

Paradigm shift in the Human Resource Management: An Overview of Digital technologies transforming the dynamics of Work and the Emergence of Gig Work.

Mano Ashish Tripathi, Dr. Ravindra Tripathi, Uma Shankar Yadav

Department of Humanities and Social Sciences
Motilal Nehru National Institute of Technology Allahabad

Abstract

The media often exaggerates the possible effects of technology progress on the workplace, making it hard to tell what is fact and what is fiction. The purpose of this research is to investigate about the effects of new technology on the workplace and the HR department's ability to aid workers and businesses in adapting to these shifts. There is mounting evidence that businesses are utilising cutting-edge technology like Artificial Intelligence (AI) and robotics to automate mundane, time-consuming processes and to facilitate the rapid, correct execution of complicated choices enabled by predictive algorithms. Plus, new technologies are being leveraged to facilitate the growth of more adaptable workplace models like remote work and contract employment. Human resources professionals, however, will face a number of difficulties as a result of this trend. They will need to assist people update their abilities to compete in the future world of work and mitigate the negative impacts of increasing connectivity and unstable work arrangements on employee well-being.

Keywords: Gig Economy, Artificial Intelligence, Human Resource Management , Emerging Technologies

Introduction

Technology's effects on the workplace, or the "changing world of work," have received a great deal of coverage and analysis in recent years, notably from the media and professional advisors. Fake news articles claiming that "Robots will take our jobs" really appear in print very frequently. The words "we'd best plan now before it's too late" (Elliott, 2018) have entered the lexicon.

Technology has been predicted to have far-reaching effects on the workplace, with some predicting the end of the traditional employment relationship, the widespread adoption of virtual reality in place of physical travel, and the gradual substitution of artificial intelligence (AI) and robotics for humans. It's true that cutting-edge innovations like AI are changing the workplace in profound ways. Indeed, the usage of AI and robots is on the rise, both for automating simple and repetitive jobs like factory labour and various back-office duties and for making difficult judgements like medical diagnoses more rapidly and correctly using predictive algorithms. According to a recent research by Frey & Osborne (2017), over half (47%) of all jobs fall into the "high-risk" category, meaning they are among those most likely to be automated within the next decade or so. Some of these changes may be enabled by technological progress, such as the dissolution of the traditional employment relationship in favour of gig economy work, the increased emphasis on flexibility and agility in the workplace, and the emergence of a new generation of workers with very different perspectives than their predecessors. The human resources (HR) department must assist the organisation and its workers adapt to the changing nature of work brought on by technological advancements, but it is unclear whether evidence supports the claims being made about the future of work...

Therefore, a systematic evaluation of the evidence is being conducted in this project to provide a more evidence-based approach to the investigation of this issue. This study aspires to answer the following question: what is

the existing body of literature on the effects of new technologies on the workplace, and what is the HR function with respect to these developments?

Next, we'll describe the steps we used to compile this evaluation of the available information, and then we'll briefly discuss our findings and draw some conclusions.

Digitalisation in HRM

Human Resource Management (HRM) has undergone significant changes in recent years due to the advent of digital technologies. Digital HRM refers to the use of technology to manage human resources, including recruitment, performance management, and employee engagement. This paper will explore the concept of digital HRM and its impact on organizations. Traditionally, HRM functions were performed manually, with paper-based forms and manual processes. However, with the rise of digital technologies, HRM has become more efficient and effective. Digital HRM allows for automation of repetitive tasks, improved data management, and better communication with employees.

Recruitment: Digital HRM has had a significant impact on recruitment. Online job portals, social media, and other digital platforms have made it easier for organizations to reach a wider pool of potential candidates. Additionally, digital HRM has made it possible to automate the screening process, making it more efficient and effective.

Performance Management: Digital tools such as employee performance management software have made it possible to track employee performance in real-time, providing managers with more accurate and timely information. This has led to more effective performance management and improved employee engagement.

Employee Engagement: Digital communication tools such as employee portals and mobile apps have made it easier for employees to access information and communicate with their managers. Additionally, digital HRM has made it possible to conduct employee surveys and gather feedback more easily, providing organizations with valuable insights into employee engagement.

HRM in the era of Gig Work

The gig economy, characterized by the rise of short-term and flexible work arrangements, has had a significant impact on human resources management (HRM) in recent years. As more and more individuals turn to gig work as a way to earn a living, organizations must adapt their HR strategies to accommodate this new workforce. One of the main challenges of gig work for HRM is the management of a highly dispersed and diverse workforce. Gig workers are typically not employees of the organization, but rather independent contractors or freelancers. This means that they are not covered by traditional employment laws and regulations and are not eligible for the same benefits and protections as traditional employees. As a result, organizations must find new ways to manage and engage this workforce, such as through the use of digital platforms and tools. Another challenge of gig work for HRM is the management of employee turnover. Gig workers are not committed to a long-term employment contract, and may choose to leave a gig at any time. This can make it difficult for organizations to retain top talent and can lead to high turnover costs. To mitigate this, organizations must focus on building strong relationships with gig workers and providing them with opportunities for career advancement. Gig work also has an impact on traditional employment relationships. As more individuals turn to gig work, there may be a decrease in the number of full-time employees, which can lead to a reduction in employee loyalty and commitment to the organization. This can make it more difficult for organizations to attract and retain top talent. Additionally, as gig workers are not considered as employees, they are not eligible for benefits such as health insurance, retirement savings plans, and paid time off. This can lead to financial insecurity and stress for gig workers and may create a moral and ethical dilemma for organizations who rely on gig workers to perform essential functions. Despite the challenges, gig work also presents opportunities for HRM. Organizations can use gig work to increase their flexibility and adaptability, allowing them to respond quickly to changes in the market and meet the needs of their customers. Additionally, gig work can be used to increase diversity in the workforce, as organizations can tap into a wider pool of talent. In conclusion, the rise of gig work has had a significant impact on HRM. Organizations must adapt their strategies to accommodate this new workforce and find new ways to manage and engage gig workers. By understanding the challenges and opportunities of gig work, organizations can create an environment that is beneficial for both gig workers and the organization. It is

essential for HR professionals to stay informed about the latest developments in gig work and explore potential use cases for their organizations.

Artificial Intelligence and its impact on HRM

Artificial Intelligence (AI) is revolutionizing the way businesses operate, and its impact is being felt in all areas of management, including Human Resource Management (HRM). AI is being used to automate and streamline various HR tasks, such as recruiting, performance evaluations, and training. Artificial Intelligence (AI) is increasingly being used in Human Resource Management (HRM) to automate and streamline various HR tasks, such as recruiting, performance evaluations, and training. AI can help with tasks such as resume screening, scheduling interviews, and even conducting initial interviews. AI can also be used to analyze employee data to identify patterns and make predictions about employee performance, turnover, and other key metrics. This can help HR managers make more informed decisions and improve overall HR processes. Additionally, AI-powered chatbots can be used to assist employees with HR-related queries, such as benefits information and time-off requests. Overall, AI is helping to make HR processes more efficient and effective. This technology is helping to make HR processes more efficient, effective, and data-driven. Recruiting is one of the areas where AI is having the most significant impact. AI-powered tools, such as resume screening software, can quickly and accurately sift through resumes to identify the most qualified candidates. This not only saves time but also helps to ensure that the best candidates are selected for the job. Additionally, AI can be used to schedule interviews and even conduct initial interviews, further streamlining the recruiting process. Performance evaluations are another area where AI is being used to improve HR processes. AI can analyze employee data to identify patterns and make predictions about employee performance, turnover, and other key metrics. This can help HR managers make more informed decisions about promotions, pay raises, and other HR-related issues. Additionally, AI-powered tools can be used to assist employees with HR-related queries, such as benefits information and time-off requests. Training is another area where AI is having a significant impact. AI-powered tools can be used to create personalized training programs that are tailored to an employee's specific needs and skill level. Additionally, AI can be used to track employee progress and adjust the training program as needed to ensure that employees are receiving the most effective training possible. In conclusion, AI is transforming the way HR is managed. By automating and streamlining various HR tasks, AI is helping to make HR processes more efficient, effective, and data-driven. Additionally, AI is helping to improve the quality of recruiting, performance evaluations, and training. As AI technology continues to advance, it is likely that its impact on HRM will continue to grow.

Blockchain and HRM

Blockchain technology has the potential to revolutionize the way human resources (HR) is managed within organizations. By providing a secure and transparent way to store and share data, blockchain can streamline HR processes, increase efficiency, and improve the overall employee experience. One of the key benefits of blockchain for HR is its ability to provide secure and tamper-proof record keeping. This can be particularly useful for storing employee data such as resumes, qualifications, and performance evaluations. By storing this information on a blockchain, employers can ensure that the data is accurate, up-to-date, and easily accessible to authorized parties. This can help to improve the recruitment process, as well as the overall management of employee data. Another potential use case for blockchain in HR is in the area of compensation and benefits. By using smart contracts, employers can automate the process of paying employees and managing benefits. This can greatly reduce administrative costs and improve the accuracy and efficiency of the process. Additionally, blockchain can be used to create a decentralized system for tracking and managing employee stock options, which can help to increase transparency and fairness. Blockchain can also be used to improve the employee experience by providing a more secure and transparent way to access and manage employee data. For example, employees can use blockchain-based platforms to access their personal information and update it as needed, which can save them time and reduce the risk of errors. Additionally, blockchain can be used to create decentralized systems for voting on important company decisions, which can help to increase employee engagement and participation.

In conclusion, blockchain technology has the potential to greatly improve the way HR is managed within organizations. By providing secure and transparent record keeping, automating processes, and improving the

employee experience, blockchain can help to increase efficiency and reduce costs. As such, it is important for HR professionals to stay informed about the latest developments in blockchain technology and explore potential use cases for their organizations.

The gig economy, also known as the sharing economy, is a labor market characterized by the prevalence of short-term contracts or freelance work as opposed to permanent jobs. With the rise of platforms such as Uber, Ola, and Zomato, Upwork, Amazon Turk ,the gig economy has grown significantly in recent years. Blockchain technology, the underlying technology of cryptocurrencies such as Bitcoin, has the potential to have a significant impact on the gig economy. This paper will explore how blockchain technology can be used to improve the gig economy in terms of trust, transparency, and security.

Trust: One of the key benefits of blockchain technology is that it allows for trustless transactions. In the gig economy, trust is often a major issue between parties. For example, a freelancer may be concerned about not getting paid for their work, while a client may be concerned about the quality of work they will receive. Blockchain technology can be used to create smart contracts that automatically execute when certain conditions are met. These smart contracts can be used to create an escrow system, in which a freelancer's payment is held in escrow until the work is completed to the client's satisfaction. This can help to mitigate the trust issues that can arise in the gig economy.

Transparency: Another key benefit of blockchain technology is that it allows for increased transparency. In the gig economy, it can be difficult to ensure that all parties are playing by the rules. Blockchain technology can be used to create a transparent and tamper-proof record of all transactions that have taken place on a platform. This can help to ensure that all parties are held accountable for their actions and that any disputes can be resolved quickly and fairly.

Security: Finally, blockchain technology can be used to improve the security of the gig economy. The decentralized nature of blockchain technology means that it is difficult for hackers to steal sensitive information or disrupt the system. Additionally, blockchain technology can be used to create digital identities that can be used to verify the identity of freelancers and clients. This can help to prevent fraud and ensure that only legitimate parties are participating in the gig economy.

Research Methodology

Our methodology for conducting this review of the literature will be outlined below, and our findings and conclusions will be discussed briefly. See Table 1

Table 1. Keywords reflecting published work.

Technology	Work	Future	HRM	Working practices	Other trends
Technological	Work	Future	Human Resource	Homeworking	Megatrends
Artificial Intelligence (AI)	Workplace	2030	HRM	Remote Working	Globalisation
Virtual Reality	Workforce	Advancement	HR Role	Flexible Work	Demographics
Augmented Reality	Employment	New	HR Activity	Autonomy	Multigenerational workforce
Automation	Work environment	Advances	HR Skills		Gig economy
Robotics	Work context		HR Analytics		
Digital	Employees		HR Professionals		

Online	Workers		People Management		
e-	Labour		Talent Management		
Wearables devices	Public sector				
Sensors	Government				
	Civil Service				

Source: Author's Calculation

In addition to papers published in scholarly journals, we also used reports and studies from non-academic organisations including consultancies, think tanks, and government agencies. These were discovered with the help of industry experts and online and database searches (namely, ABI/INFORM Complete, ScienceDirect, Scopus, Web of Science, and Google). The interdisciplinary nature of the problem at hand necessitates the use of both scholarly and popular materials (from fields as diverse as psychology, sociology, human resource management, organisational behaviour, information systems, computer science, and innovation and organisation studies). Due to the speed with which technology is advancing, we focused on works published between 2010 and 2018 to acquire the most up-to-date potential scenarios for the future of work.

The quality of the articles was judged in relation to the study design and the research issue (did the publications focus on research relevant to the research question). Studies were ranked on a number of factors, including whether or not they were based on a comprehensive literature review, whether or not they followed rigorous and acceptable research procedures, whether or not they used a sufficiently large and representative sample, whether or not they conducted appropriate analysis, and whether or not their conclusions were supported by the evidence.. After reading the titles and abstracts of all of the material that had been found, the study team settled on 115 papers to read further. Then, we studied each paper carefully and assessed its contribution to the three categories we were researching to determine whether or not it was relevant to the literature review. To conduct this analysis, we narrowed the pool of available literature down to 51 publications.

Findings

The findings pointed to a number of new technologies that might change the nature of work in the future, which in turn has consequences for HR. We know, first, that digital platforms are ubiquitous in the workplace and serve an essential function, whether we're talking about e-commerce sites like Amazon and e-Bay or marketplaces for freelancers like Uber and Freelancer.com (Morgan, 2014; Zysman & Kenney, 2018). Second, data analysis, pattern recognition, and prediction are three areas where artificial intelligence (AI) and machine learning (ML) were most prominently covered in the published works (Government Office for Science, 2015). Third, robotics was rumoured to affect the labour market as industrial robots gradually replaced humans in routine production tasks (Frey & Osborne, 2017). Fourth, it is demonstrated that AR and VR are assuming an ever-increasing role in industries such as healthcare, construction, oil & gas, and aerospace (Higgins, 2017). Fifth, in order to raise workers' consciousness of their own health, monitor their development, and implement strategies to keep them actively engaged in their job, wearable gadgets are increasingly being used in the workplace (Kim et al., 2012; Moore & Robinson, 2016; Moore & Piwek, 2016; Wilson, 2013). Finally, blockchain was proposed as a tool for doing business and sharing data that demands a very high degree of confidentiality (Wright, 2018; Yli-Huumo et al., 2016).

The field of human resources (HR) and the field of people management (PM) will face a variety of new and interesting challenges as a result of these developing technologies (Bondarouk & Brewster, 2016). Organizations will require a plan to maximise the positive effects of new technologies, such as increased productivity and better decision making, while mitigating any unintended consequences for their workforce. HR's capacity to ease or lessen the impact of new technology on the workforce is briefly discussed below.

Artificial Intelligence , Digitalisation and changing skills requirements

According to the data (Markoff, 2011), companies have huge financial incentives to increasingly automate their (now human) operations, and technological advancements in automation might drastically alter the kind of occupations that are accessible in the future (PWC, 2017). The capacity of coders to develop a set of procedures that enhance the issue definition and account for every conceivable contingency is the most important factor in determining whether a work can be automated (Frey & Osbourne, 2017). Despite this constraint, automation is increasingly being employed in sectors that need the storing or access of information (Frey & Osbourne, 2017), such as in fraud detection, medical diagnostics (Cohn, 2013; Wolcott, 2018) and legal (Markoff, 2011). (Markoff, 2011)., freight handling , and mining are only a few examples of the many manual operations that are becoming automated (Frey & Osbourne, 2017).

There is a lack of information about the precise function of HR professionals; nonetheless, they may play a crucial part in the process by identifying tasks (and, by extension, responsibilities) that may be automated. More importantly, the HR department must deal with the fallout of employment cuts caused by technological advancements (Frey & Osbourne, 2017; PWC, 2017). Not only should HR practitioners be central to supporting employees through a period of uncertainty while such decisions are made, they should also be responsible for considering how employees can be re-skilled or up-skilled in order to replace obsolete skills so that they can be retained in the workforce. There is a growing body of research indicating that businesses will need new sets of skills, knowledge, and talents from their workers.

Enhanced scope of flexing time and place

There is mounting evidence that businesses are adopting more adaptable work schedules to better accommodate employees and cut down on the overhead expenses involved with maintaining a traditional office. There is little doubt that the proliferation of internet and, more recently, mobile technology has allowed more people to work outside of traditional business hours. In addition to technological advancements, rising female participation in the workforce and adaptable retirement plans have contributed to the rise in flexible work schedules (Atkinson, 2017). Human resources is responsible for implementing and overseeing flexible work rules, as well as developing career and performance management systems that guarantee employees' advancement and advancement are not hindered in any way by their new schedules. Although flexible work schedules provide employees more control over when and where they do their job, studies have shown that they can also increase productivity (Kelliher & Anderson, 2010).

There has been an impression that the physical workplace is declining as a result of the rise of remote work (Waber et al., 2014), although evidence suggests that the uptake of home working is gradual in most firms (Bevan, 2017). One possible explanation is that people need to contact with one another in person to build and maintain trusting relationships, reduce stress, and maximise productivity (Forbes, 2013, Chron, 2017). (Waber et al., 2014). Indeed, it will be difficult to forge strong bonds inside the workplace if the number of remote workers continues to rise. Research on the significance of interpersonal interactions in the workplace is growing as virtual systems are increasingly adopted by businesses (Heaphy & Dutton, 2008; Marlow et al., 2017; McGrath et al., 2017). Heaphy and Dutton (2008), for instance, proposed that workplace social contacts, whether fleeting encounters or long-term friendships, have physiological correlations and impacts on the cardiovascular, immunological, and neuroendocrine systems. They argue that organisations have an effect on workers by making available (or not) opportunities for them to participate in good social relationships, which in turn changes micro-organizational behaviours like engagement and work recovery. McGrath et al. (2017) came to a similar conclusion, finding that employees who have more social connections at work are more invested in their jobs, implying that these relationships serve as a resource to help motivate workers to give their full attention to their tasks. Furthermore, their results imply that these advantages persist after the close of business. Actually, workers report more involvement in recovery-promoting activities in the evenings and on weekends following very productive days. Because of this, it is crucial for businesses to facilitate communication among workers. Several companies (including Facebook) have taken the initiative in creating communal areas where employees may gather for meetings and informal collaboration in response to this need.

Employment arrangements

According to the data, self-employment contracts, subcontracts, and different types of 'gig-work' are becoming increasingly commonplace as a result of the rising popularity of employees completing tasks utilising AI platforms inside the gig economy and open talent market (Deloitte, 2013). According to studies, about 2.8

million Britons participate in the gig economy in some capacity, and this is causing a decline in the demand for full-time employment. This in turn helps businesses save money and be more adaptable by reducing the need for a dedicated staff (Berg, 2016). As a result, people are less satisfied with their jobs (Fleming, 2017; Moisander et al., 2018), have less control over their workplace (CIPD, 2017), and have less of a social network within their institution (Fitzgerald et al., 2012). The gig economy is also associated with rising economic instability, low productivity, less independence, and higher levels of personal debt (Fleming, 2017). HR professionals, then, must consider how their organisations may reap the benefits of this strategy's potential adaptability without jeopardising their employees' safety or sense of job stability. Employers should use these contractual arrangements responsibly and with an eye toward the long term, rather than only for the short-term savings and versatility they provide.

Implications for Workers' Health and Happiness

As has been shown, there is a potential negative to the rising use of technology in the workplace, which should be taken into account by employers. Indeed, studies have suggested that the shift toward a more connected and contactable workforce, along with the rise of global working, implies that work is growing nearer 24/7 (Deloitte, 2016) and that the potential for employees to overwork (and so undermine their health) is increasing (Chron, 2016; Schlacter et al., 2018). Employees' worries about this possibility have been highlighted in the media. Google workers, for instance, have described connectivity as a "electronic leash" that undermines their health (Independent, 2017), while other studies have found a correlation between high levels of connectedness and feelings of stress and burnout (The Guardian, 2016).

Given that HR is tasked with creating and enforcing policies that promote the health and safety of employees, they play a vital role in the process of resolving such issues. Even Nevertheless, some businesses, like Daimler, have implemented policies that strongly advise workers to avoid staying connected to work during non-business hours (HR Magazine, 2017). To enforce such ideals, and in particular to strike a balance between the requirement for freedom of when and where to work and the risk of overwork, is challenging.

How HRM is transformed by emerging technologies

The aforementioned scenarios allude to the importance of human resources departments in helping workers adapt to the ways in which technology progress has altered their jobs, workplaces, and workforces. It should be noted, however, that new technologies have been demonstrated to affect HR practises in other ways as well. Attracting, selecting, developing, motivating, and retaining outstanding employees in organisations will continue to be critical in the future of work (Stone et al., 2015), but they may call for new strategies (Holland & Bardoeel, 2016). Take this as an illustration: it has been reported by ,According to Davenport et al. (2010), businesses are increasingly relying on high-end data collection tools and analytics to boost their talent acquisition and retention strategies. This finding lends credence to the theory that technological advancements are altering the nature of human resource management, particularly in the realm of data collection and analysis. Supporting line managers and HR pros in improving interactions and communication with employees via the use of interactive technology. Human resources in general may benefit from technological advancements. As we've seen, HR can now contribute to the strategic direction of organisations while also benefiting from increased efficiency in service delivery and less time spent on administrative tasks thanks to technological advancements (Bondarouk & Brewster, 2016; Stone et al., 2015). Increasing data availability and technological advancements may reorganise decision-making processes, giving human resources professionals additional possibilities to engage in "complex, judgment-oriented, and professionally challenging activities and responsibilities," as proposed by Marler and Parry (2016). (p. 2234). It's possible that developments in emerging technologies, like as real-time monitoring of employee and workplace data via sensors and decision-making via complicated algorithms, may facilitate the continuation of this trend (Bondarouk & Brewster, 2016). Human resources will have to adapt to a new reality in which permanent staff numbers may drop dramatically as a result of rising rates of automation and the advent of self-employment and the gig economy.

Emerging technologies, such as artificial intelligence, machine learning, and automation, are rapidly changing the way organizations operate. These technologies have the potential to significantly impact the field of Human Resource Management (HRM) by altering the way HR professionals perform their duties, the skills required for HR positions, and the overall role of HR within organizations. One of the ways emerging technologies impact

HRM is by automating repetitive and administrative tasks, such as tracking employee attendance, processing payroll, and managing benefits. This allows HR professionals to focus on more strategic and value-added tasks, such as talent management, employee engagement, and organizational development. Additionally, the use of machine learning and predictive analytics can provide valuable insights into employee performance and turnover, which can inform HR decision-making.

Another way emerging technologies impact HRM is by changing the skills required for HR positions. As technology becomes more integrated into HR processes, professionals in the field will need to have a strong understanding of the technologies and how to use them effectively. Additionally, as automation reduces the need for certain administrative tasks, HR professionals will need to develop new skills in areas such as data analysis, strategic planning, and employee engagement. Finally, emerging technologies have the potential to change the overall role of HR within organizations. As technology takes on more HR responsibilities, the role of HR may shift from being primarily operational to becoming more strategic and focused on improving organizational performance and employee engagement. Additionally, HR may become more closely aligned with other functions such as IT and operations, as technology becomes more integrated into the organization. Overall, emerging technologies have the potential to significantly impact the field of HRM, both in terms of the tasks that HR professionals perform and the skills required for HR positions. Organizations that embrace these technologies and adapt their HR strategies accordingly will be better positioned to succeed in the future.

Conclusions and implications

Evidential review results and the preceding discussion indicate that new technologies like artificial intelligence (AI), robots, virtual reality (VR), augmented reality (AR), digital technologies, wearables, and blockchain may have far-reaching consequences for the workplace and its employees. How much and how quickly this influence is felt is highly dependent on the rate of technological advancement and the openness of organisations to accept new technology. This analysis also shows that the HR department plays a significant position in assisting workers in adapting to the modern workplace, especially in the areas of training and education, workplace structure, and psychological well-being. The primary functions of HRM, such as assisting managers and employees in performing their duties (CEB, 2018), are not expected to change, but the HR function may become even more important as the potential benefits and risks of creating technology for employees expand. It all comes down to the HR team's ability to learn new skills and understand the implications of new technologies. According to Jesuthasan (2017), in the near future, human resource professionals will need to focus heavily on ensuring that employees remain actively engaged in digital activities at work. Against the backdrop of this technological development, we would argue that the responsibility of the HR function is expanded to include cultivating and supporting people to ensure their own progress and health as well as the long-term viability of the organisation.

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