

## **DIGITAL TECHNOLOGIES IN PERSONNEL MANAGEMENT**

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Digital technologies are highly relevant in today's rapidly evolving business landscape, where digital transformation is reshaping how organizations manage their workforce. As companies strive for greater efficiency, digital tools enable streamlined HR processes, data-driven decision-making and enhanced employee experiences. With the rise of remote work and the need for agile responses to workforce challenges, leveraging digital technologies has become essential for maintaining competitiveness. Additionally, these technologies empower HR professionals to focus on strategic initiatives by automating routine tasks and providing valuable insights. Understanding and adopting these innovations is crucial for organizations aiming to attract, retain, and develop talent in the digital age.

The purpose of this article is to consider key digital technologies in personnel management (digital HR), highlighting the advantages and disadvantages of each one.

Digital HR has become an integral part of nearly all HR processes and plays a key role in creating an excellent employee experience. Elements of digitalization are present at every stage of the employee lifecycle – from recruitment and selection to onboarding, performance management, engagement, and offboarding [1]. Digital HR refers to the use of digital tools and technologies to manage human resources (HR) functions more efficiently and effectively. This includes the automation of traditional HR tasks, such as recruitment, onboarding, payroll, and performance management, as well as the adoption of advanced technologies like artificial intelligence (AI), machine learning, and data analytics to make more informed decisions about workforce management [2].

Let's analyze modern digital technologies in personnel management taking into account their advantages and disadvantages [1, 3 – 5].

*Human Resource Management Systems (HRMS).*

Functionality: HRMS platforms integrate various HR functions, including payroll, benefits administration, recruitment, performance management, and employee records. Examples: SAP SuccessFactors, Workday, and Oracle HCM Cloud.

Advantages: centralizes HR functions in one platform; enhances efficiency and data accuracy; provides comprehensive reporting and analytics.

Disadvantages: high implementation and maintenance costs; may require significant training for users; risk of data breaches if not properly secured.

*Recruitment and Applicant Tracking Systems (ATS).*

Functionality: ATS automates the recruitment process, from job posting to candidate selection, enabling efficient handling of resumes, candidate communication,

and interview scheduling. Examples: Greenhouse, Lever, and Taleo.

Advantages: streamlines the recruitment process; reducing time-to-hire and automating tasks like resume screening and interview scheduling.

Disadvantages: may overlook qualified candidates due to rigid filtering criteria, requires careful configuration to avoid bias, and can depersonalize the hiring process.

*Employee Self-Service Portals.*

Functionality: These portals allow employees to access their personal information, submit leave requests, update details, and manage benefits without needing HR intervention. Examples: BambooHR, Zenefits.

Advantages: these portals empower employees to manage their own data, reducing the administrative burden on HR and increasing transparency and accessibility of information.

Disadvantages: there is potential for errors in self-reported data, some employees may struggle with using the technology, and there are security concerns related to sensitive personal information.

*Performance Management Software.*

Functionality: Digital tools for setting goals, tracking performance, and providing feedback. These systems often include features for peer reviews, continuous feedback, and performance analytics. Examples: Lattice, 15Five, and Betterworks.

Advantages: this software facilitates continuous feedback and goal tracking, provides data-driven insights into employee performance, and encourages alignment of individual goals with organizational objectives.

Disadvantages: it can be perceived as intrusive by employees, there is a risk of over-reliance on metrics without considering qualitative factors, and implementation can be complex and time-consuming.

*Learning Management Systems (LMS).*

Functionality: LMS platforms facilitate online training and development, offering courses, tracking progress, and managing certifications. Examples: Moodle, Coursera for Business, and SAP Litmos.

Advantages: LMS platforms enable scalable and flexible employee training, track progress, and efficiently manage certifications, supporting diverse learning methods like video and quizzes.

Disadvantages: Creating and updating content can be resource-intensive, the systems may lack personalization in learning paths, and employee engagement may vary depending on the quality of the content.

*Employee Engagement Platforms.*

Functionality: Tools that measure employee satisfaction, engagement, and culture, often through surveys, feedback mechanisms, and analytics. Examples: Qualtrics, Culture Amp, and TINYpulse.

Advantages: these platforms provide insights into employee satisfaction and engagement, facilitate proactive identification of issues, and encourage a positive workplace culture through feedback mechanisms.

Disadvantages: they may lead to survey fatigue among employees, results can be skewed by non-participation or dishonesty, and turning insights into actionable

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strategies requires careful analysis.

*People Analytics.*

Functionality: Using data analytics to gain insights into employee behavior, performance, and turnover, helping HR make informed decisions. Examples: Visier, IBM Watson Analytics for HR.

Advantages: people analytics enables data-driven decision-making in HR, identifies trends and patterns that impact workforce planning, and can predict employee turnover, optimizing talent management.

Disadvantages: there are data privacy concerns, especially with sensitive information, and advanced analytical skills are needed to interpret the data accurately. Additionally, there is a risk of over-reliance on data without considering human factors.

*Artificial Intelligence (AI) and Machine Learning.*

Functionality: AI is used in various HR tasks like resume screening, predicting employee turnover, personalized training recommendations, and chatbots for HR support. Examples: Pymetrics (AI for recruitment), Eightfold.ai (talent management).

Advantages: AI and machine learning automate repetitive tasks, enhance personalization in training and recruitment, and predict trends and potential issues before they arise.

Disadvantages: these technologies require a high initial investment and are complex to implement. There is also a potential for bias in algorithms if not properly managed, and they can reduce the human element in HR processes.

*Blockchain in HR.*

Functionality: Blockchain can be used for secure record-keeping, verifying credentials, and ensuring transparency in HR processes like payroll and contracts. Examples: ChronoBank (for payroll), Bitwage (blockchain-based payroll).

Advantages: blockchain provides secure and transparent record-keeping, enhances trust in processes like payroll and credential verification, and reduces the risk of fraud and tampering.

Disadvantages: it is still an emerging technology with limited adoption, comes with high implementation costs and technical complexity, and requires collaboration and standardization across organizations.

*Remote Work and Collaboration Tools.*

Functionality: Tools like Slack, Microsoft Teams, and Zoom have become essential for communication, project management, and collaboration, especially in remote or hybrid work environments.

Advantages: these tools facilitate communication and collaboration in remote teams, increase flexibility and work-life balance, and support real-time project management and tracking.

Disadvantages: they can lead to feelings of isolation among remote workers, pose security risks if not properly managed, and over-reliance on digital tools can reduce face-to-face interaction and team cohesion.

*Employee Wellness and Health Tech.*

Functionality: Platforms that promote employee health and wellness, offering mental health support, fitness tracking, and wellness programs. Examples: Calm for

Business, Virgin Pulse.

Advantages: wellness and health tech promote employee health and well-being, can reduce absenteeism and improve productivity, and offer mental health support and wellness programs.

Disadvantages: there are privacy concerns with health data collection, employee engagement may vary depending on the quality and relevance of the programs, and maintaining effectiveness may require ongoing investment.

*Gamification in HR.*

Functionality: Applying game-like elements to HR processes such as training, performance management, and employee engagement to increase motivation and participation. Examples: Kahoot!, Bunchball.

Advantages: gamification increases employee motivation and participation, makes training and performance management more engaging, and encourages healthy competition and goal achievement.

Disadvantages: it may not appeal to all employees, especially those less competitive, risks trivializing important HR processes, and requires careful design to ensure alignment with business goals.

Digital technologies empower HR professionals to automate routine tasks, gain valuable insights through data analytics, and enhance the employee experience, making HR more dynamic and responsive to the changing needs of the workforce. However, while the benefits are substantial, challenges such as implementation costs, data security, and the potential for depersonalization must be carefully managed. Future research in digital technologies for personnel management should focus on several key areas to ensure these tools continue to evolve and meet the needs of modern organizations. Investigating the ethical implications of AI and machine learning in HR, particularly concerning bias and privacy, will be crucial as these technologies become more integrated into hiring and employee evaluation processes. There is a need for ongoing evaluation of how digital tools can be optimized to balance automation with the human touch, ensuring that technological advancements in HR continue to support, rather than replace, meaningful human interactions. Overall, embracing digital tools in personnel management is essential for organizations seeking to stay competitive, foster a positive work environment, and optimize their talent management strategies in an increasingly digital world.

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