advantages (Ladkin & Buhalis, 2016). In addition, digital service centers also provide efficient, high-quality and diversified employee services to realize the goals of cost reduction and high efficiency. efficiency, better employee experience, and increase their commitment to the organization.

CONCLUSION

Based on our research based on a literature review, it can be concluded that first, the challenges of digital transformation on human resources, especially those related to unemployment due to technology, platform work, work polarization, and non-standard work. Second, regarding human resource strategies in facing challenges in the era of digital transformation, including focusing on talent selection, training and development, and evaluative functions.

LIMITATIONS AND FUTURE RESEARCH

The results of this research are limited to discussing the challenges faced by human resources in the era of digital transformation and the strategies used to accommodate these challenges. There is room for future research, namely the need to explore how strategies implemented by human resources in overcoming various challenges in the era of digital transformation can enable individuals to better manage their stress levels, such as increasing overall work productivity, and also recommend that the field -The following areas are explored in depth with respect to future research directions relating to E-Human Resources Management. In addition, future researchers can also discuss digital recruiting involving the use of advanced technologies (e.g. AI chatbots, blockchain) for job posting, candidate profile screening, interviewing, and recruiting.

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