

# Governance of Human Resources Management in the Digital Era

*by* LABORATORIUM MANAJEMEN

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**RESEARCH ARTICLE****Governance of Human Resources Management in the Digital Era**Khuzaini<sup>1</sup> ✉ M. Irpan<sup>2</sup> and Syahrial Shaddiq<sup>3</sup><sup>1,2</sup>Universitas Islam Kalimantan (UNISKA) Muhammad Arsyad Al Banjari, Banjarmasin, Indonesia<sup>3</sup>Universitas Lambung Mangkurat (ULM), Banjarmasin, Indonesia**Corresponding Author:** Khuzaini, **E-mail:** [khuzaini@fekon.uniska-bjm.ac.id](mailto:khuzaini@fekon.uniska-bjm.ac.id)**ABSTRACT**

Human resource management (HRM) in the digital era cannot be separated from the industrial era 4.0 and society 5.0. The purpose of this research is to explore HR governance/management in today's digital era. The method used in this research is the qualitative method. The results of the study, namely human resources (HR), are described as a means for HRM to create value and need to be seen as an important part of interdepartmental business analysis. In the next section, a detailed explanation is given about the methodology adopted in uncovering the perceptions of human resource management scholars on both the function of human resource management in the digital world as well as the role of human resource managers, namely with regard to proper management of HRM, so that it will have a multiplier effect on improving individual and organizational performance. The conclusion is that an effective and appropriate HRM is needed so that individual and organizational performance can increase optimally and sustainably.

**KEYWORDS**

HR, HRM, performance, individual, organization

**ARTICLE INFORMATION****ACCEPTED:** 08 June 2023**PUBLISHED:** 09 June 2023**DOI:** 10.32996/jbms.2023.5.3.8**1. Introduction**

Human Resource Management (HRM), which has the creativity and fast learning ability of the millennial generation, is actually an advantage for the company if it is able to accommodate their character and abilities. But on the other hand, millennial generation workers also have the potential to follow their calling and idealism at work. Millennials are also classified as idealists with a humanist pattern of work relations. As a generation that grew up with freedom of information, they are characterized by being open-minded, upholding freedom, and being brave. So they tend to be responsive and critical if the system at work doesn't support aspects such as information disclosure or even curbs their creativity (Arizal et al., 2021).

In the book Thematic Gender Statistics: Profile of Indonesia's Millennial Generation (2018), issued by the Ministry of Women's Empowerment and Child Protection and the Central Statistics Agency, it is stated that at work, millennials pursue the possibility of developing themselves in a job. They are also less compatible with superiors who like to command and control and prefer ongoing dialogue in the pattern of work relationships (on going conversations). Therefore, millennials are considered quite calculative in considering the conditions of the companies where they work (Fadilurrahman et al., 2021).

It is quite possible that when the situation at the company no longer lives up to its ideals, they decide to leave in search of new opportunities and challenges. If that's the case, the company will actually lose potential people and experience a high turnover rate. Therefore, the right approach and HR management strategy must be developed by the company to accommodate the characteristics of the millennial generation as the largest group in the current workforce (Kabul et al., 2023).

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Based on the characteristics of the millennial generation, several things can be done by companies to manage millennial human resources. First, providing jobs that fit the competence and potential of millennials. In this way, the company has invested early by placing its millennial workers according to their interests and potential so that the possibility of not feeling comfortable with work can be minimized. Second, it provides opportunities to open perspectives and learn new knowledge in their work through various methods (Syuaib et al., 2023).

Millennials are a generation that is thirsty for knowledge that can lead them to do their jobs better. Their perspective on something is not rigid because of their character that is open to all phenomena (growing mindset), so they are also not always fixated on one method of carrying out work. In this case, companies are required to be more creative and flexible in developing work methods. So that this can open up possibilities for millennials to seek new knowledge that can help them carry out their work, and third, provide space for the production of ideas (Satriadi et al., 2023).

Ideas are a vital element for millennials and are part of building self-capacity. The realization of an idea into an applicable work is one of the goals of millennials in their work. Therefore, providing a systematic space for the production and implementation of ideas in work needs to be done by companies so that millennials can continue to develop creativity in their work while also feeling valued for their ideas. On a larger scale, companies are also expected to be able to develop success criteria with a wider and more diverse scope to accommodate every unique idea or potential of each individual who works within it. Fourth, build a humane work culture (Ardianti et al., 2023).

The millennial generation is a generation that is sensitive to injustice and inequality. They are a generation that upholds the implementation of human rights. Companies need to ascertain whether the company's management system has accommodated the equality of rights and obligations of all individuals who work in it. This requires the establishment of a good corporate management system along with all regulations and rules that are clear and applied in a professional and fair manner (Jamil et al., 2023).

The culture of communication within the company also needs to be built in an open, egalitarian, sustainable and implementable way to consider all possible potentials for collective benefit. Fifth, provide opportunities to increase self-capacity. Self-capacity development for millennials needs to be carried out through a good capacity building system that is able to embrace various human elements and competencies (Sari et al., 2023).

Companies need to build a system that is able to produce human resources who are qualified in the principles of human values. The process of instilling values must use humane and appropriate methods so that they are able to find their own reasons to move. Controlling and providing wide opportunities is the right way for them to get the values they need naturally, not the values given through rigid doctrines or orders. Meanwhile, the development of work competencies is more technical in nature (Shaddiq et al., 2023).

Companies can measure the potential of each employee and then map their strengths and weaknesses and design an appropriate capacity building pattern through various methods, such as providing training or teaching through scholarship opportunities or courses that are appropriate to their field of work. Therefore, in addition to the things above, HR managers in companies should realize that in the current digital era, the power of data cannot be ignored (Yulyanti et al., 2023).

Data utilization can be one of the HR management strategies in the digital era, although attention to this is still minimal. Collectivity and analysis of company data are used more for external purposes, such as measuring customer satisfaction or analyzing market potential but have not yet touched internal areas, especially HR management, for example, to determine the level of employee happiness or find out the pattern of appropriate internal work relations (Yusuf et al., 2023).

Accurate data will be the basis for making strategic decisions in determining the next roadmap for managing the company. Like it or not, HR managers in companies must be able to align themselves with the use of data more effectively to manage the people working in the company. This means that the ability to collect and analyze sustainable data related to the company's human resources should be owned by the HR manager. Meanwhile, in terms of infrastructure, companies should also consider using digital tools to support HR management. This is because most of today's productive workforce are millennials who are attached to digital technology, for example, by using integrated data servers and supportive digital applications or platforms (Alhempri, 2023).

Apart from being in accordance with millennial characteristics, these tools can also provide time efficiency and work processes while providing real time data. These management strategies are inseparable from the fact that today's world is dominated by human resources with increasingly specialist and varied expertise, critical, broad, courageous and diverse mindsets and attitudes, strong dependence on digital technology and independence, and passion, great self-development (Habibah et al., 2021).

Companies – especially in the HR management department – need to think more creatively in finding ways and managing individuals with such characters. In the end, the ability to manage human resources in accordance with the times is something that

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is absolutely owned by a visionary company in the digital era. This is because now is an era where millennials, as the younger generation of the workforce, have perspectives on the meaning of work careers that are different from the previous generation (Handayani et al., 2022).

Many potential career choices make them reluctant to depend on working in companies that are less able to help bring out their best abilities, let alone curb their souls. Companies and their HR divisions must demonstrate capacity and creativity as human managers who are flexible in every company's work activities towards a common goal. Various discourses say that we are currently at the gate of civilization, where digitalization will increasingly affect life. The adaptive readiness of human resources and anticipation of impacts in various sectors are, of course, things that must be responded to and anticipated wisely and humanely (Hidayat et al., 2021).

## 2. Literature Review

The management of human resources supports the statement that employees are human resources and, therefore, they should be treated and seen as a means to create and add value to the organization in addition to other resources used. In this case, they should be scaled up, developed and maintained, and not considered as costs to be minimized. Moreover, contrary to the philosophy of personnel management, HRM is not an administrative function to set rules and regulations but rather a long term oriented function (Storey, 2001, Kaufman, 2015, Wilkinsone and Johnstone, 2016).

It is a series of (strategic) activities planned to design and implement actions to recruit, train, develop, retain, and seek agreements between employers/managers and employees and aim at employee engagement and welfare. Although the term HRM emphasizes the strategic role of human resources, in practice, most HR practitioners overemphasize short-term results at the expense of long-term objectives (Irpan et al., 2021).

After that, Marchington et al. (2015) indicated that four main factors have led to this problem: (a) overemphasis on short-term performance metrics, (b) strategic business partner orientation over employee-oriented roles, (c) focus on the best talent (employees) instead involving all staff, (d) strengthening the division of core workers (employed by the organization) and those working for suppliers (Breadwell and Thompson 2017).

As Professor Sparrow (2015) suggests, HR practitioners are far from staff (not really people oriented) and not close enough to business strategy. Over the last two decades, HRM has become increasingly digital. Artificial Intelligence Machines improve people's analytics and expand human cognitive abilities. Electronic machine learning assists in problem solving, and natural language processing coupled with good people analytics is changing the way employees can be managed. Automation is reshaping jobs and the skills needed to work (Irpan et al., 2022).

In the digital age, cognitive and socio-behavioral skills are lacking, while adaptability, creativity, and critical thinking are key attributes of contemporary employees (Korn and Pine, 2011). Meanwhile, employees are diversified by age, race, digital skills and gender transactional and require work-life balance, flexibility and continuing education. Employers and especially HR managers must be sensitive to cultural differences, ethics and change in order to survive and remain competitive (Gulliford and Dixon, 2019).

By using technology, the main responsibility of human resource practitioners is to assist business leaders in making the best decisions while freeing them from repetitive tasks and carrying out human-centered tasks (Hogg, 2018). The global phenomenon of digitalization and robotization has a significant impact on the world of work and the labor market. Today's companies are forced to deal with a constant flow of new technology and information, new forms of work, rapid digitization of the workplace, and changing demands for employee skills that are driving them to rethink the way they manage their workforce. In this case, the HR function plays an important role in leading change and adding strategic value to the company in the digital era (Bokelberg et al., 2017). HR can provide assistance for employees by assisting their career development and also for companies by drawing attention to the benefits that new digital technologies offer (Mitrofanova et al., 2019).

Overall, basic digital skills are seen as at least somewhat essential for almost all jobs (Curtarelli et al., 2023). Rapid advances in digital technologies, such as artificial intelligence, cloud computing, Big Data, robotic process automation, social media, real-time communication, and increased use of reality virtual bring new functionality to HR departments. As a result, digital transformation impacts the way HR functions are fulfilled through the use of digital tools and applications to innovate processes, make decisions, and solve problems (Manuti & de Palma, 2018, pp. 41- 44).

Digitalization requires redesigning HR professional roles and developing new competencies that will help ensure employee well-being and organizational sustainability in the digital age (Cantoni & Mangia, 2019, pp. 58-59). The term digital HR can be understood as integrating social, mobile, analytics and cloud technologies (SMAC), which aims to automate various areas of HR for better productivity, redefine how HR processes are delivered, and improve work-life balance focusing on real-time access, decision making and outcomes (Stephan et al., 2016).

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The main idea behind this concept is to modernize employee training and skills development, scout talent, and streamline overall human resource management solutions and functions by leveraging real-time interactive platforms, mobile-first applications, and integrated analytics (Galgali, 2017). Molotkova et al. (2019) identified digital HR as a flexible approach to staff development with an active role in the digital space in stimulating change and the effective use of employee talent and experience. The HR department has a strategic added value in the role of understanding the challenges companies face with respect to Industry 4.0, helping to identify which staff may be affected by automation and creating a culture where jobs can change, together with new technologies, HR professionals more often face large volumes of data in different spreadsheets, lack of IT system functionality and inadequate user experience, which have brought challenges in recruiting, retaining and engaging employees (Irfan et al., 2021).

Radical changes caused by new technologies and innovations such as big data and analytics, autonomous robots, the Internet of Things, cloud, virtual reality and artificial intelligence lead to the need to upskill or re-skill employees. It should be noted that competencies such as emotional intelligence, creativity, cognitive flexibility and managing other people are not possible with devices and machines. This emphasizes the importance of attracting an agile workforce to the current organization that will be active, adaptable, and able to quickly accept new ideas and responsibilities (Cantoni & Mangia, 2019, pp. 232-235). Therefore, digitization must be closely related to the organization's HR strategy because personality, soft skills, and employee attitudes towards work cannot be analyzed and evaluated by digital systems and devices (Mangipudi & Vaidya, 2018). adaptable and can quickly accept new ideas and responsibilities (Cantoni & Mangia, 2019, pp. 232-235). Therefore, digitization must be closely related to the organization's HR strategy because personality, soft skills, and employee attitudes towards work cannot be analyzed and evaluated by digital systems and devices (Mangipudi & Vaidya, 2018). adaptable and can quickly accept new ideas and responsibilities (Cantoni & Mangia, 2019, pp. 232-235). Therefore, digitization must be closely related to the organization's HR strategy because personality, soft skills, and employee attitudes towards work cannot be analyzed and evaluated by digital systems and devices (Mangipudi & Vaidya, 2018).

### 3. Research Methodology

The main focus of this paper is to find out how HR Management is managed in the Digital Age and its relation to digitalization, and its impact on the required HR specialist skills. This research was conducted using qualitative research based on secondary data obtained by the method of systematic review and analysis of scientific literature content, analysis of secondary data based on expert judgment and forecasting, and the use of a systematic approach. Secondary data from the European Commission literature review and database were used for data analysis in this paper. In the first stage, keywords such as digital technology, ICT competency, and Fourth Industrial Revolution are used to collect material for further analysis in the academic databases Scopus, Web of Science, SpringerLink and Science Direct. The selection of data sources is motivated by the high reliability and quality of the research.

### 4. Results and Discussion

#### 4.1. The Nature of Human Character

Before explaining how to build competitive human resources with character as our Graduation theme today, I would like to first explain what character is because competitive and superior human resources are the process and output of superior characters as well. In character language, it is taken from the Latin "Kharakter and kharassein" in Greek ", Character" and in English ", Character" which means to make sharp " (lyansyah et al., 2021).

The word character is then adapted into Indonesian so that when viewed in the Big Indonesian Dictionary, the character is defined as "character, psychological traits, morals or character that distinguishes one person from another". So in the sense above, morality is the character itself (Joko et al., 2022).

In terms of character or morals, according to Ibnu Maskawaih and Abu Hamid Al-Ghazali, they are: "A value that is firmly imprinted in the soul, from which all behavior is born easily flowing without thinking and making things up. If the values in the soul produce good and commendable actions or behaviors, then they are called commendable and noble morals; if, on the contrary, bad deeds or behaviors are born, then they are called despicable morals. The Prophet Muhammad saw placed the position of positive character or noble character in Islam the same as the position of religion in human life. The Prophet saw when asked by a friend; what is religion O Messenger of Allah? The Prophet saw replied: "Religion is a commendable character" (HR. Ahmad). Even the Prophet saw explained that the perfect faith is perfect morals or character: "The person with the highest faith is the noblest in morals" (Tirmidhi and Ahmad, 2023).

Therefore, to the extent that the purpose of the Prophet Muhammad to attend these two was only to foster and improve morals or character, the Prophet said: "It's just that I was sent to the perfect noble character" (HR. Bukhari). In nature and style, morals or character is divided into three types:

#### 1. Religious Character

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It is a character that is religious, related to the teachings of religion and faith. This character was born from the implementation of religious teachings and ideology. In Islam, this character is called the character of *aqidah* and faith can be good or positive and can be bad or negative. Among the forms of this character are: Sincere or Riya, Honest or liar, Patience or complaining, Istiqomah or opportunist, Generous or Stingy and so on; this character was born from one of the Islamic teachings called "*Akidah and Tawhid*". The stronger a person's faith and faith, the stronger the positive religious character embedded and entrenched in his life. Therefore a Muslim who has a positive Islamic Religious Character, such as; sincere, patient, honest and persistent, must have strong faith and belief in Allah SWT, the Last Day, Heaven and Hell, rewards and sins, which are often referred to as "Faith in the Unseen". Usually, the solution to building these characteristics in a Muslim must be through spiritual strengthening, faith and piety to Allah SWT and the Last Day (Kurniawan et al., 2021).

## 2. Moral Character

It is a character that is moral in nature, related to good and bad moral teachings and values, interactions between humans and God and between humans and humans and the natural surroundings or their environment. This character was born from the implementation of religious and scientific values as well as customs or culture. In Islam, this character is called moral character because it is very colored and influenced by one of the teachings of Islam, which is called "*Akhlak*"; this character form can be positive or negative. Among the forms of moral character in Islam are; Honest or liar, Meek or harsh, Humble or arrogant, forgiving or vengeful and so on. The solution or therapy for this moral character is usually through strengthening morals, habituating and practicing manners, attitudes and daily behavior, both with a religious, cultural and environmental approach (Kurniawan et al., 2021).

## 3. Performance Character

It is a character that is performance in nature, related to the values and culture of work carried out by humans and can also be born from religious values. This character is the implementation of values, knowledge and work culture that exist in a society as well as religion. Usually, the higher the values, knowledge and work culture of a society or a nation, the stronger the performance character is embedded and entrenched in one's life. Among the forms of character (Mahfuzah et al., 2021). Performance is; Disciplined or negligent, Brave or Cowardly, Fighting or weak, hard working or lazy, Consistent or opportunistic, cooperative or selfish, Honest or a liar and so on.

## 4. Competitive HR in the Era of Disruption.

Mathis and Jackson explained that HR is the design of various formal systems in an organization with the aim of ensuring the effective and efficient use of human expertise to achieve organizational/company goals as desired (Mathis & Jackson, 2020; Norrahmi et al., 2021).

In "The Human Resources Glossary" from The Balance Careers, William R Tracey defines Human Resources as: "People who staff and operate an organization or company". According to CIPD (The Chartered Institute of Personnel and Development) in Mullins (2005), HR is a planning, implementation and maintenance strategy that aims to manage people (employees) to have maximum business performance, including development policies and processes to support strategy" (Norrahmiati et al., 2022).

Competition is an Islamic recommendation for pious people; even responding to Allah's command immediately and competing in goodness is Allah's order and is an obligation. Allah says: "The reward is *musk*; and for that, people should compete" (QS. Al-Muthafifin: 26). At-Tabari said: The favors that Allah mentioned in the previous verses regarding the favors of heaven should make people compete and fight each other to get them, *Nafis* is something that makes the human soul attracted and longing for it.

Allah also said: "Race yourselves to receive forgiveness from your Lord and heaven which is as wide as the heavens and the earth, which is prepared for those who believe in Allah and His messengers. That is the gift of Allah, which is given to whom He wills. And Allah has a great bounty." (QS. Al-Hadid: 21). So competition is Islamic teachings and orders from Allah SWT that must be carried out and achieved by Muslims, especially Muslim human resources in the life of the world and the hereafter.

In *Kamus Besar Bahasa Indonesia* (KBBI), "competitive" is defined as something related to competition. In this case, competitiveness can be positioned as a condition of struggle or competition that occurs or is experienced by a person or group of people in winning a competition. So competitive HR is HR who has superior competencies and characters and has professional performance in carrying out its duties and functions so as to be able to face challenges and healthy competition (competition) in achieving goals (Putera et al., 2022).

Clayton Christensen, Professor at Harvard Business School (HBS), said: "Disruption replaces old markets, industries and technologies resulting in a more efficient and comprehensive novelty that is destructive and creative." much more efficient and effective, as well as the discovery of new technologies that change the business map. Disruption is an innovation that will replace

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all old systems in new ways. Disruption has the potential to replace old players with new ones. So the Era of Disruption is an era of sharp competition and competition that forces every individual, entity and corporation, as well as a nation, to be able to survive and win the competition by continuing to innovate, be creative and divide to produce strategies, methods and new products that are better and of better quality (Rahmadani et al., 2022).

#### 4.2. Digital Era

The beginning of the XXI century is a time when the world is in the phenomenon of globalization, namely the creation of a world free market and the free flow of technology, capital, people, goods and information. The digital era was born with the emergence of digital or commonly known as the internet (Ramadhani et al., 2021). In Greek, the word digital comes from the word digitus, which means finger. The number of human fingers is 10 (ten); the value of 10 consists of the numbers 1 and 0 or on and off (binary numbers). The database used in all computer systems is a digital system or can be referred to as Bit (Binary Digit). The emergence of digital is caused by the birth of the digital era, in the form of internet networks or it can be said that computer-based information technology. New tools or media in the digital era have characteristics that can be engineered in the form of a network or the internet. Due to a cultural shift in the delivery of information, the mass media has switched to new media or the internet. In receiving information about media capabilities in the digital era, it makes it easier for the public because it can be obtained quickly. Therefore, it can be said that the digital era is an era of computerization because all human activities can be socialized with the media of computer technology (multi-screen) with various forms, representations, numeric and various narrative models that vary. And now, we are in the middle of a new era of growth where the pinnacles of human intelligence in all corners of the earth are connected thanks to digital technology. The emergence of the digital era brought major changes to the world. An era that has opened a very broad new hope but a new threat is facing. Humans are increasingly facilitated in accessing various information through several ways and can enjoy various digital technology facilities freely and can search for them in a short time. In the digital era, all matters that are private (individuals) are often disclosed to the public because they are considered not taboo subjects to publish (Ramadhani et al., 2023). There has been a digital revolution since the 1980s with changes from mechanical and analog technology to digital technology, and it continues to grow until now (Rizal et al., 2020).

Use less paper because all important things are considered safer stored digitally. The development of various digital applications has penetrated various lines of human life, both in terms of social, economic, government and education. Documents or files in digital form are clearer and more concise because they can be opened at any time with the help of a computer or cellphone. Technological sophistication that has developed must really be utilized, especially in terms of education, in order to increase electability and popularity. Because with the application or features provided, it is able to connect one individual to another, between groups or institutions and even between countries which can have a big impact on the life of the world of education. The changing times towards the digital era bring two things in balance. These two things are negative things and positive things (Rizani et al., 2022).

The positive things that can be felt in the digital era include: 1) it is easier and faster to access various information needed, 2) the emergence of digital-based mass media, especially in electronic media, which functions as a source of knowledge and information for the community, 3) being able to improve the quality and quality of human resources through the utilization and development of information and communication technology, 4) creating innovations in various fields oriented towards digital technology which can make it easier for us, 5) being able to improve the quality and quality of education by the emergence of digital-based learning resources such as digital libraries, online discussions and so on (Rizani et al., 2022).

Illustratively it is explained that in the future the contents of a student's bag will no longer be books and stationery like today, but will contain: 1) a computer or notebook with internet access without being connected to a cable, in the form of subject matter such as reading material, material that is audio or visual, and equipped with a digital camera and voice recorder applications, 2) Equipment equipped with individual data, electronic money (ATM), security codes to enter the house, tools for counting, etc. 3) Mobile phones equipped with software, internet access, games, music, radio and television, 4) musical instruments, 5) medical devices, and 6) lunch boxes. This proves that all student equipment at that time will be internet-based equipment as a medium that assists in the teaching and learning process. But at the same time, the digital era also brings many bad (negative) impacts to life, including: 1) decreased morality due to misuse of knowledge, 2) training children to think short-sightedly, which can lead to a lack of concentration, 3) causes plagiarism to commit fraud due to easy access to data, 4) makes people feel addicted, 5) can change the order of social life and community culture (Saputra et al., 2020).

#### 4.3. Human Resource Management in the Digital Age

The role of human resource management in organizations has departed from a conservative role to be more creative and innovative in implementing bold initiatives such as competency-based recruitment, innovation compensation, results-oriented performance management, and human resource empowerment (Dewi et al., nd). The digitization of the human resource management function is also a reflection of this shift towards more creative and innovative roles. As the Human Resource Management function becomes more digital, it has the ability to leapfrog other support functions, according to Makridakis. The

benefits of digitization for the human resource management world include: deep analytics and higher levels of performance; greater efficiencies in recruiting, such as manual curriculum vitae (CV) replacement and automated screening that completes those tasks in seconds; greater transparency and access to previously closed data sets; realtime monitoring of employees; transactional task automation; more HR analytics 'pushing' reporting to line partners allowing them to see relevant data in real time and take action accordingly (Shaddiq & Haryono, 2020).

Baranes & Palas (2023) wrote how machine learning tools could create sophisticated, precise, fast and effective models for complex and computationally demanding decision processes; this will impact HR analytics and related human resource management predictive processes. This revolution influenced the perception of added value by human resource management and, at the same time, ensured that human resource management took a more significant role in organizations. In line with that, (Setiawan, nd), in a summary of studies on the impact of digitalization on human resource management and refers to the special function of human resource management, wrote that recruitment and selection had experienced the greatest impact of digitalization. Digitization has increased the efficiency and effectiveness of HRM functions, and today human resource managers and candidates use a number of platforms, such as Facebook, LinkedIn, Skype (video conferencing), etc., for recruitment purposes (Wuryantai, 2013).

Digitalization is also impacting the training and development function. Modern technology has revolutionized teaching techniques, such as displaying work-related videos, online courses, computerized learning methods, and reading through a soft copy (Danuri, nd). (Wiliandari, 2014) wrote about the unlimited sources of information that organizations can access for training and development purposes as a result of new technological tools. Unlimited sources of information are also paired with limitless educational opportunities as organizations take advantage of online courses and blended learning, which are accessible to everyone regardless of where people live, their skills, and according to their interests and abilities (Shaddiq, 2021).

A study on the introduction of digitization of HR activities in industrial companies (Purnama, nd) concluded that although most of the activities related to human resource management are at the initial stage of digitization, where management is local, most of them have been digitized in terms of training and development. Digitization has not only impacted the methods used for training and development but also impacted the core objectives of training and development. Professional training and development aim to challenge business leaders to adapt to changes in the digital paradigm (Soekarso, 2007).

They also aim for the development of digital competencies, including emerging new capabilities such as risk management, simplicity, connection and innovation. Doing so will improve company performance (Rofaida et al., 2020). Human Resources Manager in the Digital Age (Ida Agustini Saidi & Azara, 2020) writes about the new role of the human resource manager in the digital era, which, in summary, is to increase employee productivity and profitability, by effectively linking digital employees with automated work, new digital form, and organizational structure. (Ahmad, nd) explained that to fulfill their new role successfully, HR managers need to act primarily as strategic positioners (this requires knowing the business context and external factors), as change agents, and as technology advocates (knowing how to access, analyze, assess and share information, and how to apply new information technologies) (Shaddiq & Handayani, 2021).

To fulfill their new role, human resource managers need to acquire digital skills and increase their digital agility. Human resource manager competencies need to be aligned with digital transformation. Human Resources Managers in the digital era need competencies such as: business knowledge, HR expertise, change management, and technology expertise (Adiawaty, 2019); analytical abilities and data modeling skills; risk taking and tolerance for ambiguity (Ware & Rohaeti, 2018); to be agile, people-oriented, innovative, connected, aligned, and efficient (Purnomo, nd); understand the role of technology and its impact on humans and human functions (Ngafifi, 2014); know the latest technology offerings and understand how they can increase productivity and enable more collaborative work (Chartered Institute of Personnel Development, CIPD); the ability to recognize emerging technology trends that will affect business performance, and to champion the use of technology throughout the enterprise to drive adoption (Yuliana, 1999); the ability to encourage innovation, optimize technology and contribute to organizational sustainability (Prasetyo et al., 2017); the ability to utilize technology and technological devices to create high-performance organizations (Rosidah & Arantika, 2019); use of social media to recruit, retain, develop, and involve human resources (Rihardi, 2021). About the analytical skills of HR Managers, (Safa'Ah, nd) writes about HR analytical skills that HR Managers must have to improve the quality of decisions and drive organizational change (Shaddiq & Wanidison, 2021).

This is because the digital workplace provides a lot of information and data about employees. HR analysis is described as a means for HR to create value and needs to be seen as an important part of interdepartmental business analysis. In the following sections, a detailed explanation is given of the methodology adopted in uncovering the perceptions of human resource management scholars, both the function of human resource management in the digital world, as well as the role of human resource managers. The qualitative research methodology was chosen as the most appropriate to answer the research questions that this study wanted to answer (Shaddiq et al., 2021).



#### 4.4. Digital Strategy in HR Management

HR management in the digital era is very crucial. In order to achieve effectiveness and efficiency in HR management, it is necessary to integrate it with technological developments. Collaboration of all *stakeholders* (Management, Employees) is one of the keys to implementing digital-based HR management. Apart from that, *the digital strategy* in HR management requires technological support, which is not only developed internally by the company but involves technology development from external companies providing *digital platform services (vendors)* (Shaddiq et al., 2021).

Indirectly, the increasingly massive technological developments require digital infrastructure readiness efforts from *the regulator /government*. For example: The implementation of 4G or 5G coverage. Why do regulators need to be involved in a *digital strategy*? If the digitalization *platform in a company adheres to the access anywhere and anytime (3A)* pattern and can be connected to *social media*, then this is one of the important factors that must exist in supporting the digitalization transformation of company HR management (Shaddiq et al., 2023).

There is still a lack of digital-based HR management and an HR management *mindset that still uses the old style; the lack of innovation is the main problem that arises why digital transformation for HR management is important*. This has an impact on the minimum allocation of resources, especially in terms of financing for human resource management (Shaddiq, 2023).

The development of digital technology and work patterns that continue to transform requires companies to continue to innovate and transform digitally in terms of human resource management. This acceleration must be supported by the ease of managing integrated employee data, making it easier in terms of analysis and decision making. Especially during a crisis, where a *support system is needed* to support fast decision making. For example, the Covid-19 pandemic crisis forced companies to digitally transform HR management due to changes in work patterns (Surti et al., 2022).

Companies that will accelerate HR transformation in facing the digital era must focus on and develop the following:

1. Employee productivity needs to be optimized.
2. Employee career is a priority.
3. An integrated platform for achieving performance and facilitating decision making
4. Specific programs so that the achievement of resource management can be measured.
5. *Artificial Intelligence (AI)* as a tool for developing human resources.
6. Programs tailored to the needs of employees

A centrally managed employee database makes it easier for HR and management to analyze employee data as a basis for decision making. In addition, the effectiveness of this digitalization has a positive impact on companies such as *paperless, reduced human error, easiness, and simplicity* (Wagiono et al., 2022).

In crisis conditions, companies must be ready and fast to manage human resources. One of the current crisis conditions is the impact of the Covid-19 pandemic. Where changing work patterns require companies to involve digitalization in almost all lines of the organization. One of the most *significant impacts* in HR management is on the *recruitment process*, such as *assessments and interviews* conducted *online*. Demands for efficiency and effectiveness also form the basis of digital HR management (Wagiono et al., 2022).

In this *digital strategy* for HR management, strategic stages are needed in accordance with the company's vision and mission, including:

1. Setting priority scales, focusing on the main goals and being critical.
2. Collaborating with all lines of the organization, especially IT, as the main *support system* in digital transformation.
3. Perform HR digitization design.
4. Doing *the development* of the design by involving internal and external channels.
5. Carry out the implementation of *development results*
6. Conduct outreach to all *stakeholders* in the digitalization of human resources
7. Conduct continuous reviews to produce an effective process and have a positive impact on employees and the company.

We must avoid attitudes that are still patterned in old ways that are unproductive and ineffective. *Digital* transformation is only focused on one generation (for example: Millennials *only* ) but must be able to collaborate with all the characters of employees from various generations. In addition, the digitalization process only focuses on effectiveness and efficiency and cannot

emotionally bind employees to the changes that occur, so changes only occur in one direction and lead to not being optimal in the digital transformation process (Wagiono et al., 2022).

Collaboration and synergy of all *stakeholders* are needed to formulate policies. In this *Digital strategy*, it must be able to provide benefits to the company in decision making, operational effectiveness, efficiency and improving employee performance management. In addition, digital transformation must be able to build better human resources (Wagiono et al., 2020).

*The digital strategy* for HR management must facilitate human resource management activities that can be accessed anywhere and anytime (*access anywhere and anytime*). This is to support work patterns that have begun to transform, such as *Work From Home* (WFH)/ *Work From Anywhere* (WFA). Where whenever needed, the system must be ready to accommodate all these needs (Wanidison & Shaddiq., 2021).

*The platform* must be able to optimize the role of social media, so the platform must be connected to social media. The need to be able to identify employee profiles as a whole and patterns of employee activity so that companies can make comprehensive profiling. *The platform* must also be "Agile", capable of adapting to rapid changes. The platform must be built in an integrated manner and adapted to the architecture of the human resource management information system. This is to facilitate access and management of data-based HR (Wijaya et al., 2021).

Digital HR management must be able to build HR in *experiential learning*. *Modeling strategy* for digital HR management includes:

1. Initial Stage: *Assessment* of the company's readiness in implementing digitization of HR management, *Preparation of the Framework*, *Establishing Architecture*, *Building Awareness* of all *stakeholders*, *Provision of Tools / Platforms*, *Establishment of a Crisis Center*
2. Advanced Stage: *Pre-Implementation*, *Identification of Gap Analysis*, *Identification of Mitigation Plan solutions*, *Completion of Architecture*, *Integration*, *Implementation*, *Change Management*, *Continuous Review*, *Continuous Learning & Growth Mindset*, *Experiential Learning*

In the end, digital HR management has become a necessity in this digital era. Old patterns must begin to transform and follow changes that are increasingly unpredictable at this time.

#### **4.6. Millennial Generation and Development of Self Capacity**

Communication, information and new media technologies have succeeded in changing the pattern of communication and information seeking to become a major contributing factor in changing people's lifestyles, especially in the style of communication and information seeking. Since the internet boom at the beginning of the third millennium, we can easily get information about anything. The internet also allows people to communicate with each other using email, social media, and messaging services. This makes long-distance communication patterns using the internet have a strong interactive feel. It is the interactive nature of internet communication that distinguishes online media from other media, such as newspapers or television. In addition, the development of computer equipment and mobile phones is also increasingly accommodating. Mobile phones, which previously only functioned to make phone calls, developed into mini-computer devices (smartphones). Personal computers are also transformed into laptops which also have features and functions that support the daily activities of their users. Smartphones and laptops also have internet access features that allow people to communicate interactively without being limited by space and time. This is possible because of the mobile and portable nature of laptops and smartphones so that people are comfortable using them. It is not too surprising that today's daily life practices of humans have become completely facilitated by internet waves through gadget devices. This means of long-distance communication is commonly used for various purposes. If we then look at the context of work culture, these conditions also affect the pattern of work relations. Today people no longer rely solely on face-to-face communication with colleagues or partners to get work done. The Internet has made remote communication and coordination possible without having to meet in person so that a job can be done without having to always meet in person. The meaning of office entities has also begun to shift from previously being a physical office where workers of a company work together to a virtual office where office operational and functional arrangements can be carried out using computer technology such as PCs, laptops, cell phones and internet access. So the system allows people to work from anywhere. This explains the mushrooming of cafes or coffee shops, especially in big cities, which are used as workplaces where the majority of users are young children. We also know a place entity called coworking space, a public space that is designed with facilities like an office, has food and beverage consumption services, and, of course, a super fast internet connection. This place is now widely used as a place of work by people who do different jobs and do not just come from one office. Places like coworking spaces emerged as a response to the increasingly widespread virtual working style. Apart from public places such as coworking spaces, not a few people also install internet facilities at their homes to support their work needs. The rise of this virtual work style has even given rise to a term, namely digital nomads.

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Digital immigrants are people who carry out their work using digital technology and can work anywhere. They connect via the internet with colleagues or companies that hire their services. In Indonesia itself, this symptom has started to emerge with the large number of people involved as freelancers in various work projects such as research, consulting, writing, and so on. They work without time constraints and often use internet facilities at home or in public places such as coworking spaces when working on their jobs. This work style fits the character of the young millennial generation, who views life as optimistic and full of opportunities. Millennials are also a generation that is almost impossible to let go of digital communication and information technology. They grow in a breadth of communication and freedom of information that makes them feel confident and feels they can live life independently.

In the context of work, experiencing a dynamic work experience and seeking new knowledge is what millennials are looking for. This is driven by the passion of millennials for the development of considerable self-capacity. So that they become a generational group that does not hesitate to change jobs if the work or conditions in which they work are no longer suitable for their souls.

With their special skills, they can also become freelancers in various companies or independently build a career in the entrepreneurial sector. They can work anytime and tend to feel comfortable with their professional identity. So it is a commonplace that we find today – for example – a millennial graphic designer collaborating with various companies to create or renovate company logos without having to be physically present in the office or work permanently.

Likewise, in the universe of mass media, especially online media, there are information portals that have many millennial-aged content creators who work for them as freelancers. Not a few millennials also choose careers as independent professionals, building creativity in the entrepreneurial sector using digital platforms. The ability to produce ideas that can be converted into new or innovative and useful works, products or services is a challenge for millennial workers today. As a generation known for its creative, innovative and productive characters, the millennial generation warmly welcomes these challenges and competes to develop and prove their capacities through work activities that are dominated by the acuity and novelty of ideas. Moreover, jobs that require creativity are increasingly sought after and needed in the digital era. Technology may develop rapidly, and tools become increasingly sophisticated, but the creativity that emerges from thought processes which then contributes to the emergence of works of civilization, cannot be replaced. No matter how sophisticated a tool is, it will still not be able to create useful works if there is no construction of ideas and creativity that makes the tool work. Innovative, creative work challenges, opening up opportunities to work virtually in the field of work

#### **4.7. HR Development Strategy in the Digital Age**

Human resources are the most important asset in an organization because they are the resources that control the organization in a business and maintain and develop the organization in facing the demands of the times. Therefore human resources must be considered, maintained and developed. Likewise, educational institutions must pay attention to, maintain, and develop their human resources.

Human resources need to be developed continuously in order to obtain quality human resources in the real sense; namely, the work carried out will produce what is desired. The objectives of development are:

- 1) Increase work productivity
- 2) Improving the quality of work
- 3) Increase the determination of human resource planning
- 4) Improving morale and morale
- 5) Improving occupational health and safety.

There are several developments in human resources in the digital era of business: First, the development of creative educational and training institutions. The number of education and training institutions for creative industries is still relatively small and insufficient for the total number of Indonesia's workforce. The majority of existing training institutions are only available at the district or city level. Therefore, the government must encourage and facilitate the private sector to develop education and training institutions for creative industries, simplify the licensing process, and hold award programs for institutions that have succeeded in producing skilled and professional industrial human resources. Second, the development of new study programs that suit the needs and development of the creative industry. With the existence of a special study program in the creative industry sector, it is hoped that it will be able to shape the characteristics of human resources who are ready to work, work and be competitive in the Indonesian and global creative industries. Third, provide convenience facilities for creative industry education and training institutions to cooperate with fellow creative industry training institutions at home and abroad. The purpose of this cooperation is so that the ability of workforce to get used to the tight world of industrial competition. Fourth, Improve the quality of teaching staff and trainers. Qualified teachers and trainers greatly influence the quality of the workforce to be educated and trained. This

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effort can be made by holding teacher and educator certification with standards that are tailored to the needs of the creative industry. Fifth, Develop and improve the contents of the creative industry education and training curriculum. The developed curriculum must be in accordance with the needs of the industry. With this strategy, it is hoped that training graduates will have skills that are in line with the needs of the creative industry. Sixth, Improve quality standards and accreditation of creative industry education and training institutions. The benefit of this accreditation is as an indicator of improving the quality standards of creative industry education and training institutions and increasing the number of accredited institutions with the aim of continuing to maintain the quality of graduates produced. Seventh, Improving the quality of facilities and infrastructure for creative industry education and training institutions. The improvement of these facilities and infrastructure must be adjusted to the needs of the industry so that the development of human resources is a form of investment. Therefore, the implementation of HR development needs to pay attention to factors both within the organization itself and outside the organization concerned, namely internal factors and external factors.

Among these factors are as follows: Internal Factors here cover the entire life of the organization/institution that can be carried out, both by the leadership and members of the organization concerned as follows:

The concept of HR has three meanings, namely:

- a. Organizational Mission and Goals Every organization has a mission and goals to achieve. Achieving this goal requires good planning and proper implementation.
- b. Strategy for achieving goals The mission and goals of the organization may be the same as those of other organizations, but the strategies for achieving these missions and goals can be different. Therefore, the ability of employees is needed in predicting and anticipating external circumstances so that the strategy developed can take into account the impact that will occur within the organization.
- c. Nature and Types of Goals The nature and types of organizational activities are very important to the development of human resources. For example, an organization that mostly carries out technical activities will be different from the pattern of human resource development in scientific organizations.
- d. Type of technology used Organizational development is needed to prepare personnel to operate technology or to automate activities that were originally carried out by humans.

Meanwhile, the strategies for developing human resources in the digital era that you should know are:

#### 1. Opportunity For Employees To Channel Ideas

In a company, of course, employees must play a role as a cog for the development of the company's business. For this reason, employees also have the right to express all the ideas and ideas they have. Providing opportunities for employees to channel their ideas means letting these employees develop and develop their potential.

Therefore to develop human resources in a company, give your employees the opportunity to channel any ideas and ideas that you want to convey. So that from each of these ideas and ideas, you can listen and consider them.

#### 2. The Importance of Providing Training

Training is needed in developing human resources in the digital era at this time. You can carry out individual development in the form of improving your skills, knowledge and attitude.

Conducting training in the digital era at this time is also very important for human resource development, both in conducting online meetings and others.

By holding HR development training, companies can see the potential possessed by their employees, for example, the skills and knowledge they have.

So that as management, you will directly get quality human resources than before.

#### 3. Rewarding Employees

Employees who excel in their work are one of the human resource development strategies. This will motivate other employees to be better and will also make a major contribution to the company in developing its company.

#### 4. Prepare Budget

To carry out an HR development program, of course, the company has prepared a budget according to needs.

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Even though to do digital training, you don't need a budget that is too big to do it compared to you having to go to a trainer and having to rent a building.

#### 5. Seeing the Results of the HR Development Evaluation Process

Record any results obtained during the development process in the company. Determine the KPI (Key Performance Indicator) that will be used to evaluate before implementing the technology.

These KPIs will be used to evaluate whether the results obtained are in line with the company's digitalization goals. Evaluation results can be used to find out what aspects need to be improved and what things should be maintained.

Don't forget, apart from implementing digital technology in your company, also use digital technology such as bookkeeping applications so that company financial reports can be managed easily and quickly.

#### 5. Conclusion, Limitation, and Future Research

Furthermore, effective and appropriate HRM is needed; therefore that individual and organizational performance can increase optimally and sustainably. In conclusion, the management of human resources (HR) in the digital era has undergone significant transformations and continues to evolve as technology advances. The digital era has brought about numerous opportunities and challenges for HR professionals, requiring them to adapt their practices to effectively leverage technology and meet the changing needs of organizations and employees.

One of the key implications of the digital era is the increasing use of automation and artificial intelligence (AI) in HR processes. This has led to greater efficiency and accuracy in tasks such as recruitment, employee onboarding, performance management, and payroll processing. HR professionals need to embrace these technologies and acquire the necessary skills to effectively utilize them while ensuring that they do not compromise the human touch and personalized interactions that are crucial in managing human resources.

Another important aspect of HR management in the digital era is the emphasis on data-driven decision-making. The availability of vast amounts of data allows HR professionals to gain valuable insights into employee behavior, engagement levels, performance, and overall organizational effectiveness. By leveraging analytics and HR metrics, organizations can make more informed decisions about talent acquisition, talent development, and employee engagement strategies. However, it is essential for HR professionals to balance the use of data with ethical considerations, ensuring privacy and maintaining a fair and unbiased approach to decision-making.

The digital era has also had a profound impact on the employee experience. Remote work and flexible work arrangements have become more prevalent, and HR professionals play a crucial role in managing the challenges and opportunities associated with these changes. They need to implement effective communication and collaboration tools, establish policies and guidelines for remote work, and ensure that employees feel connected, supported, and engaged, regardless of their physical location.

Additionally, the digital era has necessitated a shift in the skill sets required for HR professionals. Alongside traditional HR competencies, professionals now need to be proficient in technology, data analysis, and digital communication. They must continuously update their skills and knowledge to stay abreast of the latest trends and best practices in HR technology and digital tools.

In summary, the management of HR in the digital era requires HR professionals to adapt their practices, embrace technology, and leverage data to make informed decisions. By doing so, they can enhance efficiency, effectiveness, and the overall employee experience in organizations. The successful management of human resources in the digital era will be characterized by a blend of technology and human touch, enabling organizations to thrive in an increasingly digital and dynamic world.

While studying the management of HR in the digital era, there are several limitations that researchers and practitioners may encounter. These limitations can affect the generalizability and depth of understanding in this field. Here are some key limitations to consider:

1. **Sample Bias:** The studies conducted in this area often rely on specific industries, organizations, or regions, which may limit the generalizability of the findings. Digital transformation varies across industries, and different organizations may have unique challenges and practices related to HR management in the digital era. Therefore, it is essential to consider a diverse range of organizations to gain a comprehensive understanding.
2. **Rapid Technological Changes:** The digital landscape is characterized by rapid technological advancements. As a result, the digital tools and practices relevant to HR management are continually evolving. This poses a challenge for researchers

1. as their findings may become outdated quickly. Additionally, practitioners may find it challenging to keep up with the pace of technological changes and implement the latest tools and strategies.
3. Lack of Longitudinal Studies: The digital era is relatively new, and longitudinal studies that examine the long-term effects of digital HR management practices are limited. While cross-sectional studies can provide valuable insights, longitudinal studies would offer a more comprehensive understanding of the impact of digitalization on HR management over time.
4. Ethical and Privacy Concerns: The increasing use of technology in HR management raises ethical concerns related to employee privacy, data protection, and algorithmic bias. Research in this area should consider the ethical implications of digital HR practices and provide recommendations for ensuring fairness, transparency, and compliance with privacy regulations.
5. Limited Focus on Employee Perspectives: Many studies in this field tend to focus on organizational outcomes and the perspective of HR professionals. While this provides valuable insights, it is important to consider the experiences and perceptions of employees regarding the adoption of digital HR practices. A more comprehensive understanding of how employees perceive and engage with digital HR initiatives can enhance the effectiveness of these practices.
6. Cultural and Contextual Variations: The impact of digitalization on HR management can vary across different cultures, regions, and organizational contexts. Cultural norms, legal frameworks, and technological infrastructure can influence the adoption and effectiveness of digital HR practices. It is crucial to consider these variations to develop contextually relevant strategies.
7. Human Element and Limitations: While digitalization has brought numerous benefits, it is essential to recognize the limitations and challenges associated with relying too heavily on technology in HR management. The human element remains crucial, and excessive reliance on technology may lead to a lack of personalization, reduced employee engagement, and challenges in managing complex human interactions.

It is important for researchers and practitioners to acknowledge these limitations and address them in future studies to ensure a comprehensive and nuanced understanding of the management of HR in the digital era.

Future research in the field of HR management in the digital era can explore several areas to deepen our understanding and address emerging challenges. Here are some suggestions for future research:

1. Impact of artificial intelligence (AI) and Automation: Investigate the impact of AI and automation on various HR functions, such as recruitment, training, performance management, and employee engagement. Examine the benefits, challenges, and potential ethical implications of integrating AI into HR practices.
2. Employee Experience in the Digital Workplace: Explore how digitalization influences the overall employee experience, including aspects such as remote work, flexible work arrangements, virtual collaboration, and digital communication. Examine the factors that contribute to positive employee experiences in the digital workplace and identify strategies to enhance employee engagement and well-being.
3. Digital Skills and Upskilling: Examine the digital skills gap within HR departments and explore strategies for upskilling HR professionals to effectively leverage technology and data analytics. Investigate the impact of digital skills development on HR performance and the overall HR function's ability to support organizational goals.
4. Data Analytics and HR Decision-making: Investigate the use of data analytics in HR decision-making processes, including talent acquisition, performance management, and employee development. Explore how organizations can leverage HR data to enhance decision-making accuracy, fairness, and overall organizational performance.
5. Ethical Implications of Digital HR: Examine the ethical considerations associated with digital HR practices, such as employee data privacy, algorithmic bias, and the responsible use of AI. Investigate strategies and frameworks for ensuring ethical HR practices in the digital era.
6. Adoption and Change Management: Explore the factors influencing the adoption of digital HR technologies and practices within organizations. Investigate the barriers and facilitators of successful implementation and change management in the context of digital HR transformation.
7. Cross-cultural and Cross-industry Studies: Conduct comparative studies across different industries and cultural contexts to understand how digitalization impacts HR management practices. Investigate the variations in adoption, challenges, and outcomes of digital HR initiatives in different organizational and cultural settings.
8. Future Workforce Trends: Explore the implications of emerging workforce trends, such as the gig economy, remote work, and the rise of digital nomads, on HR management practices. Investigate how HR professionals can effectively navigate these trends and develop strategies to attract, engage, and retain talent in a digitalized work environment.
9. Human-Centric Digital HR: Examine approaches and practices that strike a balance between technology and the human element in HR management. Investigate how organizations can leverage digital tools while maintaining personalized interactions, empathy, and emotional intelligence in managing human resources.

10. Longitudinal Studies: Conduct longitudinal studies to track the long-term effects of digital HR practices on organizational performance, employee engagement, and well-being. Investigate how the impact of digitalization evolves over time and identify best practices for sustainable and effective digital HR management.

By exploring these research areas, we can gain deeper insights into the management of HR in the digital era and develop evidence-based strategies to address the evolving challenges and opportunities in the field.

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