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## Future Human Resources, Technologically Engaged

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**Abstract:** *Intense global competition and the speed of change highlight the importance of human capital within the organization. People management, talent management is seen as a key element of competitive advantage. Various empirical studies have shown that the Strategic Management of Human Resources affects the performance of the company. To achieve this goal, i.e., increasing employee productivity and effectiveness in the company, we need to have data to process on which to make strategic decisions to achieve goals. We live in the world of “Digital Age” or the “Fourth Industrial Revolution” (4IR) which includes: Human Resource Analysis (HRA-Human Resource Analytics), Machine Learning (ML- Machine Learning) and Artificial Intelligence (AI- Artificial Intelligence). Therefore, data collection can be best achieved through technological programs, digitization, automation. By analyzing, especially the latest trend, we will get to know the impact, benefits, and challenges that this change will bring to the company. This article is a literature review, includes theoretical and empirical studies. It is intended that through the exploration of the future technological development in the Human Resources department, influencing the Human Resources management strategy, we serve all companies, institutions, societies as an advisor and guide for the challenges that await us in the future.*

**Keywords:** *Automation, Human Resources, Strategic Management of Human Resources.*

### 1. INTRODUCTION

The COVID-19 pandemic marks the beginning of a new and great challenge for the whole society. It has changed the conception not only in social life but also in work. This situation gave an immediate boost to technological developments to find new solutions to adapt to the change. For companies, this was, and it is a challenge that will reconceptualize the entire way of reorganizing the workforce.

The promise of this technologically induced shift in the organizational role of HRM is based on the notion that use of information technology affects how organizations are structured.

Information and communication technologies (ICT) enabled globalization and supported the change of work arrangements such as working from anywhere and at any time due to the increased speed and volume of information flow [4]. Today, telework, virtual teams and web-based job applications reduce the boundaries between geographies and empower organizations to work closer [11].

This new work experience connects work with personal life more than before, it requires the establishment of new balances. These initiatives support the work life balance, such as the decrease of work-to-family conflict, more autonomy and flexibility hence increasing job satisfaction.

The spread of these internet-based HRM IT innovations, generally labeled e-HRM), may be attributed to the promise of significant economic efficiencies in processing administrative transactions and communicating information. Some researchers also argue that internet-based IT is a disruptive technology that will inevitably transform the way in which organizations are structured. Consistent with this perspective, many researchers' and practitioners' claim that e-HRM will transform or disrupt how HRM is practiced in organizations, shifting it from being primarily administrative to being more strategically relevant).

This paper aims to understand how the trend of technology development has influenced the development of Human Resource Management, as a supporting function of the organization to help it gain a competitive advantage.

## **2. METHODOLOGY**

The purpose of this study is to collect and analyze various theoretical and empirical studies related to the latest trends in the development of Human Resources Strategy based on technological developments. The methodology used is research in Albanian and mainly foreign literature related to the proposed topic; analysis of previous studies and case studies in this field, newspaper articles, reports, statistical tables, online databases, etc.; reviewing and analyzing case studies. Only articles published after 2000 were used, because the topics are new in the literature.

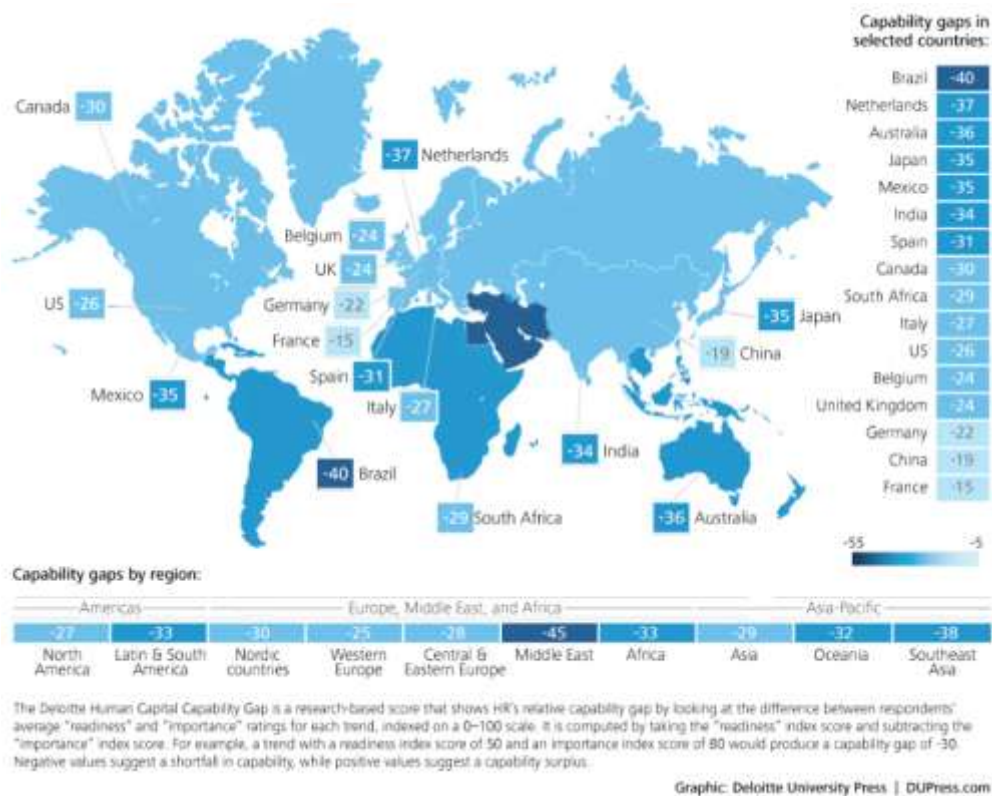
Limitation of the study are in time and access to information. This is a relatively new and future topic. Many studies are being conducted to find the most efficient way possible. Companies that have embraced this spirit are still in their beginnings. Detailed analysis requires a lot of empirical studies, time, and access to detailed information.

Mainly for analyzing and reaching conclusions, different studies were used. Especially the studies of the audit company Deloitte regarding the trend of human capital development, exponential Human Resources, etc.

As Frisch, et. al., 2010. "Get away from birthday wishes and remember that Human Resources are important in good times and Human Resources are defined in difficult times. "Apparently, the developments and the part post-covid, a reformation of the company and the Human Resources department is required. Automation of Human Resources not only creates the possibility for companies to stay connected with business needs, but also makes the organization more effective. This is a challenge of the 21st century. The modern work

environment is not so closely related to the physical place, work has become more flexible, requiring the creation of long-term social relationships. The management of workforce from different geographical locations, cultures, political systems has created a great challenge for the organization. Automation is not only related to the use of the latest technological equipment but requires remodeling of the behavior of the employees and the culture in the organization. Altarawneh (2010) says “The urgency for the achievements of Strategic Human Resources Management has created a real need for information about Human Resources”.

According to the study by Deloitte [1], Reinventing Human Resources, the Global Capital Trend Report 2015, has revealed that there is a huge gap between what business requires and what Human Resources can currently offer.



From the interview it was seen that 80% of them believe that there is a lack of development of human resources skills. Many organizations are in the transition phase of transferring their data and processes to the cloud system, creating new roles as a business partner or center of excellence. The demand for data evaluation and analysis increases more with their collection.

Studies and publications related to the automation of Human Resources have increased, according to Scopus studies. Their study includes publications from 2016 to 2020 in Scopus and 23 publications on scientific websites from different fields, Business Economics studies account for 57% of publications, mainly in European countries.



Fig 7: Shows the world map marked with the places from where the researchers have contributed their research works and publications records in the Scopus and Web of Science databases.

## Analysis

### History of development and management of Human Resources

Today, HRM has changed dramatically [15] towards a more technological administration, to respond to globalization, and to the “increasing demands and complexity of the fast-changing environment”.

The authors define e-HRM as a “way of implementing HR strategies, policies, and practices in organizations through a conscious and directed support of and/or with the full use of web-technology-based channels” [13]. Additionally, [10] Strohmeier (2007) defines e-HRM as “the (planning, implementation, and) application of information systems (IS) for both networking and supporting actors in their shared performing of HR activities” (2007: 2).

The Human Resources management model has undergone changes over the decades to adapt to developments. So, it passed from the concept of personnel management to business partner.

What does an organization push to automate HR processes?

From a study done from Deloitte Consulting LLP “Robotics and cognitive automation in HR Insights for action” and Deloitte Belgium [9]:

According to the Industrial Model (1990-2010), it was assumed that administrative work occupied a significant part of time, then consulting and at the end less time for strategic.

The key words were hierarchy-compatibility-specialization.

With the advanced concept of Strategic Human Resources Management according to the Ulrich model (2010-present), with technological changes, administrative work took up less space, leaving more time for consultancy. The keywords of this system are interactivity-strategy-focus on the customer.

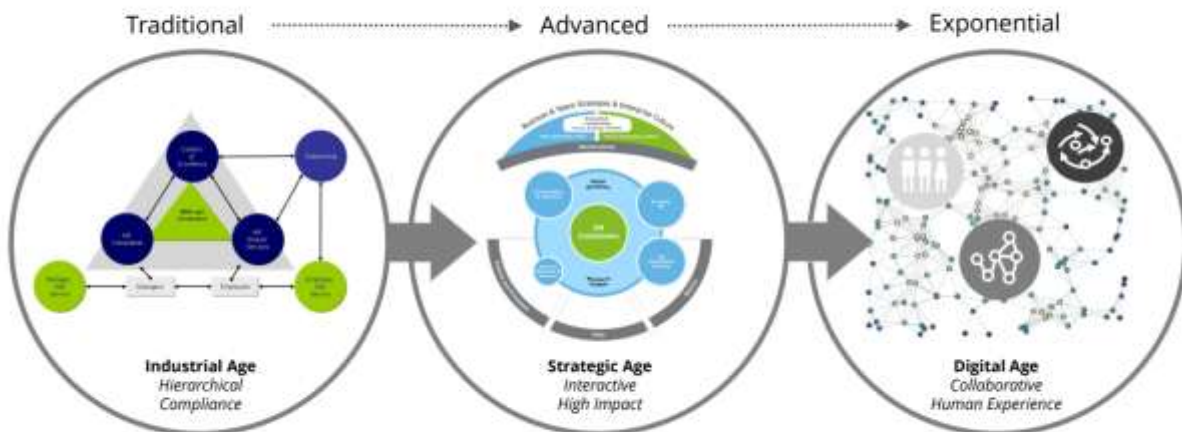


The future of the Digital Age is the exponential model of Human Resource Management. Key words to mention adaptability-flexibility-design-extensibility. "Data will become more and more accessible, technology will never replace the human being, but it will free the human being from jobs that are less valuable. People will be able to focus on those jobs that require creativity and feeling. We will see more accomplished experiences and better results; we will see human beings making the best use of their abilities." Manual errors, difficulty in managing data, need to improve customers services, need to use better HR professionals to focus on values added strategic work, need to have greater HR and organization efficiency drove toward automation processes of HR.

The role of Human Resources is expected to be support, partner and business advisor. Human Resources professionals will take care of workforce strategy, focus on talent, business management with a focus on work results, increasing commitment and productivity.

It's time for **Exponential HR**

Traditional, static HR operating models are for the history books.



Source: The Adaptable Organization, Deloitte, Alex Rafanua and Tara Murphy, 2019

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EXPONENTIAL HR Model: Easy from traditional operating models to define work outcomes

## Human Resources automation process.

The main terms through which the technological development has passed as below:

1. Digitization - the process of transition from analog to digital form without changing the process itself
2. Digitization - is the use of digital technology to change the business model to provide new income and opportunity and opportunity to produce value
3. Automation - Automating complex business processes and functions beyond conventional data manipulation and record keeping activities, usually using advanced technologies.

The past decade has witnessed a surge in the use of innovative information technologies (IT) in human resource management (HRM). With greater automation of administrative tasks and increasingly distributed access to data, decision-making is decentralized so that those



performing HRM tasks now can more effectively focus on complex, judgment-oriented and professionally demanding tasks and responsibilities. In this sense, jobs in HRM are upskilled as an adaptation to the effects of new technological advances.

But which are the HR services that are closer to automation?

### **Self-service support**

Human Resources are redefining their role from service providers in talent building, typical services are now provided by modern human capital management technologies or various applications. Tasks such as: printing forms, sending documents, reviewing errors, entering data into the system, reviewing payment slips, requesting permission, updating personal data or other manual operational tasks are a thing of the past. Now the focus is on the self-management of services where through the applications employees or managers can receive even without the presence of Human Resources. The rapid development of cloud technology is including more and more Human Resources activity more than the traditional model, leaving more free time for advising and consulting managers on strategies related to people. In this way, not only time is saved, but the information can be accessed in a single system for anyone who requires it. According to Master of Code Global, automation improves employee experience by 60%, reduces errors by 69% and improves employee satisfaction by 40%. In this new world, operational effectiveness and human resource efficiency are open issues on the table.

### **Data management**

Automatic data storage means that data is stored in computer programs and used to automate specific tasks for data storage. Physical documents, emails, letters make up a large wave of work that must be managed. This requires time, energy consumption, manpower, but most importantly, it is considered as wasted time, removing the focus from other tasks with a strategic focus. The storage of documents in these systems gives us the opportunity to apply the law for keeping, for example, the files of employees for years or forever even after their departure. This data is stored and processed in the system according to GDPR. The General Data Protection Regulation (GDPR) is the law for the protection and preservation of privacy and data security adopted by the European Union, entered into force on May 25, 2018. The GDPR law is detailed and requires businesses to change or to adapt their procedures and processes based on risk. Fines for non-compliance are hefty, reaching up to 4% of annual global revenue.

Some of the processes of the Human Resources department where we manage data:

- Recruitment of employees - Automatic placement (store) of applications received through the online form available to the recruiter for repairs. Instead of thinking about spending more money hiring new employees to perform the operational tasks of Human Resources, we should invest in the automated implementation of Human Resources processes. With a viral, user-friendly platform and support at any time, we will be on the way to an effective and optimized Human Resources department.
- Integration of the new employee - Send the confidential agreement and other documents, after completion, send to the corresponding folder in the repository.
- Benefits - Identify when employees qualify to be part of the process.



- Health and safety - send updated emails when an employee is absent, leaves or moves to another floor.
- Reminders for notifications to employees
- Recruitment process (access to programs, training)
- Exit process (access removal, organizational restructuring, exit interview scheduling)
- Approval process in the workflow system.

### **Reporting and analysis**

The reconceptualization of Human Resources, moving from operational specialists to qualified business consultants, brings better results, faster responses to changes in the market, efficient operations and increased job and customer satisfaction. The increase of availability and reach of human capital data support the company's strategy by facilitating HR to answer business challenges, through the analysis of these data. However, due to the big data era, these have evolved to data mining, algorithms, neural network, simulations and other methods to predict outcomes with precision. These advanced analyses have a critical impact on HR because they are used to predict the impact of future HR investment by calculating the return on investment, such as the employee's (current and new) performance, which is mainly used for recruitment purposes, and succession planning [16]: Automated software, centralized systems, processes and working models shared between a group of experts are used for data analysis and reporting. These bring ease in the collection and analysis of data, avoiding the manual search of information through documents. This reduces the risk of error and increases the efficiency and effectiveness of the product, work. In terms of big data analysis, there are not many research studies and applications published. In the HR domain there are even less studies, the application of data mining is still rare and research is mainly done by vendors with a commercial interest. Unfortunately, the analytical capability for HR will take some years to mature.

### **Benefits and challenges of Human Resources Automation**

- Through the automation of Human Resources, employees are more motivated to work since the work is completed in a shorter time and without errors. They don't have to do monotonous work. This increases the possibility to focus on "People" more than on administrative operational processes, which take a significant part of the time. Efficient work processes, reducing monotonous and tedious processes creates the opportunity to perform more complex tasks, reduces the possibility of human errors and increases productivity. Through information technology, it is possible to be more service oriented, have a collaborative environment regarding HR activities, in which different stakeholders (e.g., job applicants, managers, employees, HR staff), internal and external, make part of it.  
The efficiency savings produced by e-tools are higher due to the economies of scale triggered by the larger number of employees. [4]
- Information can be accessed easily and at any time with real data. Automating the Human Resources department is one of the most challenging since there is a lot of information that can flow. Through the mechanisms of the system, the possibility should be created that everyone can access only the information that is directly related to them so that we do not have problems with privacy issues.



- Automation has improved teamwork and communication. The integration of a new employee can only go through the system where it gives access to the systems according to the position, receives training according to the needs of the workplace, in this way complicated coordination between departments and long hours are avoided. Automation, on the other hand, has changed the way people work, communicate, and collaborate with each other. The implementation of these developments and new technologies to create a new culture in the organization is a challenge. It is important to understand if the company is in the right phase of the business cycle to take this step and the employees are ready to embrace new technologies.
- The need for information is often reduced as we do not have to follow the processes in detail, but automatic notifications bring to our attention different tasks that we need to do.
- Eliminates the need for technical knowledge. Automated computer systems can be implemented virtually, eliminating additional costs. Security in data protection is maintained as data is protected and accessed according to the rights granted to certain persons.
- Eliminates complexity. Using automated systems eliminates the need for printing, as the forms are completed online and do not need to be duplicated but are copied automatically when moving from one stage to another without errors.
- Employees must be sensitized to apply the code of ethics, confidentiality, and company policies in order not to reveal their passwords or compromise other confidential data in the company. Data protection, through the data protection system (GDPR), which is difficult to achieve in manual processes. Locked cabinets and daily vigilance would be needed. So archiving is safe. Standardization and transparency, creation of standard processes through online approvals. Transparent and controlled information according to hierarchy levels.
- Lower costs, we reduce costs by using less paper, less ink for printing or other printer maintenance expenses, thus saving resources. With technology development in HR, administrative tasks may also be in-sourced to the shared service centers (SSC), through which companies can reduce costs by standardization.
- Environmental protection if we don't print, we protect the environment, more trees more longevity and breathing.

### **3. CONCLUSIONS**

In conclusion, we can say that Human Resources should play an important role in aligning skills and capacities in achieving business goals. Its strategic role plays an important role in adapting to today's changes in the business environment. stress the inexistence of studies proving a direct relationship between e-HRM adoption and reduced costs, organizational performance or strategy oriented. Nonetheless, the e-HRM goals and its investments are associated with the primary HR role, either administrative, focused on cost savings, or strategic, focused on building competitive advantage.

In the Beijing High Technology Experimental Zone alone, the number of technology firms has increased from 527 in 1988 to 4,546 in 1998. Sales income from these firms has increased from US\$175 million to US\$5.7 billion, with annual growth rate of 42.6 per cent.



This also is proved by the study that the company's income has increased by 15% over the years with the use of automation.

Year-over-Year comparison of factors correlated to organizational outcomes



Source: 2019-2020 Sierra-Cedar HR Systems Survey

## Recommendations

Large organizations will more frequently adopt e-HRM, as the advantage of automation is higher and the investment justifies due to economies of scale [10]. For instance, an organization with more than a thousand employees can save training costs with e-learning applications, while smaller organizations may have difficulties rationalizing such investment.

The future would paint an organization where business leaders turn to Human Resources for advice on developing strategies for business growth, where Human Resources are considered developers of talent and leadership, co-directors of the business.

Von Bertalanffy (1969) introduced the principle of equifinality, widely used in the configurational tradition in the HRM research, arguing that the same final state may be reached from different initial conditions and HRM antecedents, in different ways, through different mechanisms. So, each company has its own unique journey towards achieving this new model of Human Resources, the important thing is to reach the destination.

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