

FEATURE ARTICLE

Revamping HRM for the Digital Age: How Disruptive Technologies are Reshaping the Workplace

Dr. K.G. Priyashantha (PhD in HRM)

Senior Lecturer

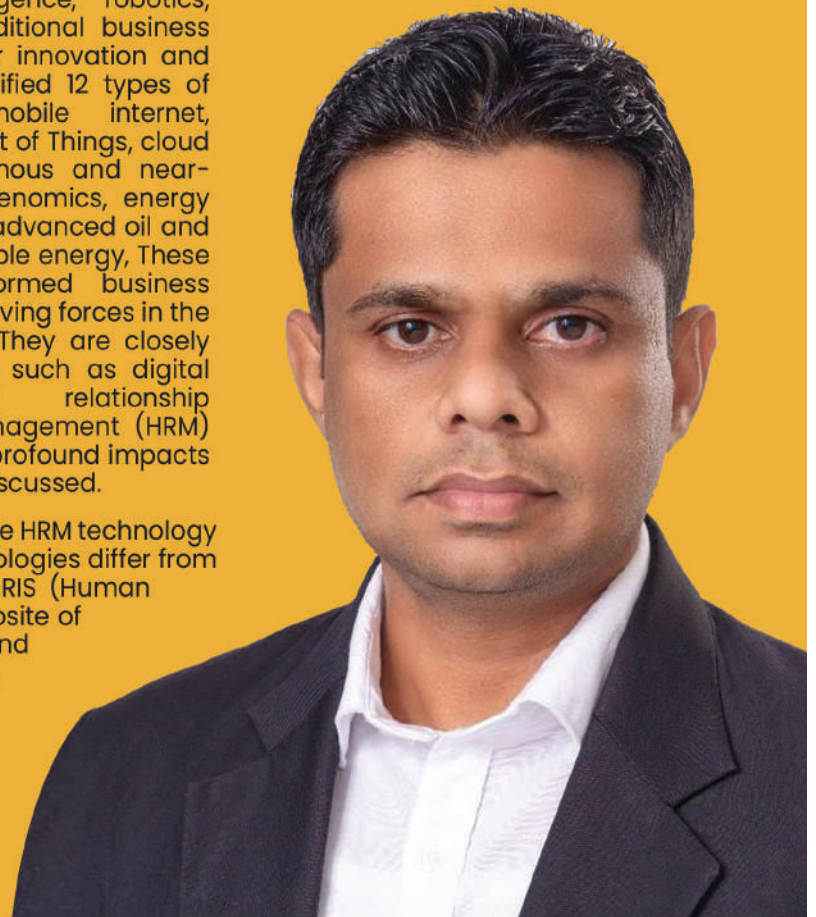
Department of Human Resource Management

Faculty of Management and Finance

University of Ruhuna

Disruptive technologies are transforming how we live, work, and interact with the world, due to unprecedented technological advancements (Schwab, 2016). These technologies, such as artificial intelligence, robotics, blockchain, and 3D printing, disrupt traditional business models and create new opportunities for innovation and growth. Manyika et al. (2013) have identified 12 types of disruptive technologies, including mobile internet, automation of knowledge work, the Internet of Things, cloud technology, advanced robotics, autonomous and near-autonomous vehicles, next-generation genomics, energy storage, 3D printing, advanced materials, advanced oil and gas exploration and recovery, and renewable energy. These technologies have significantly transformed business operations and are considered powerful driving forces in the business world (Gupta & Saxena, 2012). They are closely associated with contemporary concepts such as digital business, e-commerce, customer relationship management, and human resource management (HRM) (Gupta & Saxena, 2012). In this article, the profound impacts of disruptive technologies on HRM will be discussed.

There are concepts like HRIS and E-HRM in the HRM technology landscape. First, how disruptive HRM technologies differ from these concepts needs to be discussed. HRIS (Human Resource Information Systems) is a composite of databases, computer applications, and hardware and software used to collect, store, manage, deliver, present, and manipulate data for Human Resources (Voermans & van Veldhoven, 2007). E-HRM (Electronic Human Resource Management) is a term used to describe the automation of HRM



processes using web-based technology (Marler & Parry, 2016). Disruptive HRM technologies, on the other hand, are more advanced and transformative technologies that can revolutionize how HRM processes are managed and executed (Brynjolfsson & Hitt, 2000; Priyashantha, 2022). These technologies can automate tasks, transform how businesses hire, train, and manage employees, and enable new working methods.

The major technology disruptions that impact HRM processes are social media, big data and data analytics, cloud computing, the Internet of Things, and mobile technology (Priyashantha et al., 2022; Waddill, 2018). How do these impact HRM?

Social media technologies and social media sites influence HRM. Social media technologies are the tools and platforms that enable users to create, share, and interact with content online. Blogs are social media technology web-based publications. They provide employee services to HR business partners, analyze inquiries on recurring topics, provide expert information, communicate policy changes, explore new process improvements, and offer informal learning (Waddill, 2018). Photo sharing is another social media technology that allows users to post photos, videos and receive comments. It can be used for internal and not-for-profit activities, such as team building or morale-enhancing efforts that show photos of employees participating in team or organizational activities (Waddill, 2018). Podcasts/vodcasts are another social media technology that distributes digitized audio and video programs over the internet. Podcasts/vodcasts are excellent for interviews that provide excellent content and can be used in training for role plays and storytelling and face-to-face lecturing for trainers and educators (Saldanha, 2023). Really Simple Syndication (RSS) is a social media technology that uses web feed formats to publish frequently updated digital content. It communicates news headlines and notices to employees (Waddill, 2018). Wikis are websites where users collaboratively create content and structure layout directly from the web browser (Waddill, 2018). Wikis can retain corporate information for collaboration and training and organize employees' collective knowledge on various topics (Waddill, 2018).

Social media technologies can be used to create and manage social media sites. Social media sites are specific online platforms where users can connect with others and share content. The most popular social media sites include Facebook, Twitter, Instagram, LinkedIn, YouTube, and TikTok. Social media has particularly impacted recruitment and talent acquisition (Bersin, 2017). HR departments now use social media sites to

promote job openings, engage with candidates, and showcase company culture, expanding their reach to passive job seekers. Social media provides valuable insights into candidates' backgrounds, enhancing hiring decisions (Sameen & Cornelius, 2015). Additionally, it plays a crucial role in employer branding, employee engagement, and internal communication (Men et al., 2020; Sivertzen et al., 2013).

Big data and data analytics have transformed HRM practices by enabling organizations to leverage large amounts of data for data-driven decision-making. In HRM, big data and data analytics profoundly impact talent acquisition, employee performance and engagement, workforce planning, and program evaluation (Waddill, 2018). In talent acquisition, HR professionals can analyze candidate data to identify patterns and predictors of success, leading to more accurate hiring decisions, reduced bias, and improved efficiency in the recruitment process (Saputra et al., 2022). For employee performance and engagement, data analytics helps HR departments understand factors contributing to satisfaction and productivity, allowing organizations to implement targeted initiatives for employee development and performance improvement (Mello & Martins, 2019). Predictive analytics can also assist in identifying turnover risks and taking proactive measures to retain top talent (Singh et al., 2022). In HR planning, data analytics allows HR professionals to analyze workforce demographics, skills, and performance data to forecast future talent needs and make informed decisions regarding workforce planning, succession planning, and skill development initiatives (Fairhurst, 2014). Data analytics also enables HR departments to measure the impact of HR programs and initiatives by assessing training effectiveness, employee engagement initiatives, and performance improvement strategies (Giacumo & Bremen, 2016; McLean et al., 2016). It helps organizations make data-backed decisions on resource allocation and program refinement.

Cloud technologies significantly impact HRM practices by streamlining and centralizing HR processes, data, and systems. Cloud-based HRIS allows for efficient management of employee records, payroll, benefits administration, and performance evaluations (Waddill, 2018). The cloud enables real-time access collaboration and eliminates manual tasks (Yang et al., 2011). Cloud technologies also provide scalability and flexibility, allowing organizations to adjust HR systems and resources according to their needs without significant investments (Waddill, 2018). Remote access and mobile capabilities support the trend of remote work (Cresswell et al., 2022). Cloud-based

HRM systems collect and analyze employee data to gain insights into workforce trends and performance metrics (Gupta et al., 2012; Waddill, 2018).

The Internet of Things (IoT) has a transformative impact on HRM practices. It allows organizations to collect real-time data from interconnected devices and sensors, benefiting various HR areas such as employee well-being, safety, productivity, and talent management (Aronica, 2014; Waddill, 2018). Wearable devices and smart sensors monitor employees' health and safety, providing data on physical activity, stress levels, and environmental conditions (Aronica, 2014). This data aids in designing wellness programs and enhancing workplace safety (Bavaresco et al., 2021). IoT devices automate time and attendance tracking, reducing errors and simplifying administrative tasks (Atabekov, 2016). They also offer insights into resource utilization and workspace occupancy, optimizing resource allocation and improving productivity (Godavarthi et al., 2023). IoT enhances the employee experience by creating personalized workplace environments and facilitating collaboration through connected communication tools and smart meeting rooms (Ziegeldorf et al., 2014).

Integrating these disruptions into HRM practices raises ethical considerations, including privacy, data security, and discrimination. Clear policies regarding all these technology disruptions are necessary to define acceptable usage and protect the organization's reputation. Compliance with relevant laws and regulations and protecting employee privacy should be prioritized.

With these technologies, the HRM landscape is expected to undergo significant changes in work, the workforce, and the workplace (Deshpande, 2019). Regarding the changes in work, there will be a shift towards more knowledge-based and creative work and a reduction in the need for manual and repetitive tasks. This will require workers to develop new skills and competencies, such as critical thinking, problem-solving, and creativity. In terms of workforce changes, there will be an increase in the use of contingent and remote workers and a greater emphasis on diversity and inclusion. This will require organizations to develop new talent management and engagement strategies, such as flexible work arrangements and personalized HR services. In terms of the workplace, there will be a shift towards more flexible and collaborative workspaces and a greater use of digital technologies and automation. This will require organizations to invest in new infrastructure and technologies, such as cloud computing and virtual reality to support,

remote work and collaboration. Overall, the future world of work will be characterized by greater flexibility, creativity, and innovation, as well as new challenges and opportunities for organizations and workers alike (Deshpande, 2019; Manyika et al., 2013; Priyashantha et al., 2022).

Disruptive HR technologies are perceived as desirable by both employees and employers. Employees benefit from disruptive HR technologies' flexibility and autonomy, such as the ability to choose their workstyles, schedules, and tools (Fuze, 2019; Juo, 2017). Employers benefit from the increased efficiency, cost savings, better employee engagement, and informed decisions that disruptive HR technologies provide (Gautam, 2019; Ginac, 2018; Marler & Parry, 2016). However, adopting and implementing disruptive HR technologies also pose significant challenges for organizations, such as the need for significant investments in research and development, infrastructure, and talent management. As a result, organizations must carefully manage adopting and implementing disruptive HR technologies to remain competitive in a rapidly changing business environment.

In conclusion, disruptive technologies are transforming the HRM landscape and creating new opportunities for innovation and growth. However, integrating these technologies into HRM practices raises ethical considerations, including privacy, data security, and discrimination. Clear policies regarding these technology disruptions are necessary to define acceptable usage and protect the organization's reputation. HR professionals must adapt to these changes and take advantage of their opportunities by developing new talent management and engagement strategies, such as flexible work arrangements and personalized HR services. While there may be potential downsides or challenges associated with implementing disruptive HRM technologies, prioritizing compliance with relevant laws and regulations and protecting employee privacy can help mitigate these risks. Fusing disruptive technologies can help organizations stay competitive and thrive in the digital age.

References :

- Aronica, J. (2014, March 5). Improving Employee Health With the Internet of Things. Robin. <https://robinpowered.com/blog/improving-employee-health-with-the-internet-of-things/>
- Atabekov, A. (2016). Internet of things-based smart classroom environment: Student research abstract. Proceedings of the 31st Annual ACM Symposium on Applied Computing, 746–747. <https://doi.org/10.1145/2851613.2852011>
- Bavaresco, R., Arruda, H., Rocha, E., Barbosa, J., & Li, G.-P. (2021). Internet of Things and occupational well-being in industry 4.0: A systematic mapping study and taxonomy. *Computers & Industrial Engineering*, 161, 107670.
- Bersin, J. (2017). HR Technology For 2018: Ten Disruptions Ahead. *Forbes*. <https://www.forbes.com/sites/joshbersin/2017/11/02/hr-technology-for-2018-ten-disruptions-ahead/>
- Brynjolfsson, E., & Hitt, L. M. (2000). Beyond computation: Information technology, organizational transformation and business performance. *Journal of Economic Perspectives*, 14(4), 23–48.
- Cresswell, K., Domínguez Hernández, A., Williams, R., & Sheikh, A. (2022). Key challenges and opportunities for cloud technology in health care: Semistructured interview study. *JMIR Human Factors*, 9(1), e31246.
- Deshpande, A. (2019). How Emerging Technologies Are Changing the Future of Work -. <https://readwrite.com/2019/06/13/how-emerging-technologies-are-changing-the-future-of-work/>
- Fairhurst, P. (2014). Big data and HR analytics. *IES Perspectives on HR*, 2014, 7–13.
- Fuze. (2019). The Future of Work: Connecting the Digital Workforce [Web]. Fuze. <https://www.fuze.com/future-of-work>
- Gautam, A. (2019, July 1). How emerging AI solutions can help increase employee engagement. *People Matters*. https://www.peplemattersglobal.com/blog/guest-article/how-emerging-ai-solutions-can-help-increase-employee-engagement-22188?utm_source=peplematters&utm_medium=interstitial&utm_campaign=learnings-of-the-day&media_type=blog&subcat=hrtech&title=how-emerging-ai-solutions-can-help-increase-employee-engagement&id=22188
- Giacumo, L. A., & Bremen, J. (2016). Emerging evidence on the use of big data and analytics in workplace learning: A systematic literature review. *Quarterly Review of Distance Education*, 17(4), 21.
- Ginac, L. (2018). Top 10 Disruptive HR Technology Trends for 2019 [Blog]. *Hacking HR*. <https://hackinghr.io/blog/top-10-disruptive-hr-technology-trends-for-2019/>
- Godavarthi, B., Dhar, M., Devi, S. A., Raju, S. S., Balam, A., & Sri Lakshmi, G. (2023). Blockchain integration with the internet of things for the employee performance management. *The Journal of High Technology Management Research*, 34(2), 100468.
- Gupta, A., & Saxena, S. (2012). Electronic human resource management (e-HRM): Growing role in organizations. *Management Insight*, 8(1), 505–514.
- Gupta, R., Gupta, H., & Mohania, M. (2012). Cloud Computing and Big Data Analytics: What Is New from Databases Perspective? In S. Srinivasa & V. Bhatnagar (Eds.), *Big Data Analytics* (Vol. 7678, pp. 42–61). Springer Berlin Heidelberg. https://doi.org/10.1007/978-3-642-35542-4_5
- Juo, J. (2017, October 4). Disruptive New HR Tech That Can Boost Employee Engagement [Blog]. *Udemy for Business*. <https://business.udemy.com/blog/disruptive-hr-tech-boost-employee-engagement/>
- Manyika, J., Chui, M., Bughin, J., Dobbs, R., Bisson, P., & Marrs, A. (2013). *Disruptive technologies: Advances that will transform life, business, and the global economy* (MGI_Disruptive_technologies_Full_report_May2013.Pdf). McKinsey Global Institute. https://www.mckinsey.com/-/media/McKinsey/Business%20Functions/McKinsey%20Digital/Our%20Insights/Disruptive%20technologies/MGI_Disruptive_technologies_Full_report_May2013.ashx
- Marler, J. H., & Parry, E. (2016). Human resource management, strategic involvement and e-HRM technology. *The International Journal of Human Resource Management*, 27(19), 2233–2253. <https://doi.org/10.1080/09585192.2015.1091980>
- McLean, S., Stakim, C., Timner, H., & Lyon, C. (2016). Big data and human resources: Letting the computer decide? *Scitech Lawyer*, 12(2), 20.
- Mello, R., & Martins, R. A. (2019). Can big data analytics enhance performance measurement systems? *IEEE Engineering Management Review*, 47(1), 52–57.
- Men, L. R., O'Neil, J., & Ewing, M. (2020). Examining the effects of internal social media usage on employee engagement. *Public Relations Review*, 46(2), 101880. <https://doi.org/10.1016/j.pubrev.2020.101880>
- Priyashantha, K. G. (2022). Disruptive technologies for human resource management: A conceptual framework development and research agenda. *Journal of Work-Applied Management*, 15(1), 21–36. <https://doi.org/10.1108/JWAM-10-2022-0069>
- Priyashantha, K. G., De Alwis, A. C., & Welmilla, I. (2022). Disruptive human resource management technologies: A systematic literature review. *European Journal of Management and Business Economics*. <https://doi.org/10.1108/EJMBE-01-2022-0018>
- Saldanha, V. (2023, May 5). Using Podcasts In The Recruitment Process | *PulseHRM*. <https://pulsehrm.com/using-podcasts-in-the-recruitment-process/>
- Sameen, S., & Cornelius, S. (2015). Social networking sites and hiring: How social media profiles influence hiring decisions. *Journal of Business Studies Quarterly*, 7(1), 27.
- Saputra, A., Wang, G., Zhang, J. Z., & Behl, A. (2022). The framework of talent analytics using big data. *The TQM Journal*, 34(1), 178–198.
- Schwab, K. (2016). The Fourth Industrial Revolution: What it means and how to respond. *World Economic Forum*. <https://www.weforum.org/agenda/2016/01/the-fourth-industrial-revolution-what-it-means-and-how-to-respond/>
- Singh, R., Sharma, P., Foropon, C., & Belal, H. M. (2022). The role of big data and predictive analytics in the employee retention: A resource-based view. *International Journal of Manpower*, 43(2), 411–447. <https://doi.org/10.1108/IJM-03-2021-0197>
- Sivertzen, A.-M., Nilsen, E. R., & Olafsen, A. H. (2013). Employer branding: Employer attractiveness and the use of social media. *Journal of Product & Brand Management*, 22(7), 473–483.
- Voermans, M., & van Veldhoven, M. (2007). Attitude towards E-HRM: An empirical study at Philips. *Personnel Review*, 36(6), 887–902. <https://doi.org/10.1108/00483480710822418>
- Waddill, D. D. (2018). *Digital HR: A Guide to Technology-enabled Human Resources*. Society For Human Resource Management.
- Yang, C., Goodchild, M., Huang, Q., Nebert, D., Raskin, R., Xu, Y., Bambacuc, M., & Fay, D. (2011). Spatial cloud computing: How can the geospatial sciences use and help shape cloud computing? *International Journal of Digital Earth*, 4(4), 305–329. <https://doi.org/10.1080/17538947.2011.587547>
- Ziegelendorf, J. H., Morchon, O. G., & Wehrle, K. (2014). Privacy in the Internet of Things: Threats and challenges. *Security and Communication Networks*, 7(12), 2728–2742. <https://doi.org/10.1002/sec.795>