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HUMAN RESOURCES AS A KEY DRIVER FOR DIGITAL TRANSFORMATION-INNOVATIVE DIGITAL ADVANCEMENTS

Abstract

The role of Human Resources in the digital era, where technology and automation continue to reshape industries, has become increasingly vital. With technology use and adapting to the changing environment, HR professionals can effectively navigate the challenges and opportunities of the digital transformation (DT). The digital transformation thru digital revolution has drastically changed how businesses operate, and human resources have had to adapt accordingly. Technology has enabled human resources to streamline onboarding, training, and recruiting processes while also providing a platform for employee engagement and communication. Also, human resources have become increasingly responsible for data governance, ensuring that the organization complies with relevant laws and regulations. All these factors have made human resources an essential part of digital transformation in any successful business in the digital era. This paper aims to explore the significance of human resources in the digital transformation and highlight its evolving responsibilities thru representing revolutionizing digital possibilities for HR practices.

Keywords: human resources, organizations, digital transformation, technology

JEL Classifications: O15, O33, Q55, M21

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INTRODUCTION

Human resources (HR) play a crucial role in attracting and acquiring top talent, especially in the digital era. HR professionals can reach a wider pool of candidates and streamline the recruitment process, with the widespread use of social media, online job portals, and applicant tracking systems. Additionally, integrating machine learning and artificial intelligence (AI) has led to the automation of many jobs. Technical skills requirements will include experience in Big Data analytics, programming, robotics and smart systems maintenance (Bag et al., 2021b). Soft skills, continuous learning, analytical, innovative and critical thinking are also increasingly required (Jerman et al., 2020). Algorithms enables HR to analyze data and efficiently identify the most suitable candidates, they can quickly review resumes, eliminating the need for manual screening, and can assess candidates on a much higher level. In that way HR understand the candidate's abilities and skills better and helps to find the right person for the job.

The integration and exploitation of new digital technologies are main challenge because people are permanently connected to electronic devices (Bag et al., 2021a). These changes can bring about numerous advantages for the companies, such as improved efficiency, accessing new markets or improving brand image or reputation (Ferreira et al., 2019).

This paper explains the benefits, challenges, examples and the role of HR in DT. Also, has aim to provide an analysis of how DT influences of HR, to understand the framework of HR in organizational digital transformation initiatives and powerful digital possibilities for organizations.

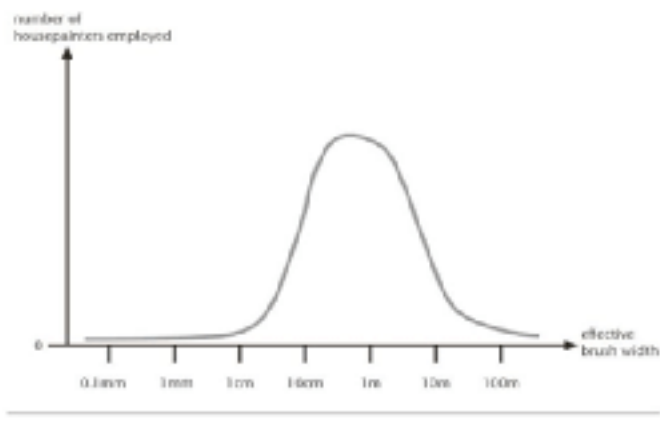
1. LITERATURE REVIEW

Digital transformation has aim is to create new possibilities for the future as opposed to simple technological changes seeking to correct the mistakes of the past. Digital transformation leads to the “transformation of key business operations and affects products and processes, as well as organizational structures and management concepts” maintain (Matt et al. 2015). Young and Rogers (2019) DT define as “a technology-driven process of change derived from ubiquitous data, connectivity and decision making”.

Digital transformation not only refers to technological changes, but it also has an impact on the business itself (Hinings et al., 2018).

It is crucial to understand how these technologies can bring about changes in the business model, processes, organizational structure and systems (Hess et al., 2016). DT defines as the use of technology to increase a company's performance or reach generally (Oktavenus, 2019).

Graph 1: Concept of digital transformation



Source: Stuart Russell, Human Compatible (2020)

Source: Russell, S. (2019), Human Compatible: Artificial Intelligence and the Problem of Control, by Viking, October 8,

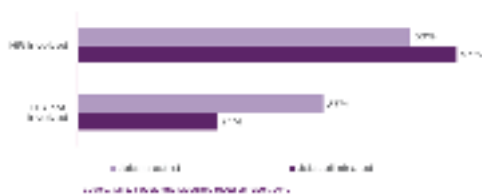
In his book Human Compatible, AI expert Professor Stuart Russell illustrates the concept of DT with house painting as an example (see Graph 1). The theoretical graph tracks employment in house painting as automation technology advances. The size of the paintbrush symbolizes the level of automation. For instance, if the brush is as narrow as a single hair, no human painters would be employed. At a width of one millimeter, only a few painters might be hired by the wealthy. When brushes become 10 centimeters wide, most homeowners can afford to have their houses painted, leading to thousands of painter jobs. Employment in house painting reaches its peak when large areas can be painted using rollers or spray guns. However, as automation progresses further and a single person can oversee teams of house-painting robots, the number of painter jobs starts to decline. Now, imagine this employment curve being applied to all routine tasks and jobs. The pattern would be similar: initial job creation as demand grows, followed by job losses as automation takes over.

Every organization wants quality and productive human resources and for that is necessary a process that must be done to get it through the proper recruitment, selection, and placement process so that the organization will get the right resources (Amirudin & Romadhona, 2022).

Companies will face in the coming years with one of the great challenges and that is to have a team of professionals who can function in the digital environment derived from DT (Ismail et al., 2017). Organizations can achieve a sustainable competitive advantage when human resources practices are aligned with the organizational strategy (Chowhan, 2016).

In the near future, evidence suggests that technology will continue to create more jobs than it eliminates. According to estimates from the World Economic Forum (WEF), by 2025, machines will generate 97 million new jobs for humans while replacing 85 million existing ones. However, the pace at which new jobs replace those made redundant is expected to slow by 2025. The WEF's *Future of Jobs Report 2020* doesn't specify whether the newly created jobs will offer adequate income or be accessible to workers displaced by automation. Meanwhile, McKinsey estimates that between 400 million and 800 million people could lose their current jobs due to automation and will need to find new employment by 2030 (Manyika, et al.). Though projections vary, it's clear that millions of workers will need to acquire new skills to remain employable. The CIPD *People and Machines* survey showed that HR professionals are more likely to be involved in decisions regarding AI and automation when it comes to creating or eliminating roles (see Graph 2). However, in general, HR tends to have less influence in making decisions about technology investments or overseeing their implementation compared to other departments (see Graph 3).

Graph 2: HR involvement in decisions around AI and automation investment and implementation



Graph 3: Departments involved in decision to invest and implementation of AI and automation



Source: CIPD *People and Machines* research report 2019

2. THE STAGES AND BENEFITS OF HR DIGITAL TRANSFORMATION

DT is pervasive across various sectors, but its impact on HR is particularly meaningful. HR digital transformation is not a change for HR only, rather it drives overall organizational success. In today's workplace, digital transformation is not just a passing trend but a crucial strategy.

Picture 1: The six stages of HR Digital Transformation



Source: Manoharan, P., "A Review on Digital Transformation in Human Resource Management", International Research Journal of Modernization in Engineering Technology and Science, Volume:06/Issue:04/April-2024

The rapid evolution of technology, combined with the growing expectations of a tech-savvy workforce, forces organizations to reconsider traditional HR methods.

HR Digital Transformation typically progresses through several distinct phases, with each stage building on the one before it to evolve into a highly adaptive and innovative function (Picture 1).

DT offers numerous benefits to HR operations, significantly enhancing efficiency and overall performance in HR (Picture 2).

Picture 2: Benefits of HR Digital Transformation



Source: The ultimate guide - 2023, HR Digital Transformation, (2023), https://workativ.com/conversational-ai-platform/blog/hr-digital-transformation-guide-2023?distinct_id=%2524device%253A191ae78c23f45e-074c2dca8ec5e8-26001151-144000-191ae78c23f45f

In summary, HR digital transformation not only streamlines operations but also enhances engagement, recruitment, accuracy, compliance, security, and cost efficiency, all of which contribute to greater business success.

3. FRAMEWORK OF HR DIGITAL TRANSFORMATION

A framework for HR Digital Transformation provides a structured approach to implementing digital changes within HR. This ensures alignment with business objectives while optimizing HR operations through technology. Comprehensive framework for HR Digital Transformation includes (Table 1):

Table 1: Framework for HR Digital Transformation

1	Evaluate Current HR Practices	<ul style="list-style-type: none"> • examining the existing HR practices • document how HR activities are conducted • use tools to visually represent workflows • collect feedback from HR staff and employees • analyze past HR data
2	Set Clear Goals	establish SMART (Specific, Measurable, Achievable, Relevant, Time-bound) objectives that align with the broader organizational strategy.
3	Form a Digital Transformation Team	<p>assemble a dedicated team to lead the transformation and assign specific roles and responsibilities:</p> <ul style="list-style-type: none"> • individuals with a range of expertise (HR specialists, IT professionals, data analysts, project managers, and change management experts). • external consultants
4	Select the Right Technology	<ul style="list-style-type: none"> • choosing the right digital tools • assessing which HR functions need digitalization (payroll, recruiting, and performance management). • consider systems like HR information systems (HRIS), applicant tracking software (ATS), employee self-service platforms, and analytics tools.
5	Ensure Data Security and Compliance	<ul style="list-style-type: none"> • develop strong data governance policies that control who can access HR data, • data retention rules, • disaster recovery plans. • keep up with regulations like GDPR or HIPAA, • conduct regular audits

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|---|---------------------------------------|---|
| 6 | Manage Organizational Change | <p>successfully transforming HR requires a well-thought-out change management strategy:</p> <ul style="list-style-type: none"> • identify key stakeholders • create a communication plan • offer training programs • establish feedback channels • strong change management plan reduces resistance and helps ensure adoption of the new technologies. |
| 7 | Utilize Analytics for Decision-Making | <p>analytics is vital in HR digital transformation as it enables data-driven decisions.</p> |
| 8 | Track and Adjust | <p>monitoring progress and evaluating outcomes are key to ensuring the success of HR digital transformation. Establish key performance indicators (KPIs) that align with your objectives, such as reducing time-to-hire, boosting employee engagement, or cutting turnover rates.</p> |

Source: Autor's table

By following these steps, organizations can successfully navigate the DT of their HR functions and create lasting benefits for both the workforce and the business.

4. THE WAY DIGITALIZATION IS REVOLUTIONIZING HR PRACTICES

The digital frontier adventure of HR is both revolutionary and thrilling. As organizations adapt to tech-savvy workforce expectations and evolving workplace needs, HR is shaping the future of work. Here's examples of powerful digital possibilities for organizations and into what the future of HR may involve in this digital era (Thomas M. Siebel et al.):

Applicant Tracking Systems (ATS)-like Bullhorn, iCIMS, and Lever are cloud-based SaaS platforms designed to automate, manage, and streamline the entire hiring and recruitment process.

With an ATS, HR teams can:

- Create, manage, and distribute job postings across various job boards and hiring websites automatically.

- Schedule interviews efficiently.
- Provide hiring managers with a dashboard to give feedback and track candidates through different stages of the hiring pipeline.
- Conduct background checks seamlessly.
- Generate offer letters for selected candidates.

AI-driven Applicant Tracking Systems (ATS) transform traditional recruitment processes by integrating artificial intelligence and automation to streamline talent acquisition.

- **Efficient resume screening:** AI-powered ATS use natural language processing (NLP) and machine learning algorithms to quickly scan and analyze resumes.
- **Improved candidate matching:** These systems apply AI algorithms to match candidates more precisely with job requirements. This not only reduces human bias but also improves the quality of the hiring process.
- **Automated communication:** AI-powered ATS can send personalized emails and notifications to candidates at different stages of the recruitment process, automating communication.
- **Data-driven decision-making:** AI-enabled ATS provide valuable data on key recruitment metrics, such as time-to-fill, source of hire, and conversion rates.

Employee Self-Service Portals (ESS)- are a prime example of DT in HR, revolutionizing how employees access HR services and information while enabling HR teams to work more efficiently. How ESS portals demonstrate HR transformation:

- **Simplified access to HR services:** ESS portals offer employees a centralized digital platform, providing 24/7 access to various HR services and information.
- **Increased employee autonomy:** ESS portals give employees more control over their HR-related tasks. They can update their personal information, monitor time-off balances, and access key documents independently.

- **Quick access to information:** ESS portals acts as a knowledge base, allowing employees to easily find policies, handbooks, procedures, and FAQs.
- **Data and analytics insights:** ESS portals produce valuable data that can be used for HR analytics. These insights help shape HR strategies, allowing organizations to make informed, data-driven decisions to enhance employee engagement and streamline HR processes.

People Analytics-marks a shift from traditional HR practices to a more data-centric approach, using advanced data analysis and technology to gain insights into workforce dynamics.

- **Data-driven decision-making:** Instead of relying on intuition, people analytics uses data from various HR systems like HRIS, recruitment platforms, performance tools, and employee surveys.
- **Predictive insights:** Moving beyond simple historical analysis, people analytics includes predictive modeling. HR teams can leverage past data to forecast future workforce trends and identify potential challenges, like talent shortages or turnover risks.
- **Recruitment optimization:** People analytics helps HR refine recruitment strategies by evaluating data on successful hires and candidate sources. By assessing which hiring channels bring in the best talent, organizations can improve their sourcing and selection processes.
- **Employee engagement and retention:** Analyzing survey data, turnover rates, and feedback allows HR to understand what drives employee satisfaction and retention.
- **Learning and development:** By identifying skill gaps and evaluating training programs' effectiveness, people analytics supports the development of targeted learning initiatives. HR can offer personalized learning paths for employees, ensuring ongoing skill development and career growth.

HR Chatbots-represent a new way of interacting with employees, using artificial intelligence to provide quick and automated support.

- **24/7 availability:** Unlike traditional HR departments, chatbots offer round-the-clock assistance, allowing employees to get help or information at any time.
- **Handling routine inquiries:** Chatbots are ideal for answering common questions related to benefits, policies, pay, or leave. By automating these routine tasks, HR professionals are freed from repetitive inquiries and can focus on more complex issues.
- **Scalability:** Chatbots can manage a high volume of employee inquiries simultaneously, ensuring efficient support, especially during busy periods such as open enrollment or major policy changes.
- **Personalized responses:** Advanced chatbots use employee data to provide customized answers. They can offer tailored advice on benefits or suggest relevant training programs, enhancing the overall employee experience and engagement.

Cloud-based HCM (Human Capital Management) systems demonstrating how technology is driving change in the HR field. In the past, HR functions often relied on manual processes, spreadsheets, and in-house software, which led to inefficiencies, isolated data, and restricted access. Cloud-based platforms like SuccessFactors, Workday, and UKG Pro, however, use cloud technology to consolidate and simplify HR operations.

- **Improved employee experience:** offer a unified platform where employees can manage payroll, benefits, time-off requests, compensation, performance management, and more. This all-in-one solution makes managing HR-related tasks more efficient and convenient for employees.
- **Greater accessibility and mobility:** HR data and services can be accessed from anywhere with internet connectivity. This is especially valuable in today's remote and global workforce, ensuring that employees and managers have 24/7 access to HR services, promoting self-service, and reducing reliance on HR staff for basic queries.
- **Cost-effectiveness:** Traditional on-premises HR software required hefty upfront investments in hardware, licenses, and ongoing maintenance.

Cloud-based systems eliminate these costs, instead offering subscription-based pricing. This approach also reduces the burden on IT staff, as cloud providers handle server management, updates, and security, allowing IT teams to focus on more strategic work.

- **Scalability and adaptability:** Cloud-based HR systems can scale easily, allowing organizations to adjust their usage based on their needs without major infrastructure changes. This flexibility makes it easier for companies to adapt to business changes like mergers, acquisitions, or workforce growth.
- **Centralized data and integration:** Cloud systems consolidate HR data, breaking down silos that are common in traditional processes. This allows for better reporting and analytics, providing insights into talent management and workforce planning. These systems can also integrate with other software, like finance and payroll, ensuring consistent and accurate data across the organization.

Digital onboarding-HR transformation is reshaping traditional practices by shifting from manual, paper-based methods to more streamlined, technology-driven approaches, namely:

- **Automated Paperless Processes:** Digital onboarding replaces traditional with electronic forms and automated workflows, allowing new hires to complete all necessary documentation online from any location. This not only cuts down on administrative tasks and errors but also speeds up the onboarding process.
- **Increased Efficiency and Time Savings:** Digital onboarding greatly reduces the time needed to bring new employees on board. HR teams can pre-fill forms with existing information, and new hires can quickly sign and submit documents electronically. This efficiency helps new employees integrate into their roles faster and start contributing more quickly.
- **Customized Experiences:** Digital onboarding platforms enable organizations to offer personalized onboarding experiences. New employees can receive customized content such as welcome messages, instructional videos, and training materials tailored to their specific roles and departments. This personalization enhances their sense of belonging and engagement right from the start.

- **Enhanced Data Collection and Analytics:** Digital onboarding allows for the collection of valuable data, such as onboarding completion rates, time-to-productivity, and feedback from new hires. HR professionals can use this data to assess the effectiveness of their onboarding strategies and make improvements as needed.
- **Remote Onboarding:** With the rise of remote and hybrid work environments, digital onboarding has become increasingly important. It allows organizations to efficiently onboard employees regardless of their location, making it easier to attract and retain talent in a global and flexible workforce.
- **Scalability:** Digital onboarding systems are scalable, able to handle varying volumes of new hires from a few to hundreds. This scalability ensures that the onboarding process remains consistent and efficient, no matter the size of the hiring surge.

Digital adoption platforms (DAPs) - are a key example of how HR digital transformation is enhancing the integration and use of digital technologies within organizations. These platforms provide a structured approach to help employees navigate and effectively use digital tools, improving overall productivity and optimizing HR functions. DAPs contribute to HR transformation, namely:

- **Smooth Onboarding and Training:** offering interactive, step-by-step guides for using key HR systems and tools. This helps new employees acclimate quickly and become productive faster. Training modules can be tailored to meet the specific needs of each employee, supporting more effective skill development and knowledge acquisition.
- **Empowered Employee Self-Service:** employees to independently manage their HR tasks and access self-service portals. They provide on-the-spot support and tutorials for completing tasks like benefits enrollment, time tracking, and performance reviews, reducing the need for extensive IT or HR assistance. This self-reliance enhances the employee experience and decreases the administrative load on HR teams.
- **Support for Change Management:** they offer real-time help, address common questions, and resolve issues quickly, easing the transition and reducing resistance to new technologies.

- **Insights Through Analytics:** HR teams can analyze this data to understand user behavior, identify challenges, and refine digital processes. These insights support data-driven decisions, helping HR professionals improve strategies and enhance the employee experience.
- **Personalized Guidance:** DAPs provide customized support based on employees' roles, preferences, and skill levels. This tailored approach ensures that each employee gets relevant and effective assistance, making the learning process more efficient and targeted.

Thru these examples we can conclude that HR digital transformation is fundamentally reshaping how organizations manage and interact with their workforce. These technologies enhance efficiency, streamline processes, improve employee experiences, and provide data-driven insights for better decision-making. Overall, they empower HR teams to focus on more strategic functions, driving both organizational agility and long-term success.

CONCLUSION

DT profoundly impacts HR activities, shifting the role of human resource management from static to dynamic and strategic. In the new era, HR face numerous challenges and opportunities to enhance team productivity and, consequently, profitability by effectively integrating digital employees with automated tasks and new digital structures. Key aspects to consider in this digital age include the quality, quantity, and distribution of superior human resource management, along with the capabilities required to compete in the labor market.

This paper addresses this need of digital transformation on human resources indicating on stages and benefits by identifying innovative solutions to adapt workers, support them within new socio-technical relationships in organizational systems, and enhance performance. The paper suggests to follow the framework implementing a series of HR practices to facilitate the digital transformation of organizations. These practices include powerful digital possibilities for organizations aligning employees with the company's vision and values, establishing teleworking policies, fostering a positive work environment through effective leadership, and by adopting tools are not only enhancing operational efficiency but also fostering a more agile, data-driven, and employee-centric work environment.

These digital innovations enable HR to align closely with business strategies, support workforce development, and ensure companies remain competitive in the evolving digital landscape. Additionally, involving employees in strategic decision-making, allowing participation in strategic decisions, and cultivating a culture of teamwork are essential practices to adopt in the digital era.

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