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**“Artificial Intelligence in HR: Transformation of HR Functions and Future Development of the HR Sphere”**

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profile - International Management

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(29/05/2024)

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## **Introduction**

To achieve success by increasing customer satisfaction, which is one of the main factors for the survival of companies, organizations from various business sectors value and rely on the HR department for these tasks, which is an indispensable asset for improving organizational efficiency ([Aadesh Ashok Surve, 2020](https://www.academia.edu/42190735/IMPACT_OF_ARTIFICAL_INTELLIGENCE_IN_HUMAN_RESOURCE_MANAGEMENT_A_PROJECT_SUBMITTED_TO)).

The traditional functions of the HR department include recruitment and performance evaluation, policy development and implementation, as well as strengthening productive relationships between the organization and its employees, etc. ([Ercan Özen & Simon Grima, 2023](https://books.emeraldinsight.com/resources/pdfs/chapters/9781803820286-TYPE23-NR2.pdf)). However, the HR department may soon move from its core administrative functions mentioned above to more creative and strategic functions through the introduction of new innovative technologies, such as artificial intelligence, which can radically affect millions of jobs around the world in various industries, changing the structure of the department and overall dynamics organizations ([Aadesh Ashok Surve, 2020](https://www.academia.edu/42190735/IMPACT_OF_ARTIFICAL_INTELLIGENCE_IN_HUMAN_RESOURCE_MANAGEMENT_A_PROJECT_SUBMITTED_TO)).

In a 2017 study from PwC, it was indicated that in international companies located mainly in the United States, but also in Asia and Europe, 40% of HR specialists use various applications based on artificial intelligence ([PwC, 2017](https://www.pwc.at/de/publikationen/verschiedenes/artificial-intelligence-in-hr-a-no-brainer.pdf)). Many companies have already started trying to use the trending technology of artificial intelligence in 2023 ([Lucy Buchholz, 2023](https://www.unleash.ai/artificial-intelligence/93-of-hr-managers-use-ai-tools-to-reduce-costs-report-finds/)). And it was assumed that in the coming year more and more attention would be paid to this innovation and it would begin to be fully implemented into the existing processes not only of the HR department, but in principle throughout the company. Over time, the predicted results were noticeable, so the Society for Human Resource Management conducted a survey in 2024 ([Dianna L. Stone et al., 2024](https://www.researchgate.net/publication/378006662_Will_Artificial_Intelligence_Radically_Change_Human_Resource_Management_Processes)), the results of which showed that currently 79% of large companies use artificial intelligence in their work with personnel, which will continue to make changes to the HR department processes: the training and recruitment system, evaluation of its effectiveness, etc. ([Eti Jain et al., 2022](https://eudl.eu/pdf/10.4108/eai.16-12-2022.2326241)). Artificial Intelligence, which is a technological trend of the 21st century, refers more to the concept that a system (or machine) is capable of performing a number of tasks that mainly necessitate human intelligence (the system imitates human intelligent actions) ([IBM, n.d.](https://www.ibm.com/topics/artificial-intelligence); [Francesca Rossi, 2016](https://www.europarl.europa.eu/RegData/etudes/BRIE/2016/571380/IPOL_BRI%282016%29571380_EN.pdf); [David De Cremer & Garry Kasparov, 2021](https://hbr.org/2021/03/ai-should-augment-human-intelligence-not-replace-it)), which subsequently determines the future of HR.

As a rule, the HR department has always been considered very traditional and conservative in process automation and it seemed that it was lagging behind in digitalization efforts, but with the development of AI, the sphere has the opportunity to turn to something new and try to keep up with the times, simplifying some processes for itself. For example, artificial intelligence facilitates interaction between companies and potential candidates by providing introductory information or feedback, answering questions about the company, its organizational culture, etc., and helping to choose, for example, optimal benefit packages ([Dianna L. Stone et al., 2024](https://www.researchgate.net/publication/378006662_Will_Artificial_Intelligence_Radically_Change_Human_Resource_Management_Processes)). There is also an AI that can identify employees who are inclined to leave the organization in advance, which helps the HR specialist to act proactively, drawing up employee retention strategies and increasing their involvement. This shows how quickly artificial intelligence responds to certain requests without spending a lot of time on repetitive administrative functions and simplifying them ([Dianna L. Stone et al., 2024](https://www.researchgate.net/publication/378006662_Will_Artificial_Intelligence_Radically_Change_Human_Resource_Management_Processes); [PwC, 2017](https://www.pwc.at/de/publikationen/verschiedenes/artificial-intelligence-in-hr-a-no-brainer.pdf)). Despite such a positive impact of integrating AI into everyday HR functions, there are still specialists who are unwilling to implement this innovative technology, as there are concerns that in some cases there is not enough data to provide an accurate analysis of a specific task, and that such decisions without empathy can lead to errors in judgment ([Dianna L. Stone et al., 2024](https://www.researchgate.net/publication/378006662_Will_Artificial_Intelligence_Radically_Change_Human_Resource_Management_Processes); [PwC, 2017](https://www.pwc.at/de/publikationen/verschiedenes/artificial-intelligence-in-hr-a-no-brainer.pdf)). But it's worth noting that, currently, there are a lot of companies in the human resources department of which artificial intelligence is already used in various processes to one degree or another, but what are the nuances of this process for the introduction of technology? What transformations are taking place?

While some see no problem with the adoption of AI and believe it offers significant benefits, the reality is that any technology will lead to significant transformations not only in the landscape of functions but, most importantly, in the structure of a department. There is a research gap in terms of limited comprehensive understanding of the specific transformations taking place in functions due to the emergence and gradual adoption of AI, and a lack of clarity on the long-term implications for employees, for example, in career trajectories, and specific changes in the HR department. These changes may include the obsolescence of some traditional roles in HR, the emergence of new functions and positions, and a general change in how HR contributes to the organization's strategy. Moreover, the need for upskilling HR professionals and ethical considerations to adapt to AI-integrated systems is under-explored. Understanding these dynamics is critical for companies around the world adopting this technology to cope with uncertainty and leverage the benefits of artificial intelligence. To maintain a competitive advantage, companies must navigate these changes, addressing potential workforce disruptions and ensuring that their established HR strategies are aligned with technological advances.

Therefore, the **goal** of the thesis is to uncover transformations in the functions and development of human resources sphere in the context of rapid implementation of artificial intelligence.

The **objectives** of the thesis are:

1. Critically analyze the existing literature on digitalization and its trends and key technologies, particularly those related to artificial intelligence, in HR and its functions.
2. Conduct interviews with HR specialists from international and Russian companies for determining future transformations in HR functions (obsolescence or introduction of AI into other functions) caused by the development and introduction of AI and predicting the viability of this field, hoping for its continued existence.
3. Analyze interviews with HR professionals regarding their practice of integrating AI solutions and their vision for the future of this field.
4. Based on the obtained results, formulate practical implications relevant to the active implementation and utilization of AI in HR.

The **object** of the thesis is the HR sphere and its functions, and the **subject** is the integration of AI in HR functions.

For this thesis, a *qualitative methodology* is used that allows for in-depth study and subsequently comprehension of changes in approaches to integrating artificial intelligence into the routine functions of the human resources department. Moreover, using this methodology, it is possible to identify foreign and Russian subtleties of ideas and different points of view, which are likely to be overlooked when using quantitative methodology. The thesis is also based on *secondary* and *primary* data sources. Secondary data sources, such as specialized books on artificial intelligence, digitalization and HR (description of functions, importance of the department for the organization, evolution of the field, etc.), scientific articles on the impact of digitalization on HR functions, corporate reports of companies using the practice of introducing innovative technologies into the HR department, including artificial intelligence, provide a good and reliable theoretical base that not only thoroughly examines the topics of the chosen topic, but also and to identify gaps in this literature, and based on the results of previous research, to form new ideas. As for the primary qualitative data, it will be collected through semi-structured interviews with HR department specialists from large Russian and international companies from different industries, which makes it possible to hear about the real experience of specialists who work with such technologies, to learn the nuances of views that simply cannot be obtained by other data collection methods.

The thesis consists of three chapters. The first chapter will examine the evolution of the functions and roles of the HR department, carefully considering the various traditional functions of HR specialists, which are characterized by their routine and non-automated processes. The concept of digitalization and its platforms and other tools that are currently used in the workplace and its implications for HR practice are also touched upon. The second chapter is devoted to technology such as artificial intelligence and its implementation in the functions of HR professionals. This chapter explains the concept of artificial intelligence, provides examples of which functions in the HR department artificial intelligence has already been implemented and what opportunities it provides for specialists. In addition, the potential risks and threats associated with the integration of artificial intelligence in the workplace are highlighted. In the third chapter, a personal study of the set goal of the diploma is conducted, which describes the methodology, results and practical recommendations. The limitations of this work are also indicated.

## **CHAPTER 1. EVOLUTION OF HR ROLES AND FUNCTIONS**

## **An overview of traditional approaches and roles of HR professionals**

This chapter discusses that in order to attract talented and qualified candidates and, in general, to ensure organized processes, it is critically important to have an effective HR management team. Although the composition of HR specialists' functions may vary in companies due to factors such as the type of organization, size, market dynamics, etc., this chapter still pays special attention to the main traditional functions of the HR department that they perform on a regular basis, for example, personnel planning, search, selection and adaptation of personnel to a new workplace the location, as well as a detailed description of these key aspects. In addition, the functions of the department undergo significant changes over time: functions go from classic business functions to becoming strategic partners. Moreover, this chapter examines the concept of digitalization and the transformative impact of digital tools and technologies that facilitate strategic decision-making, such as application tracking systems (ATS), electronic personnel management (e-HRM), intelligent systems, on traditional HR functions, including the tasks of relevant personnel, roles in HR departments, etc. Moreover, the HR Zero paradigm will be considered, which focuses on the automation of everyday tasks, which allows HR specialists to focus on strategic tasks that will stimulate the growth of employees and the organization. Risks and problems related to the digitalization of HR department functions, such as the transformation of competencies, and employee resistance, will also be discussed in this section.

Human Resource (HR) department plays a vital role in any company, because without an effective HR team, a company will not only lack organised processes, but most importantly unique talents, and without qualified people, there will be no business. It is worth noting that the responsibilities of HR professionals can largely depend on various factors([Uttarakhand Open University, n.d.](https://www.uou.ac.in/sites/default/files/slm/HM-204.pdf)), type of organization, size, location, objectives, specifics of the product offered, culture, market dynamics, etc.).

The HR department is mainly engaged in administrative activities that involve both current employees and potentially new ones. For example, some of the typical duties of HR professionals include: recruitment, verification and integration of personnel, policy development (labor relations), maintaining employee documentation, and administration of collective agreements. In addition, HR specialists are responsible for overseeing training, communication within the company between departments, between employees and senior management, etc., as well as incentive and reward systems, including benefits and compensation ([Tracey, J. B., & Nathan, A. E., 2002](https://core.ac.uk/download/pdf/145016113.pdf); [Human Resources Function. (n.d.)](https://msmonline.co.za/wp-content/uploads/2021/03/Human-Resouces-Function-workbook.pdf); [NEERAJ, 2018](https://www.jetir.org/papers/JETIR1801055.pdf)).

If we consider the core Human Resources functions that were mentioned earlier in this paragraph (recruitment, personnel planning, talent search, recruitment, recruitment and onboarding ([Ignou the people's university, n.d.](https://egyankosh.ac.in/bitstream/123456789/78795/3/Unit-2%20pdf))) and what they include in a little more detail, for example, recruitment includes an analysis of positions, which requires not only collecting information about various aspects of the work, but also a thorough study of these data related to the tasks and responsibilities of a particular position. In addition, HR specialists are required to create regulations detailing job requirements and criteria for employees and job descriptions. These manuals are needed both for the management of personnel and in general for the organization of the workspace. Speaking of personnel planning, it includes, at the first stage, identifying potential candidates for a particular position, and then ensuring the availability of qualified specialists in the company to achieve its goals and meet its current and future needs. Moreover, in this case, the HR department is required to develop a number of strategies to attract external talent and develop existing ones in the organization. The need for HR planning is that, with this function, HR specialists can anticipate the selection of suitable candidates for available positions, thereby optimizing the recruitment process ([HiBob, 2023](https://www.hibob.com/hr-glossary/hr-functions-list/)). After that, in this complex mechanism, in which HR specialists need to cope, the process of hiring candidates and then selecting them is already underway. This process consists of steps such as search, interview and recruitment. But in order to determine the suitability of potential candidates for a position in the company, the selection process is characterized by an assessment of the experience, qualifications, competencies and other possible qualities of candidates. In addition to interacting with the candidate, the HR specialist must develop reliable assessment methods, interview strategies, prepare application forms, various protocols, compose acceptance and rejection letters and send them, and complete this process with a set of already selected candidates starting to work in the company. Further, after the selection of candidates, HR specialists respectively deal with their placement in the most suitable position (employment), and subsequently onboarding ([Ignou the people's university, n.d.](https://egyankosh.ac.in/bitstream/123456789/78795/3/Unit-2%20pdf)). The tasks of this block of functions include conducting follow-up assessments to evaluate the employee's performance and adaptation to it (familiarizing new employees with the goals, procedures, policies, culture, traditions, career prospects, and other aspects of the organization) and advising functional managers on recruitment. Through such counseling, by providing some guidance to managers, it becomes a little easier for HR professionals to perform such a task as helping newcomers to get to know their colleagues, supervisors, and maybe even subordinates, thus helping employees in this process of adaptation to the new work environment.

Moreover, developing and improving the skills of both employees and managers, which are ways to stimulate the growth of an organization, is also an important role for HR professionals ([Dave, 2021](https://www.rbl.net/insights/articles/hrs-ever-evolving-contribution)). The Department has to develop protocols and policies to apply a systematic assessment of employee performance in the workplace and their potential for promotion. In addition, specialists conduct training - the process of transferring operational and technical knowledge and skills to employees, the process of which begins with the identification and implementation of the following elements: determining whether an employee needs training, developing appropriate training programs, that is, preparing employees for a specific job that he will perform in the company ([Asaad Ali Karam, 2019](https://www.researchgate.net/publication/330876304_The_Impact_of_Training_and_Development_on_Different_Cultural_Employees_Performance_through_Interaction_Employees_Motivation_in_Erbil_Public_and_Private_Banks)), and professional development programs for employees, which are aimed at improving their competence in a wide range of areas, not limited to their current work, and for managers that help them improve their managerial skills and interpersonal relationships with employees ([Ignou the people's university, n.d.](https://egyankosh.ac.in/bitstream/123456789/78795/3/Unit-2%20pdf)). This also includes evaluating the effectiveness of training initiatives. In this way, the HR department creates a foundation for development and career growth for employees by investing time and resources in professional development, which ultimately helps in identifying new leaders and evaluating employee strengths and areas that require improvement and increases the value of the company ([HiBob, 2023](https://www.hibob.com/hr-glossary/hr-functions-list/)).

Specialists are engaged in the development and implementation of an appropriate salary structure, that is, salary administration, and are also engaged in the creation of administration and evaluation of financial incentive programs, ensuring that employees receive appropriate and, most importantly, fair remuneration) in addition to regular salary payments, which can be defined briefly as motivation administration. In addition, the responsibilities include the provision of compensation, benefits, and so on. All this is not only a key aspect of employee motivation, but also a good way to attract talented professionals to the organization ([HiBob, 2023](https://www.hibob.com/hr-glossary/hr-functions-list/)).

## **Stages of HR function development**

As organizations evolve, the functions of HR specialists are also changing and improving. There are three stages in the evolution of HR functions, in the first of which HR specialists performed classical business functions, then the HR department becomes a business partner and, finally, a strategic partner ([Empxtrack, n.d.](https://empxtrack.com/blog/evolution-of-the-hr-function/%22%20%5Cl%20%22%3A~%3Atext%3DThe%20HR%20function%20is%20at%2Cand%20then%20a%20Strategic%20Partner)).

The need for a qualified HR department that would deal with workforce planning, hiring, etc. began back in the 1940s ([Karen Larsen, 2023](https://www.nexushr.com/evolution-of-hr)). That’s when the *HR functions were formalized*. Earlier, when describing traditional HR functions, mainly business functions were touched upon, in which HR specialists are responsible for payroll, employee data management, formation of company policy, etc. In this case, HR is seen more as a “liability” rather than an asset of the company ([Empxtrack](https://empxtrack.com/blog/hr-moving-from-back-office-function-to-strategic-business-partner/) *[back office function](https://empxtrack.com/blog/hr-moving-from-back-office-function-to-strategic-business-partner/)*[, n.d.](https://empxtrack.com/blog/hr-moving-from-back-office-function-to-strategic-business-partner/)), as basic tasks are performed with no emphasis on creativity and strategic elements. Usually, to perform such tasks, specialists used a tool such as HRIS (Human Resources Information System), which began to be used closer to the end of the 1950s ([IceHRM, 2020](https://icehrm.com/blog/evolution-of-human-resource-information-system/)), and even now some companies continue to use this system, since they still have to keep track of working hours using cards or other similar elements, calculate wages and in general, manage employee data. It is important to note the fact that at this stage, old catalogs or systems and spreadsheets were used to manage employee data (personal data, various agreements, leave applications, contracts, etc.). In addition, the only source of employee data is their paper documents, files, which indicates mainly the presence of paperwork and the need to sort almost everything manually, wasting a lot of time ([Allan, & Ammaron, 2020](https://www.rbl.net/insights/articles/hr-as-a-driver-of-relevance-and-value)).

Further, the field of activity underwent some changes in the 1980s and early 1990s ([Karen Larsen, 2023](https://www.nexushr.com/evolution-of-hr)), characterized by the *advent of technologies* that help HR specialists perform their work even more efficiently, and the department has a different role - the role of a business partner who must meet the needs of the company so that it continues to thrive. I think that this transition to a business partner from business functions occurred because companies began to realize the need for close coordination of personnel management in general with the strategy and goals of the organization in order to effectively use their workforce to create innovations, increase productivity and gain competitive advantages. Thus, the department was able to participate more actively in making business decisions, moving away from administrative tasks a little. A model characteristic of large and mature companies, David Ulrich's *HR Business Partners*, emerges ([Katkalo V. S., 2023](https://publications.hse.ru/books/898368421)), consisting of elements such as shared service centers, which are separate units that encompass the various support functions of the company ([KPMG, n.d.](https://kpmg.com/kz/ru/home/services/advisory/management-consulting/fm/shared-services-center.html)), centers of expertise, and HR Business Partners that align HR strategy with the company's business strategy ([Peopleforce, n.d.](https://peopleforce.io/ru/hr-glossary/hr-business-partner)). Since at that time the HR department was mainly engaged in backstage activities (documentation, employee data processing, etc.), this model was revolutionary, as it offered management the opportunity to somewhat expand the competencies of HR specialists by providing the opportunity to develop diversity initiatives, competency-based recruitment strategy, and design training and development programs ([Jen Morris, 2023](https://www.neuroworx.io/magazine/david-ulrich-hr-model/)). At this stage, companies have partial automation. Tools such as employee databases with their personal and professional information, applicant tracking software and learning management systems make life much easier for HR professionals. Different business requirements and the globalization that has emerged have forced the company, oriented at this stage towards leadership positions, to think again about the HR department function and move away from the previously mentioned back — office function, defining it as a strategic business function.

As the HBR article says: “The HR department needs to move to a more strategic function that influences the quality of customer service and company revenues, and leave behind the old-fashioned “cost center” model, in which certain actions in the company do not generate income” ([Katkalo V. S., 2023](https://publications.hse.ru/books/898368421)). Just in the 1990s and 2000s ([Karen Larsen, 2023](https://www.nexushr.com/evolution-of-hr)), HR specialists began to reduce risks by developing specific succession planning strategies, measuring employee satisfaction and management effectiveness, etc., that is, a shift towards strategic human resource management is being made. At this stage, HR specialists additionally automate the processes of recruitment and adaptation, feedback, for example, in 360 mode, training management, etc. ([Empxtrack, n.d.](https://empxtrack.com/blog/evolution-of-the-hr-function/%22%20%5Cl%20%22%3A~%3Atext%3DThe%20HR%20function%20is%20at%2Cand%20then%20a%20Strategic%20Partner)). Over the past time, managers have recognized that the HR department has indeed contributed to transformative initiatives in order to be always up to date with developments in a dynamic market, and organizational changes. In addition, they realized that in forming and maintaining a positive organizational culture consistent with the company's strategic goals, the HR department really played a key role in this. Therefore, this transition from a business partner to a strategic one took place, allowing HR specialists to contribute to the overall strategic direction of the organization and play an active role in forecasting and solving future problems and opportunities. Currently, skill-based recruitment is primarily important for companies, as well as skills-based training and staff development ([Verbitskaya J. E., 2023](https://gsb.hse.ru/newmanagement/)). With this approach, selection depends rather not on qualifications and work experience (resume), but on relevant and proven skills, which suggests that having the necessary and comprehensive set of skills can, in principle, provide a candidate with a job in an organization, even if he has no work experience in this field. However, in order to collect accurate and up-to-date data about employees, their abilities and qualifications, you need to try very hard, because even traditional surveys are not enough due to the fact that employees tend to underestimate their competencies. And, according to various companies, it is only with the help of artificial intelligence that it is possible to collect a reliable assessment that reveals not only the obvious skills of an employee, but also the hidden ones. No matter how good it all sounds, companies still have those functions that are routine and standardized and do not affect the final product or service ([EY in Kazakhstan, 2021](https://www.ey.com/ru_kz/workforce/what-functions-does-hr-delegate-to-artificial-intelligence)). However, experts are still burdened with paperwork that has to be done manually and bureaucracy ([Ilyin D., September 13](https://heaad.ru/blog/chto-takoe-hr-avtomatizatsiya/#Преимущества_HR-автоматизации)). This indicates that these processes take a significant amount of time.

## **Digitalization: Technological transformations and new trends in HR practices**

## **The concept of digitalization**

Around the 1990s, companies began to use automation of some HR functions, but this process began to develop significantly relatively recently ([EY in Kazakhstan, 2021](https://www.ey.com/ru_kz/workforce/what-functions-does-hr-delegate-to-artificial-intelligence)). In addition, the pandemic, which has caused some restrictions, has affected businesses from various sectors. Companies began to deal with the consequences of the pandemic in different ways, some companies took advantage of the situation and saw it as an incentive to introduce automation into their daily activities, and some faced the closure of their enterprises. However, in the 21st century, digitalization can be said to be the main catalyst for the development of organizations ([Ulrich M. et al., 2015](https://www.apg.pt/downloads/file954_pt.pdf); [Ulrich D., 2010](https://michiganross.umich.edu/sites/default/files/uploads/RTIA/pdfs/dulrich_wp_arewethereyet.pdf)), which forces companies to change their operational methodologies against the background of new requirements of the global business landscape and, as a result, to revise and restructure their business structure. Digitalization often implies a transition to an information-oriented approach using modern technologies, leaving behind the traditional business ideology ([Ivana KOVAČEVIĆ, 2019](https://edituraeurobit.ro/wp-content/uploads/2020/10/Denisa-Abrudan-New-Approaches-In-HRM.pdf#page=53)). But it is worth noting that companies are at various stages of the digital transformation process and, accordingly, each has its own specific guidelines for the transition to various digital technologies. Such a transition, as the researchers note, in large companies can mainly lead to improved synchronization and internal integration of various business functions and departments, while maintaining corporate identity. However, the situation is slightly different for small and medium-sized enterprises, for them this may mean gaining a foothold in the market for survival. In addition, digital transformation means investing in new technologies, procedures to create new benefits and experiences for employees and customers and, accordingly, increase competitiveness in an ever-evolving digital market ([Morne Swart, n.d.](https://resources.sumtotalsystems.com/resources/STS-The-Digitalization-of-HR.pdf)).

The digital revolution has not spared the sphere of human resources, as can be seen from the introduction of new technologies for personnel management, the redistribution of roles and changes in operational mechanisms. The introduction of holistic approaches aimed at finding new talent, stimulating professional growth and retaining existing employees is crucial to ensure the success of the digital evolution of the HR department. Thus, the HR department becomes a key partner that meets the company's goals, providing a sustainable competitive advantage in the era of digitalization ([Ulrich M. et al., 2015](https://www.apg.pt/downloads/file954_pt.pdf); [Ulrich D., 2010](https://michiganross.umich.edu/sites/default/files/uploads/RTIA/pdfs/dulrich_wp_arewethereyet.pdf)). The HR department is well known for its large volume of data, which requires a significant amount of time to process manually. As a result, technologies have emerged that allow these tasks to be fully automated, thereby increasing productivity beyond individual capabilities. However, some HR professionals who are accustomed to manual methods may have concerns about transferring control to software ([NEERAJ, 2018](https://www.jetir.org/papers/JETIR1801055.pdf)). And this is quite understandable, but specialists must overcome themselves and start using the new tools that digital transformation offers, because they can make life easier and give an employee the opportunity to do something new, since the development of technology is inevitable. In addition, since the HR department is an important component of organizational management, this transition is definitely necessary, as it will help HR specialists get all the necessary information to make managerial decisions in their field, and this will ultimately provide the company with accurate data to achieve its goals. IT has gradually adapted to the digital era along with traditional approaches ([Fatma Zeybek & Hatice Batmantaş, 2021](https://www.researchgate.net/publication/359344853_The_Impact_of_Digitalization_on_Human_Resource_Management)). HR staff quickly mastered technological advances and actively use them, thereby accelerating the pace of digital transformation. In the context of the pandemic, employment methods such as hybrid and completely remote systems have undergone significant evolution. As a result, managers and HR specialists faced numerous questions, for example, how to quickly reorganize personnel management procedures, effectively conduct remote recruitment and increase the productivity of remote employees by ensuring their involvement. The HR Zero concept, an emerging trend promoted by digitalization, can help address these issues ([RBC Pro, n.d.](https://pro.rbc.ru/demo/6115ec599a79472a4be9d2ea)). The HR Zero concept was developed not by theoretical innovators, but by experienced practitioners ([EY in Kazakhstan, 2021](https://www.ey.com/ru_kz/workforce/what-functions-does-hr-delegate-to-artificial-intelligence)). Its formation was greatly influenced by the rapid development of digitalization. HR Zero does not mean a complete absence of HR in the company, but rather a rethinking of HR processes and practices. The HR-Zero concept is aimed at optimizing and automating routine and repetitive personnel tasks, creating a dynamic atmosphere in which the emphasis shifts from routine duties to team growth and creating a favorable team environment ([HR Director, 2022](https://www.hr-director.ru/article/67960-kontseptsiya-hr-zero-chto-eto-zachem-i-kak-vnedrit)). To achieve this goal, some personnel management responsibilities are delegated from specialists to line managers, for example, control over personnel adaptation and development. In addition, the HR Zero concept highlights two things that are crucial for attracting and retaining talent: strengthening the company's mission and values and developing corporate culture ([Zubchenko V., February 19](https://vc.ru/hr/1037574-hr-zero-kak-metody-rekrutinga-evolyucioniruyut-v-cifrovuyu-epohu)). And the result of increased employee loyalty and engagement can be created with the help of maximum transparency of all operations ([RBC Pro, n.d.](https://pro.rbc.ru/demo/6115ec599a79472a4be9d2ea)). This allows the HR Director to shift his attention to solving strategic tasks, thereby assuming the role of a real strategic business partner. Despite the optimistic forecast presented by the HR Zero model for personnel management, there are still problems to be faced ([Zubchenko V., February 19](https://vc.ru/hr/1037574-hr-zero-kak-metody-rekrutinga-evolyucioniruyut-v-cifrovuyu-epohu)). These include issues related to data security, the need for staff training and organizational changes. However, an effective solution to these problems gives management and staff the opportunity to accept them. The implementation of the HR Zero system has the potential to bring significant benefits in the form of flexible, efficient and employee-oriented workflows.

## **New digital tools and platforms for various HR functions**

Nowadays, HR is more likely to shift to technology-based work as some organizations begin to rely more on emerging technologies that help companies simplify administrative tasks, facilitate global operations, reduce costs and increase information availability ([NEERAJ, 2018](https://www.jetir.org/papers/JETIR1801055.pdf)). Since that moment, the concept of electronic human resource management (e-HRM), which is a web-based system for supporting and automating personnel procedures, has been gaining popularity. Thanks to e-HRM through various portals, employees and managers can electronically contact each other and get direct access to information systems via the Internet, which frees some people from geographical restrictions and ensures the electronic involvement of all stakeholders in business processes ([Mine Afacan Fındıklı, 2016](https://www.researchgate.net/profile/Mine-Findikli/publication/327527401_The_concept_of_e-HRM_its_evolution_and_effects_on_organizational_outcomes/links/5dbdfaf84585151435e26680/The-concept-of-e-HRM-its-evolution-and-effects-on-organizational-outcomes.pdf)). Although there are many definitions of e-HRM, one comprehensive one can be cited, reflecting aspects from different definitions: Electronic personnel management includes actions, policies, services and cooperation with individuals and organizations carried out using computer hardware, software and electronic network capabilities ([Marler, J. H., Fisher, S. L., 2010](https://ceur-ws.org/Vol-570/paper004.pdf); [Tanya Bondarouk & H.J.M. Ruël, 2012](https://www.researchgate.net/publication/254299200_The_strategic_value_of_e-HRM_Results_from_an_exploratory_study_in_a_governmental_organization); [Philip Rogiers et al., 2020](https://www.researchgate.net/publication/343052275_The_digital_future_of_internal_staffing_A_vision_for_transformational_electronic_human_resource_management); [Strohmeier, S., 2012](https://www.econstor.eu/bitstream/10419/93026/1/737687746.pdf))

With the advent and use of such technologies, HR departments achieve the “HR-zero” paradigm, which was mentioned earlier in this chapter. Usually, paperwork in a large volume: statements, official documents, requests, reports, etc., is quite common in the work of HR specialists. In addition to processing these documents, they must also be archived for a long time. The use of HR Information Systems (HRIS) allows companies not only to store and extract files electronically, but also to provide employees with access to them as needed. With this system, the need for a large number of physical files disappears and office space is freed up. The HRIS software helps HR professionals analyze and manage employee data related to attendance, performance evaluation, payroll and benefits, which facilitates effective interaction between staff and subordinates ([NEERAJ, 2018](https://www.jetir.org/papers/JETIR1801055.pdf)).

There are also programs designed to help recruiters process job applications and resumes – Applicant Tracking Systems (ATS) using various parameters such as education level, skills and work experience ([Stefan Strohmeier, 2020](https://journals.sagepub.com/doi/full/10.1177/2397002220921131)). Moreover, this system helps specialists plan interviews and, in case of refusal, set up the process of sending notifications of refusals. In addition, to create and manage online employee training and development courses, track employee progress and evaluate learning outcomes using the Training Management Systems (TMS) ([Stefan Strohmeier, 2020](https://journals.sagepub.com/doi/full/10.1177/2397002220921131)).

A new type of tools has also appeared - intelligent systems offering customized solutions for developing leadership skills, attracting talent, evaluating candidates, recommendations for optimizing training, and identifying not only organizational problems such as employee stress, but also fraud ([Alena Fedorova et al., 2019](https://www.researchgate.net/profile/Alena-Fedorova/publication/333075755_Digitalization_of_human_resource_management_practices_and_its_impact_on_employees%27_well-being/links/5dbb291192851c81801db822/Digitalization-of-human-resource-management-practices-and-its-impact-on-employees-well-being.pdf)). With the development of this tool, it became clear that software that includes artificial intelligence can cope with almost all the tasks facing HR managers, from selecting candidates to evaluating the emotional well-being of employees. This software can analyze an employee's computer activity, including email, visited websites, and open documents, to identify activities that may affect productivity. It can also assess the emotional state of employees based on their correspondence and interaction in the chat. In addition, it is important to note that the HR Zero paradigm has recently included support for artificial intelligence in employee recruitment ([Sbercorus, 2023](https://vc.ru/sberkorus/610089-obnulit-nelzya-ostavit-kak-hr-zero-menyaet-kadrovye-processy)). This includes resume search, candidate selection, interview planning, and adaptation processes that are managed by chatbots and apps. To facilitate the adaptation of employees, existing knowledge repositories are used, allowing newcomers to gain a fundamental understanding of both individual roles and the company's activities as a whole.

Digital technologies introduced by companies into personnel management seem to provide some advantages, but, unfortunately, this also involves some risks. Indeed, digitalization can improve the speed and quality of personnel management processes, ensure data security and facilitate decision-making through the use of reliable and transparent data, improve the overall quality of employee work and reduce costs. However, despite the clarity of the positive aspects of digitalization, there are cases with problems with the introduction of new technologies, since employees may still experience resistance to new technologies. There is also a threat to the traditional functions of personnel management, to which specialists are so accustomed, as a result of the transition to digital technologies. In addition, as the risk of data and personal information leakage increases, cybersecurity issues are becoming more urgent. There may also be changes in the dynamics of the relationship between employees and the employer, business models and organizational structures. But to reduce these risks, it is possible to invest in training to strengthen digital skills and increase the level of competence of staff. Therefore, it is important to carefully assess the opportunities and risks associated with the digitalization of HR department functions, which may subsequently ensure a smooth and effective transition to digital HR management ([Edward E. Lawler III & John W. Boudreau, 2009](https://books.google.ru/books?hl=ru&lr=&id=WZLCmYwZB7EC&oi=fnd&pg=PP8&dq=Functions+of+Human+resources&ots=_DgnqymD2m&sig=JwYwxABrfPAYjdZGxkMV1mK0vkg&redir_esc=y#v=onepage&q=Functions%20of%20Human%20resources&f=false)).

## **Influence of digitalization on HR**

Digital technologies clearly affect certain HR processes, causing changes in operational approaches, the employment system, and business expectations regarding changes in the competencies of specialists to improve the well-being of employees and ensure the long-term sustainability of the organization in the digital age ([Honoria Samson & Vinita Agrawal, 2020](https://www.jcreview.com/admin/Uploads/Files/61b8ff3ed8d492.79107647.pdf)). To give an example of a PwC study, which says that about 5% of jobs in the UK by the 2030s will be related to artificial new technologies or intelligence, which sometimes boils down to advanced training ([PricewaterhouseCoopers, n.d.](https://www.pwc.co.uk/press-room/press-releases/regions/northern-ireland/automation-impact.html)). Therefore, in such a rapidly developing technological environment, the human resources department will play a key role the role in identifying gaps in employee skills, in shaping new employee behavior and, if necessary, retraining staff ([Kateřina Maršíková & Anastasiia Mazurchenko, 2019](https://www.researchgate.net/profile/Anastasiia-Mazurchenko/publication/335988605_Digitalization_transforming_the_nature_of_HRM_processes_and_HR_professionals%27_competencies/links/650d879461f18040c2178ead/Digitalization-transforming-the-nature-of-HRM-processes-and-HR-professionals-competencies.pdf)). The traditional human resources competencies discussed earlier in this chapter, which allow HR professionals to create a positive work environment and solve various organizational tasks, have long been considered necessary for effective personnel management ([Edward E. Lawler III & John W. Boudreau, 2009](https://books.google.ru/books?hl=ru&lr=&id=WZLCmYwZB7EC&oi=fnd&pg=PP8&dq=Functions+of+Human+resources&ots=_DgnqymD2m&sig=JwYwxABrfPAYjdZGxkMV1mK0vkg&redir_esc=y#v=onepage&q=Functions%20of%20Human%20resources&f=false)). However, it is important to realize that in addition to traditional skills in the modern digital era, new competencies are needed that meet the requirements of digital transformation, for example, digital literacy, which allows HR specialists to skillfully navigate digital platforms and other tools, data analytics can be useful for making informed decisions based on information obtained from data. In addition, in a rapidly developing digital environment, it is extremely important to have originality to offer inventive solutions to complex problems and the ability to skillfully navigate complexities and flexibly work in multitasking mode.

Summarizing the results of this chapter, it should be noted that as companies develop, the functions of the HR department undergo a transformation, moving from traditional administrative functions such as recruitment and planning of personnel, remuneration management, training and development of personnel, etc., to the role of strategic partners in aligning HR strategies with the broader goals of the company. Moreover, with the advent of digitalization, there have been changes in personnel management practices, which is manifested in the introduction of new tools and technologies from candidate tracking systems (ATS) to intelligent systems based on artificial intelligence, which significantly simplify and optimize processes, promote employee engagement and increase decision-making efficiency. However, there are also some problems related to cybersecurity, retraining, etc., do not stop HR specialists who are ready to lead companies along the path of digital transformation, ensuring that recruitment strategies meet changing business needs, as well as decision-making and adaptability based on data. In addition, the commitment to continuous learning during digitalization and such strategic use of new digital tools helps the HR department to promote employee development and contribute to the long-term success of the company in the digital age.

## **CHAPTER 2. INTEGRATION OF ARTIFICIAL INTELLIGENCE INTO HR PRACTICES**

## **The concept of artificial intelligence**

In the second chapter, special attention will be paid to the integration of artificial intelligence (AI), a technology created to simulate human intelligence, in the company, mainly talking about the human resources department. Being a complex technology consisting of several components (machine learning (ML), deep learning (DL) and natural language processing (NLP)), AI, which is rapidly developing these days, is largely helping to change the traditional functions of company departments. Chatbots that actively participate, for example, in recruitment, take over all routine functions and allow HR specialists to shift their focus to more strategic tasks that they had not done before. Considering both the transformative potential and the inherent difficulties in integrating AI into HR functions, the focus throughout the chapter will be on understanding the complex dynamics of this integration.

Nowadays, artificial intelligence (AI), because of its potential for growth, has become a breakthrough technology and is becoming increasingly important in companies, helping them accelerate the processes of digitalization and its implementation into possible department functions. In addition, its impact and rapid implementation in companies are already being felt, for example, a Research and Markets report stated that the cumulative annual growth rate of artificial intelligence will be 52% by 2025 ([BusinessWire, 2017](https://www.businesswire.com/news/home/20171130005513/en/Global-Artificial-Intelligence-Market-2017-2025---Growth)). This indicates a significant and rapid growth of the artificial intelligence market, which indicates a high demand for solutions and technologies in the field of artificial intelligence, wider adoption in various industries and the development of these innovations.

Before delving into various aspects of AI, first of all it is worth understanding what it is. Although there are different definitions of AI, they all agree that Artificial Intelligence (AI) is a technology (set of solutions) that reflects human intelligence in machines designed to simulate and effectively reproduce human thought processes, learning, rationalization, perception and interpretation ([EY, n.d.](https://assets.ey.com/content/dam/ey-sites/ey-com/en_gl/topics/alliances/ey-the-new-age-artificial-intelligence-for-human-resources-010978-18gbl.pdf); [KPMG, adoption, n.d.](https://assets.kpmg.com/content/dam/kpmg/ch/pdf/ai-transforming-the-enterprise-broschure.pdf); [Gyanendra Singh et al. 2013](https://www.researchgate.net/publication/236346414_AN_OVERVIEW_OF_ARTIFICIAL_INTELLIGENCE); [Kaplan Jerry, 2016](https://pi.cs.oswego.edu/~kbrenna2/Coursework/CSC416/ai.pdf); [Palos‐Sánchez, P. R. et al., 2022](https://www.tandfonline.com/doi/pdf/10.1080/08839514.2022.2145631)). Artificial intelligence is also characterized by the fact that thanks to fast calculations, sophisticated algorithms and an extensive storage of high-quality data, the reliability and accuracy of daily operations are increased. Making accurate and prompt decisions in conditions of high technical equipment and competition is undoubtedly a competitive advantage for any organization. However, this definition contains a problem, which is that it is necessary to identify a quantitative assessment of human intelligence in order to conduct a comparative analysis with the intelligence of machines or robots. After all, human intelligence is very complex and includes a wide range of emotions, creative and cognitive abilities, social skills, etc. It is also used by people in subtle and complex ways to understand, perceive and interact with the world around them.

The concept of artificial intelligence goes beyond the simple reproduction of human intelligence ([Artem Semenikhin et al., 2023](https://data.tedo.ru/publications/ai-in-hr.pdf?utm_source=academy&utm_medium=news)) and includes a number of departments, which are deep learning (DL), machine learning (ML) and natural language processing (NLP).

Considering the first of the fields of artificial intelligence, which is machine learning (ML), it is worth noting that it includes various algorithms and methods designed to analyze and transform data into accurate output data. At the core of such learning is the ability of computers to learn autonomously, recognizing patterns without human intervention, on extensive datasets ([Ben Eubanks, 2022](https://books.google.ru/books?hl=ru&lr=&id=EDpUEAAAQBAJ&oi=fnd&pg=PP1&dq=Types+of+AI+in+HR&ots=fmpNKZPIVy&sig=f9bOoern931b6gxSZpZX_AFIl8I&redir_esc=y#v=onepage&q=Types%20of%20AI%20in%20HR&f=false); [Pandey Shivani 2020](https://www.researchgate.net/profile/Shivani-Pandey-5/publication/345733019_Exploring_the_role_of_Artificial_Intelligence_AI_in_transforming_HR_functions_An_Empirical_Study_in_the_Indian_Context/links/5fac0b70299bf18c5b652d3a/Exploring-the-role-of-Artificial-Intelligence-AI-in-transforming-HR-functions-An-Empirical-Study-in-the-Indian-Context.pdf)). The methodology within the framework of machine learning - deep learning (DL), using algorithms for data processing, simulates the neural functions of the human brain, called neural networks.

Further, another additional aspect of artificial intelligence is natural language processing (NLP), which allows systems to decode, analyze and formulate human language and speech ([Artem Semenikhin et al., 2023](https://data.tedo.ru/publications/ai-in-hr.pdf?utm_source=academy&utm_medium=news)). This model includes YandexGPT (Yandex), GigaChat (Sber), GPT, developed by OpenAI and which has become a real breakthrough in the field of technology. Since AI uses a variety of programming methods and tools and mathematical statistics, including big data analytics, combined with ChatGPT and other similar systems can greatly facilitate, for example, the generation of text and ideas and the resolution of complex queries, highlighting the progress and widespread adoption of artificial intelligence.

In addition, it should be mentioned that there are several types of artificial intelligence, depending on the *tasks it performs* and its *level of development*.

As for AI from the point of view of *development*, we can distinguish such a type of AI as *weak AI (artificial narrow intelligence, ANI)*, manifested in spelling correction, search queries and recommendation systems in online stores, etc. ([Semenikhin A. et al., 2023](https://data.tedo.ru/publications/ai-in-hr.pdf?utm_source=academy&utm_medium=news)), and usually with this type of artificial intelligence, people encounter each other in everyday life. However, there are several limitations specific to this type of AI, which may include scale limitations when tasks can be performed only using predefined programs and algorithms. For example, if we consider voice assistants, whose automatic translation and speech recognition are included in narrow tasks, they do not have the general intelligence inherent in humans.

In contrast, *strong AI (general purpose artificial intelligence, AGI)* has a wide range of intellectual abilities that sometimes require consciousness, creativity and common sense, without human intervention: demonstrates self-learning, generalization, abstract thinking and problem solving in various fields, without requiring prior programming comparable to human intelligence ([Fetter Amanda, 2023](https://medium.com/voicehq/the-difference-between-weak-ai-and-strong-ai-2166e8b2ecdb)). Although it sounds very exciting, this type of AI does not exist right now, or it is at the research stage, ready to revolutionize many areas.

In addition, a hypothetical concept is also being discussed - *artificial superintelligence (AI)*, in which AI will surpass human intelligence, significantly surpassing it in capabilities and, accordingly, becoming completely autonomous and with the ability to improve itself, which may well lead to an exponential increase in capabilities and intelligence ([Tim Mucci & Cole Stryker, 2023](https://www.ibm.com/topics/artificial-superintelligence); [Semenikhin A. et al., 2023](https://data.tedo.ru/publications/ai-in-hr.pdf?utm_source=academy&utm_medium=news)). Such a superintelligent AI system could analyze huge amounts of data with unprecedented accuracy, process information at a speed incomprehensible to human perception, and generate ideas and solutions to complex problems with unprecedented efficiency.

There is also another classification of AI, only according to the *tasks they perform*.

*Generative AI*, using machine learning or deep learning methods based on available data, is able to create new content such as texts, sounds, and images ([Semenikhin A. et al., 2023](https://data.tedo.ru/publications/ai-in-hr.pdf?utm_source=academy&utm_medium=news)). In the field of text generation, thanks to the analysis of extensive text arrays such as articles, books, or online content, generative AI, imitating the style and intonation of human writing, can create posts on social networks, articles, stories, or simply coherent paragraphs that will look natural and contextually relevant. Turning to the consideration of sound generation, generative AI, analyzing the subtleties and structures of existing audio data, can create new voice recordings, music, etc. Similarly, AI develops an understanding of various visual elements such as colors, shapes and textures when creating images by examining extensive generative image datasets, which subsequently allows it to create new photos, realistic images of non-existent objects, works of art, etc. From this, it can be concluded that this type of AI, with its huge potential in various fields of creativity, can significantly simplify various processes in creative companies and for individuals, as it offers new opportunities for content creation and innovation and artistic expression.

The next type of AI is *classifying AI*. Using machine learning algorithms or more complex deep learning systems ([Semenikhin A. et al., 2023](https://data.tedo.ru/publications/ai-in-hr.pdf?utm_source=academy&utm_medium=news)), it can make decisions about whether an object belongs to certain categories, which may vary, but as an example, you can sort spam and non-spam emails based on certain criteria. Classifying artificial intelligence may well classify new data that it has not seen before into appropriate categories, as it learns from examples of data that is manually managed by a person or classified by him. Consider e-commerce, to improve product recommendations, this type of AI can be used by classifying products based on purchase history or user preferences. Since classifying AI can categorize fraudulent transactions, which are often found in the financial sector, as legitimate or suspicious, this leads us to think that this type of AI can definitely ensure accuracy in decision-making.

Moreover, there is an *intelligent artificial intelligence* that is designed to predict some future trends, events, and maybe even results, for example, in a company, which contributes not only to making informed decisions, but also to planning strategies([Semenikhin A. et al., 2023](https://data.tedo.ru/publications/ai-in-hr.pdf?utm_source=academy&utm_medium=news)). For example, by analyzing patient data, including lifestyle factors, genetic information, and medical records, intelligent AI can identify patterns indicating potential health problems and possible patient outcomes, identify individuals at risk of developing certain diseases, and implement preventive interventions. Thus, this type of AI allows organizations to take advantage of opportunities for growth and innovation, reduce risks and, most importantly, make more informed decisions.

Nowadays, many tools are used to interest and retain customers, one of them may be *artificial recommendation intelligence*. It analyzes data on consumer behavior, i.e. browsing history, feedback, etc., and then issues personalized recommendations ([Semenikhin A. et al., 2023](https://data.tedo.ru/publications/ai-in-hr.pdf?utm_source=academy&utm_medium=news)). This can be seen on streaming platforms, where this type of artificial intelligence analyzes genre preferences and browsing history in general, determines user habits and interests, and then creates personalized recommended content such as movies or music. It is indeed a powerful tool for increasing customer satisfaction and engagement, and generally improving the user experience on various digital platforms. However, this type of AI and intelligent AI require a significant amount of structured data in order to effectively implement their tasks. In addition, tasks based on internal organizational data can create problems, some data may not be available because they are not publicly available.

## **Application of artificial intelligence-based solutions in HR function**

As stated in previously published reports, for example, in the IDC Future of Work 2022 report, by 2024, in order to improve the work of employees at all stages of their stay in a particular company, from hiring to dismissal, it was expected that 60% of the world's 2,000 largest companies would increasingly implement solutions based on artificial intelligence ([Katkalo V. S., 2023](https://publications.hse.ru/books/898368421)). So it is, with the coming of 2024, the popularity of AI technology has only increased, companies began to slowly implement it back in 2023, both on their own, that is, in an internal way, and with the help of vendors, by using a ready-made market technology solution, that is, in an external way. However, such AI development on its own with the help of specially formed teams at the start carries high financial costs. And the external offerings of AI technologies can sometimes be limited and there may be risks associated with further support of the solution if unforeseen external problems suddenly arise, for example, geopolitical conflicts ([Semenikhin A. et al., 2023](https://data.tedo.ru/publications/ai-in-hr.pdf?utm_source=academy&utm_medium=news)).

Since companies are now increasingly starting to implement AI technologies, the HR field is also undergoing some changes and HR specialists find it important and learn to use various tools that are slowly being introduced into their daily functions, such as recruitment, in general to create a more adaptive and flexible work environment and, of course, improve the experience of potential candidates and employees ([Dr. Saundarya Rajesh, et al., 2018](https://www.ijedr.org/papers/IJEDR1802131.pdf)). Previously, it was expected that HR department employees would become increasingly involved in processes that take place at the company level, for example, participation in strategic planning. However, the large number of administrative duties that HR specialists devote too much time to often prevents them from performing this key function, so technology such as artificial intelligence (AI) opens up a number of opportunities and helps to find a solution to the problem to reduce paperwork, that is, optimize business operations.

It must be said that artificial intelligence is already being implemented and implemented in HR processes, helping specialists optimize their functions and reduce the administrative burden, for example, by using chatbots that simulate a conversation with a person, giving a quick response to requests, such as Chat GPT and not only ([Roistat.Blog, n.d.](https://roistat.com/rublog/chat-bot/); [Artem Semenikhin et al., 2023](https://data.tedo.ru/publications/ai-in-hr.pdf?utm_source=academy&utm_medium=news); [Biswabhusan Behera & Anshul Kapoor, 2023](https://www.researchgate.net/publication/374418190_Impact_of_Artificial_Intelligence_on_Human_Resource_Management)). Since HR specialists need to establish trusting relationships with candidates from the very beginning and ensure a smooth and pleasant process of getting to know the company and its offers, chatbots, for example, embedded in company websites, are very often used for such things so that candidates can ask questions that interest them at any time and the answers to which are given immediately using natural language processing (NLP) ([AWS, n.d.](https://aws.amazon.com/ru/what-is/nlp/)), a technology in which computers understand people's requests in their language and calmly interpret them ([Nigel Guenole & Sheri Feinzig, 2021](https://www.ibm.com/downloads/cas/A5YLEPBR); [Deepa, R., et al., 2024](https://www.sciencedirect.com/science/article/pii/S0040162524000970)). Potential candidates, who nowadays research companies very carefully, not only immediately receive information, for example, about the company, get acquainted with it, you can say, before officially submitting an application, but can also leave their basic data and resume in the interaction chat ([Eniola Sanyaolu & Rebecca Atsaboghena, 2022](https://www.researchgate.net/publication/366307222_Role_of_Artificial_Intelligence_in_Human_Resource_Management_Overview_of_its_benefits_and_challenges)). There may also be conversations where candidates will be asked about their preferred roles and other questions from the candidates. It also helps the HR department and greatly simplifies a number of tasks performed by HR specialists: collecting information and necessary documents, scheduling meetings, pre-selecting candidates, helping to create new employee accounts without resorting to IT support.

In addition, it is common practice to use ChatGPT to write vacancies, compose posts about the organization and sometimes even interview questions.

ChatGPT can handle these tasks in a minute or even less, whereas a HR specialist spends on average from 15 to 40 minutes on it. Then, using AI, writing vacancies and job descriptions can be significantly reduced, for example, by 30-50% ([Artem Semenikhin et al., 2023](https://data.tedo.ru/publications/ai-in-hr.pdf?utm_source=academy&utm_medium=news)). However, if the specialist does not provide ChatGPT with more specific information and provides more introductory data, for example, about job requirements, tasks, work experience, etc., then the result will be very general ([RBC Pro, n.d.](https://pro.rbc.ru/demo/6424e2759a794718ade75b69)). The same applies to the compilation of interview questions, but usually ChatGPT composes basic questions that are suitable, for example, for the initial selection of candidates, if the task is set correctly, which subsequently greatly simplifies the lives of thousands of recruiters.

Moreover, this technology is also used for resume analysis, which helps to select suitable candidates for the position. It helps HR specialists to assess whether it is worth inviting this candidate for an interview for a particular position in the company based on the level of education, work experience, skills, etc. without any bias ([Eniola Sanyaolu & Rebecca Atsaboghena, 2022](https://www.researchgate.net/publication/366307222_Role_of_Artificial_Intelligence_in_Human_Resource_Management_Overview_of_its_benefits_and_challenges)). However, the chatbot may not pay attention to some points, for example, the lack of data on soft skills, foreign language proficiency, experience, etc. Due to such generalized results, HR specialists may have to ask a number of clarifying questions before inviting a candidate for an interview ([RBC Pro, n.d.](https://pro.rbc.ru/demo/6424e2759a794718ade75b69)). All in all, AI technology is pretty good, but with a massive recruitment of candidates, when it is worth considering and evaluating relatively simple indicators. If you need to choose, for example, a top manager, then there are concerns that the chatbot may give a slightly vague result, and specialists will probably refuse to delegate this important task to the technology on which the future of the company depends.

There are also cases where AI was used in assessing competencies based on the answers received, for example, in an initial interview. As expected, ChatGPT coped with its task very quickly, spending a little less than a minute on it and compiling a detailed report, but very formal ([RBC Pro, n.d.](https://pro.rbc.ru/demo/6424e2759a794718ade75b69)), therefore, in such cases, to ensure a clearer assessment of the candidate, one must have both rich interview experience and empathy. Although AI can be used to perform this function, I think that in this regard, human judgment is simply impossible to replace.

## **Impact of Artificial Intelligence Integration on HR Functions and Professionals: Opportunities, Threats and Challenges**

No other functional area in the company is faced with such an eternal search for self-determination as the HR function. Various functions of the HR department, tasks, and difficulties faced by specialists sometimes require innovative solutions, such as the introduction of AI, to optimize processes, increase efficiency, and improve overall results. Now, in a rapidly developing world with the advent of new technologies and increasing competition, companies are more likely to be able to survive if they have appreciated all the advantages and opportunities of AI relatively at an early stage of its development and implementation and have taken advantage of these advantages by gradually introducing AI into their processes ([Eti Jain et al., 2022](https://eudl.eu/pdf/10.4108/eai.16-12-2022.2326241)).

In this case, the introduction and further use of artificial intelligence (AI) provides many advantages for specialists.

As we mentioned earlier, thanks to this technology, labor productivity increases and, at the same time, the efficiency of both HR specialists themselves and other employees of the company increases. Now, by reducing the number of routine operations, specialists can prioritize and perform more strategic tasks. The next advantage is that HR specialists can get a deeper, and fastest, understanding of various aspects of personnel management, such as employee engagement levels, performance indicators, etc., using artificial intelligence-based tools. In addition, such innovations in the company enable the HR department to keep up with the times, developing digital skills and increasing the level of digital maturity. As mentioned earlier in the second chapter, in order to get a clear result from chatbots, you need to correctly ask a question with all the necessary details. Therefore, the availability of these cases suggests the creation of a new profession, such as an industrial engineer who writes commands or queries for AI technologies ([Artem Semenikhin et al., 2023](https://data.tedo.ru/publications/ai-in-hr.pdf?utm_source=academy&utm_medium=news)). This promotes the use of the collective intelligence of machines and people to achieve common goals and attempts to create new jobs, if necessary. Finally, the availability of working AI technology that can be used to analyze job descriptions helps to reduce discrimination during certain processes by providing an objective and standardized assessment process, and increase transparency, which helps to build confidence in the hiring process.

When it comes to artificial intelligence technology, which is often contrasted with human cognitive abilities, it is impossible not to highlight the following threats and risks that HR specialists should take into account ([Priya Dr., 2021](https://www.researchgate.net/publication/367654666_Role_of_Artificial_Intelligence_in_Human_Resources_Management); [EY functions, n.d.](https://assets.ey.com/content/dam/ey-sites/ey-com/en_gl/topics/alliances/ey-the-new-age-artificial-intelligence-for-human-resources-010978-18gbl.pdf)).

Cyberattacks and data leaks are increasingly occurring these days, so this is also considered one of the risks faced by specialists and companies. So, even regardless of whether the HR department uses ready-made AI solutions or uses its own solutions, it is extremely worthwhile to ensure compliance with strict information security standards (special certificates and other documents that can confirm the level of security), and choose ways to prevent potential leaks of information that has not been publicly available before. but it was actively used within the framework of AI-based systems. Otherwise, such cases will cause significant reputational and commercial damage to any organization. Further, another risk in working with AI, most likely it is felt especially strongly at the initial stages of the development of such a system, are some possible inaccuracies and deviations that may well arise due to algorithmic errors or insufficient data on employees, etc. The most frightening thing for HR specialists is that such a successful implementation of AI can cause career instability, in which the prospect of changing jobs may even be affected, since interacting with AI, a specialist must definitely have special training or knowledge. Thus, in this environment, ChatGPT can act as a competitor to professionals who have mostly performed routine duties before: formulating standard interview questions, compiling a job description, answering candidates’ questions, sending them test assignments, viewing resumes, etc. ([RBC Pro, n.d.](https://pro.rbc.ru/demo/6424e2759a794718ade75b69)). Therefore, it is likely that there will be specialists who can use such tools to a greater extent, but some positions in the HR department can be optimized.

In addition to the risks, there are also barriers within HR functions that hinder the further use of AI-based technologies, which may arise at the initial stages, as such technology is used.

The introduction and further use of AI technology can be highly influenced by skepticism, which may arise from the uncertainty and fear associated with the introduction of AI among HR department employees and, in general, due to the insufficient number of reports and studies that talk about the benefits of the introduction and application of AI in the company ([Palos‐Sánchez et al., 2022](https://www.tandfonline.com/doi/pdf/10.1080/08839514.2022.2145631)). They simply may be afraid to entrust technology, which, according to others, will be able to do this or that task or process much faster than a person, a number of their responsibilities, and suddenly there will be an error that will then need to be changed manually. Moreover, the most important components of the HR department's activities are understanding and empathy, which, unfortunately, technology such as artificial intelligence does not have ([Priya Dr., 2021](https://www.researchgate.net/publication/367654666_Role_of_Artificial_Intelligence_in_Human_Resources_Management); [Marr Bernard, 2024](https://www.forbes.com/sites/bernardmarr/2024/04/10/how-generative-ai-will-change-the-jobs-of-hr-professionals/); [EY functions, n.d.](https://assets.ey.com/content/dam/ey-sites/ey-com/en_gl/topics/alliances/ey-the-new-age-artificial-intelligence-for-human-resources-010978-18gbl.pdf); [Palos‐Sánchez et al., 2022](https://www.tandfonline.com/doi/pdf/10.1080/08839514.2022.2145631)). This causes even more skepticism and distrust of specialists, because it means that machines will have difficulty making decisions in those tasks that mainly require emotional insight. For example, it may be necessary to provide recommendations and support to employees who are faced with professional or personal problems that can be solved with the help of a classifying AI that classifies an object or situation into a particular category and gives a standard answer, it will look very callous and soulless, and such a situation, on the contrary, involves actions such as attentive listening empathize and only then offer appropriate resources and other support. However, I think it is important to understand that artificial intelligence can provide a base that can be done several times faster than an HR specialist would do and on the basis of which further work will take place ([Palos‐Sánchez et al., 2022](https://www.tandfonline.com/doi/pdf/10.1080/08839514.2022.2145631)). It will also allow them to focus on the strategic objectives of the company and free up time for creative tasks and employee development. In addition, even if the HR department is ready to try to get along with AI, the company may simply have insufficient volume and quality of data accumulated over time, and AI makes its judgments and conclusions based on a large publicly available database of information and data, and this accordingly prevents further implementation of this technology. Therefore, it is very important to achieve a certain level of digital maturity within the framework of personnel management processes in order to structure data and collect it centrally ([Artem Semenikhin et al., 2023](https://data.tedo.ru/publications/ai-in-hr.pdf?utm_source=academy&utm_medium=news)).

Certainly, knowing not only the opportunities but also the potential risks is essential to successfully, and most importantly conveniently, integrate AI into HR functions and proactively mitigate risks. There are many articles on defining functions where AI can be found quite often, or looking at just one HR function, such as recruitment (article by [Wael Abdulrahman Albassam, 2023](https://www.researchgate.net/publication/371792898_The_Power_of_Artificial_Intelligence_in_Recruitment_An_Analytical_Review_of_Current_AI-Based_Recruitment_Strategies)) or talent acquisition (article by [Ugur Karaboga & Pelin Vardarlier, 2021](https://www.researchgate.net/publication/350465346_Examining_the_use_of_artificial_intelligence_in_recruitment_processes)), and how it is evolving and transforming due to the impact of artificial intelligence on it, describing the barriers and various challenges associated with AI (article by [Fathima Nadhiya & Mw Mufassara, 2023](https://www.researchgate.net/publication/378518809_OVERVIEW_OF_CHALLENGES_AND_OPPORTUNITIES_OF_USING_ARTIFICIAL_INTELLIGENCE_IN_HUMAN_RESOURCE_MANAGEMENT_PRACTICES)). There are also articles about the impact of AI on HR, which is defined through qualitative data that sometimes fails to describe the full essence and depth of the transformation and the perception of this by professionals (article by [Umasankar Murugesan et al., 2023](https://www.sciencedirect.com/science/article/pii/S2772662223000899#sec3)). However, an important aspect often overlooked or not so frequently addressed, as mentioned earlier in the paper, is the gap regarding how the day-to-day functions of HR professionals and the structure of the department as a whole are actually, rather than supposedly, being transformed, i.e. there is insufficient analysis of the factual changes in different industries and geographical regions despite the general awareness of the potential benefits and challenges of AI, what are the long-term implications for employees in the digitalization era, and whether or not they are ready for AI, to devote time to more strategic aspects within the company. Moreover, with the technological advancement, the question regarding the sustainability and future trajectory of HR is still an open and controversial issue.

In conclusion, it is worth noting that a technology such as artificial intelligence, which had not caused such a stir before, has nowadays turned into an innovative technology with huge growth potential, which is much talked about in various reports and articles, and has a significant impact on various organizational functions. Moreover, AI types such as weak, strong, and artificial intelligence that will strive to achieve human intelligence reflect the dynamic nature of AI. It is worth saying that the field of personnel management was also able to feel the emergence of this new technology. The technology began to be used, ranging from optimizing recruitment processes to talent management, increasing employee engagement and improving the qualifications of candidates. In addition, when working with such technology, it is essential to understand its intricacies and prioritize concerns such as algorithm bugs, data privacy and shifting jobs of some specialists in order to fully exploit its potential.

## **CHAPTER 3. EXPLORATORY RESEARCH: METHODOLOGY, PRELIMINARY RESULTS, AND IMPLICATIONS**

## **Methodology**

The chapter describes the research methodology used in this paper, which aims to uncover transformations in human resource functions and development of the HR field in the context of the rapid adoption of artificial intelligence, and describes the method that helped in collecting data for analysis. This will be followed by a direct analysis of the information obtained and a discussion of the patterns. By the end of the discussion, practical implications, limitations of this study and some points that can be suggested for consideration in future works will be given.

In order to study the real changes in HR functions and predictions of the development of the field against the backdrop of the introduction and development of AI, **this paper utilizes a qualitative methodology**, through which it is indeed possible to explore in depth such complex technological changes affecting HR practices. In addition, unlike quantitative methodology, this methodology is quite good at identifying context-specific details or nuances, experiences, opinions and new ideas of individuals, which indeed helps in understanding the impact of this technology on the day-to-day processes that take place in the HR department in different organizational settings. **This paper is exploratory in nature**. The implementation of AI in HR practices is an emerging field, so without being constrained by sometimes preconceived notions, this approach can be used to explore non-standard aspects of this practice in companies.

**The data was collected through semi-structured interviews** designed to fill the gap in the literature mentioned earlier in the paper and to provide original knowledge on the dynamics of AI in the functions performed by HR professionals on a regular basis to achieve their goals. It is worth noting that semi-structured interviews are very well suited for understanding and uncovering such evolving and sometimes complex phenomena, the implementation of AI, and the different perspectives on the topic. There is also a sense of some balance between pre-structured questions and the ability to adapt to the conversation and flexibly explore emerging points, definitions, ideas and opinions. The interviews were conducted in **online format** with **representatives of HR departments of international and Russian companies** that apply AI in the HR department, namely in the daily functions of HR specialists, and who are familiar with this practice to a greater or lesser extent. The inclusion of respondents with different experience of using AI in general shows and gives insight into attitudes towards AI implementation and expectations, provides real practical experience, in other words, it helps to understand the full range of consequences of the introduction and use of the technology on the further development of the sphere.

In order to cover a wide range of viewpoints, it was decided to select **international companies from the United Arab Emirates, Kazakhstan, UK, France, Germany** and **Russian companies**. First of all, such a choice stimulates the exchange of best practices and experience in implementing artificial intelligence. Moreover, it provides an opportunity to try to compare and contrast their approaches and forecasts to the integration of artificial intelligence into human resource management functions and the context in which they are implemented, as companies operating in these countries have their own specific differences in the application of the technology and accordingly may differ in a number of factors such as the regulatory environment, the presence of geopolitical tensions, technological infrastructure, cultural context, etc. Overall, through such a comprehensive study, this research has the potential to subsequently identify common, yet unique challenges and opportunities for cross-border AI adoption and provide a more comprehensive understanding of the factors and conditions influencing AI adoption and the global importance of AI for workforce management, which can then form the basis for best practices for implementation.

Moreover, there is now talk of a presumed increase in AI-related costs, mainly due to chips for the development of AI models ([Seth Fiegerman & Matt Day, 2024](https://www.bloomberg.com/news/articles/2024-04-30/why-artificial-intelligence-is-so-expensive)), which are already scarce on the market and expensive. Therefore, **large companies** that are likely to have sufficient resources to implement AI in their HR functions were selected for interviews. Moreover, such companies are characterized not only by fairly well-established HR practices, but also by a well-established structure that allows them to observe transformations in the functions without any barriers. In addition, any interesting innovations or trends are usually set by large companies, and this does not go unnoticed by other companies that also want to replicate this or that practice, certainly making the experience of large companies special for a comprehensive review of the impact of AI implementation in HR.

In addition, **companies from various economic sectors** were selected for the study: ground logistics and transportation, electrical industry, mining, financial sector (banks), audit and consulting, education (educational products), engineering (household appliances, transportation, medical equipment) and electronics, software development. Due to the fact that the results will not be limited to a single context, i.e. not industry-specific, such a move will reflect the broader significance and trends of AI for HR and will help identify common patterns and industry nuances across different types of organizations, as AI solutions can be implemented differently depending on industry developments ([Commission on Teacher Credentialing, 2022](https://www.ctc.ca.gov/credentials/leaflets/industry-sectors-chart)). This approach enhances the relevance of the research findings by providing a comprehensive view of the transformative impact of AI on HR functions, thereby helping companies from different countries navigate these changes and leverage AI for strategic advantage.

Also, it should be noted that at the request of the respondents and for confidentiality, their identities and company names will be disclosed. Only the industry in which the company operates will be analyzed. As a result, 9 semi-structured interviews were conducted with HR managers, HR business partners, HR analysts and HR consultants with a comprehensive set of competences: 6 with international and 3 with Russian companies in both English and Russian. Respondents were asked a total of 9 questions and several additional and clarifying questions to deep dive into the topic, understand certain terminology and respondents' point of view. The interviews conducted on average ranged in length from 20 minutes to 50 minutes. The questions were about the current practice of using AI in the company, what influenced this decision and possible obstacles to the implementation of the technology, what transformations the functions are undergoing and what is the role of a specialist in the HR department now, the role of skills in the work, whether it is necessary to invest in the technology, the state of the HR sphere, etc. The list of interview questions can be found in the appendix under the heading “Interview Questions”.

Here is a detailed description of the respondents:

* Respondent 1 holds the position of business partners, HR analysts in Russian company, which works in the financial sector (banks),
* Respondent 2 holds a position of HR consultants in a United Arab Emirates company, working in ground logistics and transportation industry,
* Respondent 3 holds a position of HR consultants in a Kazakhstan company, working in electrical industry,
* Respondent 4 is an HR manager in a German company, working in the engineering and electronics industry,
* Respondent 5 holds the position of HR managers in a UK company, working in mining industry,
* Respondent 6 holds the position of HR managers in Russian company, working in audit and consulting,
* Respondent 7 is an HR manager in a Kazakhstan company, working in education (educational products),
* Respondent 8 holds a position of HR manager in French company, which works in mining industry,
* Respondent 9 holds the position of HR manager in a Russian company, which works in , software development industry.

Prior to each interview, interviewees were asked for permission to record the interviews and then the information obtained was listened to and transcribed for ease in conducting further thematic analysis, proper to qualitative research, involving the identification of patterns in the responses received from respondents.

## **Results and Discussion**

The information obtained from the interviews will be analyzed in three blocks: consideration of international companies, then Russian companies and the analysis is completed by comparing these two groups of companies.

## **Analysis of international companies**

*HR functions where artificial intelligence is already being utilized*

As mentioned earlier, most companies have already started to incorporate and already use artificial intelligence in some HR functions, however, as it turns out, not all of the respondents who agreed to be interviewed have artificial intelligence implemented in their daily functions, rather there are cases of localized use, i.e. by only one employee, of this technology. Although the number of respondents is not very comparable to the percentages suggested by the various articles, since a larger sample was probably taken, it is still worth noting that not all large companies are using AI these days, although they do have enough resources to consider implementing this new technology to improve efficiency. Taking into account the international experience of companies that are often leaders in the introduction and use of innovative technologies, in particular, artificial intelligence, it is interesting to analyze their approaches to the introduction of AI, which can subsequently give an idea of how the functions of the human resources department are and will be transformed, and what the future holds for the sphere of human resources with such a global change in the culture of work caused by AI. Let's take a look at these in order.

This group included specialists from companies operating in ground logistics and transportation (United Arab Emirates), electrical industry and education (Kazakhstan), mining (UK and France), engineering and electronics (Germany).

All six experts share the view that integrating AI into HR functions can indeed help optimize processes and significantly improve efficiency. However, depending on the country, industry, support and company infrastructure, the scope of AI implementation varies significantly. For example, HR professionals from Germany (engineering and electronics industry) and the United Arab Emirates (logistics and transportation industry) have seized the new technological opportunity and are already saving time and providing a personalized approach to working with candidates thanks to AI. These companies use both their own AI solutions and good quality market offers. The range of AI usage is quite similar, for example both respondents shared that they use AI in the initial stages of recruitment, from scheduling interviews, automatically sending information such as instructions, documents, applications, etc.), to screening resumes, matching potential candidates with job descriptions, which

*“provides a consistent, seamless and fast process to identify the best candidates and significantly helps reduce the time recruiters typically spend coordinating with candidates and hiring managers, while maintaining and even improving the quality of the hire”*

*(HR specialist from Germany, engineering and electronics industry)*

A respondent from the United Arab Emirates (logistics and transportation industry) noted that in addition to using this technology in Talent Acquisition, the company applies it in functions such as Employee Relations and Learning & Development, resorting to both in-house development and products on the market.

*“As an example, I can cite software such as JobVite, iCIMS Talent Cloud, Workable in the area of Human Capital Management (HCM), which are gaining popularity and help automate the process from job descriptions, recruitment, to writing emails, scheduling interviews and onboarding”.*

*(HR specialist from the United Arab Emirates, logistics and transportation industry)*

Very often, AI-controlled chatbots began to be used, which are able to quickly answer a question, according to an HR specialist from Germany (engineering and electronics industry), whose company also has such an in-house development, which is used not only in the selection of candidates, but also in everyday corporate queries, for example,

*“inquiries about taking or continuing training, vacations, sick leave, etc.”*

*(HR specialist from Germany, engineering and electronics* industry*)*

This is convenient not only for the company's employees themselves, who can get the information they need in an instant without going anywhere, which leads to their satisfaction, but also for HR department employees who have started spending less time answering employee questions.

Other specialists practically do not use artificial intelligence to optimize functions. As the representative of the HR department at the company located in France (mining industry) said:

*“In our company, we have not officially implemented AI in HR. I use it only on my own initiative to create mailings, letters, instructions for employees”.*

*(HR specialist from France, mining industry)*

I think in the company it can be considered as an initial stage on the way to the introduction of artificial intelligence, only the initiative comes not from the organization, but from the company's employees who want to transform the processes they are used to, although with such an ambiguous technology as AI, the introduction of which is fraught with some difficulties.

*Factors influencing the decision to implement AI in HR functions: Understanding indecision*

But why does this happen? Why do some large companies still decide to make that important decision to implement AI, while other companies, amidst the growing popularity of AI and its supposed benefits, decide not to implement it yet, or maybe only use it locally in the workplace for now? Such nuances (levels of readiness, motivations and strategic approaches to AI adoption) can help to clarify how the integration of AI in different companies can transform HR functions in different ways and influence the future development of the HR department, allowing it to exist a little longer or making significant structural changes.

As many respondents noted, even those who have not fully implemented this technology (HR specialists from Kazakhstan (electrical industry, education industry), Germany (engineering and electronics industry), France (mining industry)), basically the decision to introduce artificial intelligence into the functions of the department is motivated by the desire to optimize routine personnel management processes, for example, maintaining personnel records, sending letters and mailings, due to the large paper and other workload. As noted by a specialist from Kazakhstan (electrical industry), whose company is still considering the introduction of AI, this desire for optimization will allow HR staff to easily make decisions on various issues.

*“Artificial intelligence will help to analyze why employees leave, how effectively they work, how to prevent some kind of burnout at work, and analyze the tasks of certain employees will help to avoid possible risks in this regard. And of course, this will be a specific advantage of the company in the market”.*

*(Kazakhstan, electrical industry)*

Also, the company's culture encouraging employees to experiment and use new technologies is a factor that influences the decision to use artificial intelligence in the company. It is observed that in those companies that value innovation and strive for continuous improvement, for example, a company from Germany (engineering and electronics industry), is more likely to introduce a new technology like AI into the functions of the HR department than a company that is manufacturing and whose income directly depends on productivity.

*“I think when making decisions, no matter what they relate to, the most basic question will be: "how will this affect the productivity/efficiency of the company's department? HR will be no exception. The company will analyze the funds spent on AI with those funds that will be reduced as a result of the introduction of AI”.*

*“Technology readiness and organizational culture, in my opinion, are the last things a company intending to introduce AI will think about”.*

*(United Kingdom, mining industry)*

That is, for such companies, strategic alignment with productivity goals is crucial.

In addition, the company's availability of qualified labor and the necessary initial infrastructure is also a factor that influences the decision to implement artificial intelligence in the HR department.

*“One of the main factors that influenced the choice of AI in the field of HR is the willingness and ability of our company and team to use these solutions”.*

*(The United Arab Emirates, ground logistics and transportation industry)*

Such statements prove that the availability of resources is a crucial factor in a company's decision to invest in AI. This readiness ensures smooth integration and effective use of artificial intelligence in HR functions, which makes it possible to transform established functions, for example, to facilitate the transition from administrative support to a strategic function.

However, there are factors that make the company's management and HR managers think about the need to introduce such an ambiguous technology. As it turned out, a hot topic when implementing AI in the functions of the HR department is high costs and fears about data privacy. All HR professionals have noted this, even those who already use artificial intelligence in their work. This will certainly require an initial investment, which for some companies may be prohibitive, in an AI project, whether in the technology itself, in infrastructure or in staff training. Moreover, this technology will need to be constantly maintained, that is, to update the software, perform other maintenance, it may be necessary to adapt this technology to the specific needs of the company, which can greatly increase its operating costs. Therefore, it can be said that cost-benefit analysis is extremely important for companies, especially those operating in the manufacturing industry, where, as I mentioned earlier, capital expenditure directly contributes to productivity (i.e. the increase in staff productivity achieved by investing in AI tools and embedding them in HR functions). Although, for example, an HR specialist from Germany (engineering and electronics industry) said that the company and the HR department benefit from having *“a skilled workforce and the necessary infrastructure”*, so in this case a company working in such an industry may not allocate so much money for such projects (introduction of AI into HR functions). That is, since such industries initially recruit specialists with good hard skills to perform their work tasks, who will be able to learn, support this technology and explain it to other employees who will use it, the company can implement the technology cost-effectively using the available resources.

Also, questions and fears about data privacy and the transfer of this information make some companies wonder whether it is worth implementing this technology at such risks, given that the HR department works with a large amount of personal data of employees, *“making it the main target for information leaks and cyberattacks”*, say HR specialists of companies operating in the field of education, engineering and electronics and ground logistics and transportation.

*“In the company, as I believe in others too, there is a growing awareness of leaks of personal information of employees or documents and the potential use of this data for criminal purposes, cyberattacks. This causes some fear when implementing such a technological solution”.*

*(Kazakhstan, electrical industry)*

With these security concerns and employee concerns in mind, companies carefully weigh the benefits of using AI in routine and maybe even creative HR functions and potential vulnerabilities. Therefore, in order to protect against data leakage and unauthorized access, it seems important that artificial intelligence systems have reliable security protocols. For example, an HR expert from a company represented in Kazakhstan (education industry) said that *“the company's employee military records were kept on paper until recently because there were concerns about cyberattacks”*. Information related to the country's military potential, which is confidential, could be a significant constraint. This highlights the difficult balance between implementing this technology to automate processes and reducing security risks. Thus, by identifying a number of factors that influence the introduction of newfangled technology (artificial intelligence) to one degree or another, this makes it possible to predict when and how AI will be integrated into the functions of the HR department, what transformations in functions will be in terms of speed (fast, medium or slow) and format (full, incomplete, balanced replacement of functions).

In addition, it is difficult to find experts in this field, with all the necessary knowledge and skills necessary to protect confidential corporate information from hacking.

*“Indeed, there are very few experts in the market (in Kazakhstan) who will help protect employee data and the company as a whole from information leakage to some other market to people who can use this information to harm”.*

*(Kazakhstan, electrical industry*)

A human resources specialist from a company operating in Germany (engineering and electronics industry) suggests that another factor may be the reason for not introducing artificial intelligence into functions – this is the resistance of employees to change. I think this is mainly due to the fact that employees have already become accustomed to existing processes and have honed their skills so that they can be said to automatically perform certain functions and therefore they do not see the point in changing something, they are afraid that this will affect their regular work. Perhaps the rigid framework of AI, reflected in clearly constructed algorithms, can exclude errors in processes, but at the same time AI does not take into account emotions, mentality, culture, which can influence the decision.

*“For example, going through a job interview with an AI. It could falsely read a candidate's facial expressions and reject him or her. Although the person could simply be overexcited, which is normal, we are not robots after all. In such a case, the company could lose a valuable employee”.*

*(United Kingdom, mining industry)*

While everyone recognizes the benefits of artificial intelligence, there are concerns amongst professionals that jobs could be cut, ultimately causing employees to be reluctant to embrace the changes that artificial intelligence can bring. In addition, sometimes it is not always clear how artificial intelligence works and how it will affect their responsibilities, which unwittingly generates skepticism and unwillingness to use AI. In addition, for some employees, it may seem that they may lose control after artificial intelligence is introduced into their functions, and that it will dictate tasks and solutions to them, which may reduce their ability to think sensibly and exercise discretion.

*“The imperfection of the AI system also does not yet allow us to fully rely on the results of data processing”.*

*(The United Arab Emirates, ground logistics and transportation industry)*

This is also one of the important factors to consider when deciding on the introduction of artificial intelligence. In this case, it is very important to have high-quality data, which is closely related to artificial intelligence and on the basis of which AI learns. Basic input data often leads to biased results, as this data is also generated and embedded by people who may inadvertently introduce their own biases.

In addition, an HR specialist of a company from Kazakhstan (education industry) noted that currently there are no uniform programs in the workplace, i.e. companies use completely different programs, processes, etc., which leads to inefficiency and inconsistency. But if there were still a *“statutory standardized human resources program”*, it would serve as a driver for the gradual introduction and use of AI and, subsequently, the transformation of existing functions based on relatively manual work, since everyone would use the same systems and protocols, increasing efficiency and strengthening trust in technology.

*Structural changes in the HR department and employee skills*

Analyzing the possibility of changes in the structure of the department, several patterns were noticed. For example, almost all specialists, regardless of the country (Great Britain, Germany, France, Kazakhstan) and the industry (mining, engineering and electronics, education and electrical industry) in which companies operate, expect that with the introduction of artificial intelligence, staff may be reduced, since most or almost all of the operational work will be performed by artificial intelligence.

*“Consequently, due to the smaller workload, fewer staff will be required. However, this implementation may lead to an increase in IT staff to maintain the AI”.*

*(United Kingdom, mining industry)*

After artificial intelligence takes over all routine administrative tasks, there will indeed be a transition to strategic functions, as mentioned in various articles, but now this conclusion is supported by the thoughts of HR specialists from different countries.

*“AI cannot replace strategic positions”.*

*(France, mining industry)*

This opinion is also shared by a representative of the personnel department of the UAE logistics and transport sector, the German engineering and electronics industry and representatives of the education sector of Kazakhstan. Strategic positions in HR are characterized by a high level of emotional intelligence, detailed decision-making, understanding of context, etc., but currently AI will not be able to reproduce such processes. For example, developing long-term talent management strategies, making career decisions, etc. undoubtedly require not only understanding, but also human judgment.

*“It seems that over time we will witness the augmentation of HR functions (for example, the role of an HR Business Partner will increase), as modern technologies will allow us to focus on solving more strategic issues involving important decision-making and communication within the organization”.*

*(The United Arab Emirates, ground logistics and transportation industry)*

In addition to staff reductions, new specialties may be added, for example, a compliance specialist who will be responsible for the quality of the data provided (ensuring that artificial intelligence complies with data protection rules and ethical standards), thereby maintaining transparency and preventing bias in the department. And since the HR department will have to analyze information and work more and more with data, *“it is expected that HR data analysts and HR technologists will appear who will maintain control in the implementation of artificial intelligence tools)” (Kazakhstan, electrical industry; Germany, engineering and electronics industry).*

However, it cannot be said that the degree of expected structural changes is the same among the analyzed companies and industries in which the interviewed HR specialists work. Despite the fact that the use of AI is growing in the daily activities of HR functions, a human resources representative from The United Arab Emirates (ground logistics and transportation industry) said that *“structural changes within the organization are not yet expected. However, there is a tendency to depend less on contractors in the field of recruitment and there is a growing demand for training in AI software”*. Indeed, artificial intelligence is used in functions, employees notice that it helps them to some extent, but these transformations will not necessarily lead to very rapid structural changes in the human resources department.

In today's digital world, data is increasingly valued as an essential asset, and HR professionals need to possess a range of skills that are also part of the function transformation process in order to effectively promote strategic initiatives and use artificial intelligence technologies.

*“Although not everyone needs to be a programmer or software developer, HR professionals need to be well versed in technology and its applications”.*

*(Germany, engineering and electronics industry)*

All respondents also expressed their opinion in support of this approach. When function transformation occurs, the focus should be on understanding the new technology and what the technology can bring to the solution and how it can add value to the solution. Specialists can use this familiarity with artificial intelligence technology and its potential impact on classical HR management functions to identify opportunities for increased efficiency and innovation. In general, the staff of the department should have technical literacy, that is, they should be able to handle various systems, programs, and skillfully use computer equipment.

*“The most basic thing that will need to be done to train staff when implementing AI is an orientation session explaining the purpose of implementing AI, its benefits and nuances of operation, and subsequently training”.*

*(United Kingdom, mining industry)*

Moreover, HR functions will include data analysis and interpretation. Therefore, HR specialists will be required to have critical thinking and the ability to work with information that has been obtained using AI, respectively, the ability to interpret the information received and make informed decisions, for example, about hiring a candidate, employee retention strategies, employee engagement, etc. However, *“we cannot blindly believe what the machine (AI) advised. The machine could provide any information, so we still need to not trust it all, but analyze what it gave out. And making a decision is already the task of specialists and managers” (Kazakhstan, education industry)*. The ability to work with big data, skills in writing clear queries, and project management skills will also be highly valued in the workplace, as the HR specialist from France (mining industry) pointed out. To do this, specialists need to share their experience, attend conferences and HR forums. In addition, they will need to work closely with the IT department to automate requests.

It is still a bit ambiguous which skills will still be appreciated more in the future, since this area of work with technology is only developing. As mentioned earlier, many respondents believe that it is critical thinking and analytics that can transform functions and help them move to a new level. However, there are several HR specialists who also recognize the importance of hard skills and add to the list skills that are expected to come to the fore and will be primarily considered by the employer: adaptability, as a desire for change, the ability to make these changes, flexibility, curiosity.

*“AI resources significantly simplify and accelerate the use of repetitive routine processes. However, skills such as empathy, leadership, creativity, and flexibility in decision-making cannot be generated by AI. Coaching and mentoring are in high demand in times of crisis, and in-depth training, professional development and versatile development of professional skills are increasingly needed in rapidly changing realities”.*

*(The United Arab Emirates, ground logistics and transportation industry)*

As for the steps that need to be taken to prepare employees for these changes, well, first of all, it is very important to *“conduct open and honest communication”* *(Kazakhstan, electrical industry; Kazakhstan, education industry)*. Because many employees will have concerns about their role, their position, how relevant it will be at all. And if it is no longer fully relevant, but still such a position will remain, how much this position will change, whether a person will be able to continue to feel comfortable in this role. Therefore, it is necessary to openly and honestly tell employees about all the changes, it is necessary to offer training on how to use AI, how to work with it correctly, etc. It is necessary to conduct various anonymous surveys, including to understand what pains and experiences employees have and to work on the basis of the results of this survey. It is also possible to launch the implementation of artificial intelligence in the pilot project mode so that employees can try it out themselves and understand that it is not so scary. In general, it would be possible to hold more meetings and discussions about the introduction of artificial intelligence and, perhaps, offer retraining or advanced training in another specialty so that people are not afraid of losing their jobs.

Also, the company where the interviewed HR specialist works (Germany, engineering and electronics industry) and which already uses AI in its functions, invests in continuing education programs and cooperates with educational institutions that offer appropriate training so that its employees understand what this newfangled tool is and how to use it in order to do their job more efficiently.

*New trends and innovations in the field of AI for HR*

I should note that the answers received about trends in AI technology and what function companies would like to implement AI in, but have not yet implemented, are slightly inconsistent with reality. While various literature describes the colorful adoption of artificial intelligence in almost all functions, especially by large companies, it has to be said that the pace of technology adoption is a little slow, but not lagging behind. Let me remind you that among the interviewed specialists there were those who did not have AI as such in the company's HR department functions, only some local uses that may be implemented in the future as the official technology of the company. For example, a specialist from France (mining industry) says that everything is new for the human resources department in this field of artificial intelligence, so now they would like to implement *“downloading all company regulations and instructions, labor code and current amendments and draft laws and based on all these documents issue a request. The request would be clearly justified legally, save a lot of time and minimize errors”*.

The human resources department has a relatively similar desire from a respondent from Kazakhstan (education industry), who wants absolutely all tasks for compiling various registers, recruiting staff, and generating reports to be automated using artificial intelligence. The department needs an assistant who would collect, analyze information, and then propose solutions to the problem based on a description of the employee’s situation, for example, what punishment to apply to the employee: reprimand, admonish or dismiss. Indeed, there is a possibility that artificial intelligence will select options for the development of events, but in no case can it make a decision for a person unless it is a very accurate program with a large amount of data. In any case, the final decision remains with the person, and this technology in the function can only offer possible scenarios and push on the right path.

In the near future, AI will become very popular for a specialist from the UK (mining industry) to analyze and select candidates’ resumes according to job descriptions and specified skills, to conduct an initial interview in order to obtain general data. Also, during the recruitment process, there will be many opportunities for conducting interviews with the help of virtual assistants, the use of which can help relieve specialists and get the opportunity to talk more with applicants in subsequent face-to-face meetings. In addition, it will provide a good and pleasant experience for applicants who can feel that a real person is communicating with them if this development is done well.

*“Our organization is currently in the process of implementing a virtual assistant as an HR bot who will be able to answer frequently asked questions around the clock on HR policies, safety and code of conduct for both newly hired and long — term employees”.*

*(The United Arab Emirates, ground logistics and transportation industry)*

This will simplify the work of ER (Employee Relations) employees, saving them from answering numerous questions, and will give them the opportunity to solve non-standard problems and develop further. In addition, the HR department and company executives are looking at implementing AI in the area of pay and rewards. Using AI algorithms, it is possible to analyze underperformance and unusual patterns in the calculation of overtime hours, double pay and other underperformance.

A specialist from a German company (engineering and electronics industry) has identified a number of new trends, as she is already familiar with the practice of implementing artificial intelligence. Generative AI is very popular now, and it will continue to mature and integrate into HR and into possibly already existing platforms that companies are using. For example, word processors with available features for grammar correction, content generation, autocomplete, etc. can help simplify the creation of employee or candidate communications, job descriptions, and training materials. In addition, generative AI can quickly compose interview questions, create candidate profiles, ads for candidates, etc. Since generative AI is now associated with a niche application, it may well become the main tools in HR functions in the future.

Moreover, the use of artificial intelligence can improve the management of digital identity data, including credentials and permissions, personal information stored digitally. In this case, the implemented authentication methods (voice, face recognition, etc.) using AI, increases the convenience of users, and most importantly their security. These collaborative technologies can be used to verify the identity of potential candidates or employees for a job. In addition, it will perfectly help to develop a comprehensive fraud detection system.

*The future of HR in the context of the introduction of AI*

Against the background of the introduction and use of artificial intelligence, the future of the HR department has recently been a topic of discussion. Although artificial intelligence is characterized by the fact that it offers a number of opportunities to optimize HR processes, it also causes some excitement and concern on the part of company executives and employees themselves, thinking that artificial intelligence can significantly transform established methods and processes of personnel management.

In any HR department, a lot of time is consumed by repetitive administrative tasks. Working with correspondence, payroll, and performance assessment checks takes a lot of time, which can be spent on solving priority issues. The HR function is becoming more and more analytical, and HR planning and performance assessment are necessary today for both small and large businesses. As predicted by the HR specialist of a company from the United Arab Emirates (ground logistics and transport industry), the use of artificial intelligence and machine learning in ERP and HRMS is growing noticeably and is helping HR to update their task baggage and with new strategic functions to participate in discussions with management and contribute to decision-making and company development.

Amidst these transformations, although some respondents (even those who have implemented AI) hesitated a little with the answer what kind of future awaits the HR sphere, they unanimously said that this sphere will not disappear, on the contrary, it will develop better with the use of AI, but it takes time to understand how transformations and trends in the field of AI, which were described earlier, will manifest.

*“We are still only at the beginning of this massive transformation”.*

*(Germany, engineering and electronics industry)*

Despite the fact that artificial intelligence will presumably be involved in all areas of HR, it will nevertheless not displace HR itself.

*“It is more likely that the functionality between humans and AI will simply be divided and they will develop together, a balance will be found. AI will be an assistant, but not a leader in this collaboration”.*

*(United Kingdom, mining industry)*

A culture of continuous learning will be created as technologies are constantly evolving and it will be necessary to maintain this culture in people in order to effectively integrate AI into personnel management processes. Nevertheless, a person needs a person and no one and nothing can replace live communication. HR's functionality still lies in working with staff, with people. And this work can be unpredictable, since each individual is unique in his own way and different situations can happen to each person.

*“It seems to me that it is impossible to widely implement AI so that it is ready to solve any issue. The human factor, which is everywhere, will not be completely replaced by artificial intelligence or written into algorithms”.*

*(United Kingdom, mining industry)*

Some respondents had doubts about the existence of a human resources department because most employees in their department are used to non-automated functions that they have been performing for many years. And the transition that they are talking about to a strategic partner can be quite difficult for those employees because, in principle, it may not suit them and they are likely to seek to continue to carry out their traditional functions on the basis of documents and partial use of a program that is enshrined at the state level, that everybody is familiar with and knows the order of it.

In addition, an HR specialist from Germany (engineering and electronics industry) who is familiar with the practice of implementing artificial intelligence in the human resources department and who has experienced the effects of function transformation, so to say, said that it is very possible that in about 15 *—* 20 years there will be a significant cultural and structural shift in technology, namely AI, but currently, HR employees are doing a job they can do better than any robots and machines, and in many ways they are responsible and intend to remain so.

But it's worth keeping in mind that artificial intelligence is developing, and there are already concepts of strong and super AI. Moreover, strong AI is currently under development and in the future will be able to independently learn, think abstractly, reason, etc., and super AI is still only an assumed concept, but it is characterized by a significant superiority of human intelligence, that is, the machine can also be completely autonomous.

*Investing in AI*

This year, everyone started talking about how artificial intelligence has become very expensive and that it is unlikely that it will be able to automate all processes in the workplace. Moreover, the most important factor is that in some countries there are no unified programs and regulations at the legislative level that can indicate the process of responsible and ethical use of AI, which makes the process of implementing and using this technology a little unclear. But the question of investments remains open. HR specialists took two positions. The first cluster of companies (Kazakhstan (electrical and education industries), France (mining education), which are characterized by the non-mandatory introduction of AI, rather the project is still under consideration, is inclined to the fact that large companies definitely should invest in this technology. Since in any case, it will involve more and more companies and processes every day, there is no escape from this.

*“And it's likely that after a while it will even be a forced measure to invest in AI, and then implement it”.*

*(Kazakhstan, electrical industry)*

It is important to first invest in people who will help build the right strategy for implementing artificial intelligence and smoothly start launching the AI implementation process so that it does not come as a surprise, but is really a clear plan, strategy and approach to implementation. Moreover, if companies miss this trend now, it will be more difficult for them to develop in this area and gain a competitive advantage in the future (France, mining industry), if that is what they are aiming for. As companies adopt this technology, the industry will see a significant increase in innovation and efficiency, which will be based on artificial intelligence, meaning the market will be crowded with potential competitors.

The second cluster formed consists of HR specialists who work for companies from The United Arab Emirates (ground logistics and transportation industry), United Kingdom (mining industry), Germany (engineering and electronics industry). Artificial intelligence is already used and supported in these companies, only one uses it locally (its own initiative to use technology by one or more people), and not at the organizational level. Of course, large companies should pay attention to the effectiveness of AI and think about its implementation. Since, for example, calculations that can be performed by a machine in a second will be more accurate and faster, which can have a positive impact on production and so on. That is, there is certainly a place for AI in the technical and production departments.

*“But I think it is impossible to widely implement AI in HR”*

*(United Kingdom, mining industry)*

In HR departments, processes can be automated in such a way that it will optimize the work of employees. I think this option will be more cost-effective compared to the AI implementation option. Therefore, companies and their HR departments need to properly evaluate opportunities and only invest in what really matters to both the HR department and the company.

Although HR specialists from this cluster also believe that, if large companies allocate investments for the introduction of artificial intelligence and employee training, they can gain advantages in the form of competitiveness and efficiency (Germany, engineering and electronics industry), however, Since these companies already have some experience rather than just relative knowledge about AI, the decision to implement AI should be made by the company based on its strategy, goals and stage of development.

*“In my opinion, any organization should be selective and gradually introduce AI products, as this implies a certain risk and may further affect the company's culture and image”.*

*(The United Arab Emirates, ground logistics and transportation industry)*

Since the integration of artificial intelligence into the functions of the human resources department is currently being carried out very actively in order to optimize everyday processes and increase efficiency, questions arise about significant functional and structural transformations in the department. As the analysis shows, among HR specialists of companies operating in different industries and countries, there is a different degree of implementation of artificial intelligence in traditional functions, different changes in functions and, accordingly, a relatively different vision of the development of this area. Such a difference in the proposed transformations in the functions of the HR department and its future development may be caused by the following factors: specific industry requirements, government support, regulatory environment, technological advances.

The options presented in this analysis for the transformation of functions and the development of the sphere are mainly dictated by the fact that the industries in which companies of HR specialists operate are characterized by different specific requirements, which in turn contribute to the definition of transformations. For example, in the engineering sector (Germany) and logistics (UAE), in order to increase operational efficiency with the introduction of AI, such important characteristics of these industries are considered, namely encouraging employees to experiment, the value of studying, implementing and using new technologies and innovations, that is, an active approach to technological integration, and striving for continuous improvement, what motivates companies that work in these industries to implement AI, which subsequently changes functions (augmentation of HR functions (increasing the role of HR Business Partner; with the advent of new positions: HR technologists and HR data analysts - new functions appear in the form of, for example, solving compliance issues, etc.) and transforms the development of the HR department (structural changes within the organization are not yet expected, the sphere will exist, but with minor changes). In contrast, a human resources specialist in the education sector (Kazakhstan) faces a low level of awareness about AI and its promotion, and although digitalization initiatives exist, they are limited in scope and do not have comprehensive regulatory support and, accordingly, a large impact on transformations in functions, only such changes in routine functions are noted: drawing up clear queries, working with big data and focusing on pilot AI implementation projects is noted, which indicates the gradual development of the HR sphere.

Also, HR specialists who work in Germany and the UAE, who position themselves as centers of innovation and technology, can feel the favorable conditions created for them for the introduction of such technology as artificial intelligence, namely, the availability of qualified labor and reliable infrastructure on the market. It is quite important that these countries (Germany and the UAE), along with France and the United Kingdom, receive government support for technological innovations that have begun to occur in the near future. Artificial intelligence strategies are being developed, for example, in Germany and the UAE, aimed at making countries a center for the production or implementation of AI, and investing in the development and research that companies are engaged in in various fields. Additional support provides a good impetus for the development of their own AI solutions in the workplace, including personnel management, or encourages companies to implement existing solutions on the market. HR specialists see the potential in AI, which will help automate the sending of information, scheduling interviews, selecting resumes and candidates, etc. Actually, that's why we can notice that in the responses of HR specialists from companies from these countries, it appears that they use AI in HR and they have all the necessary infrastructure (tools, systems, etc.) and other resources, for example, qualified labor, for a smooth transformation of functions, which are expressed in such trends as mastering generative AI, which is not so widely used in traditional functions and requires large investments, data analysis (skills of interpretation and making strategic and informed decisions are needed), transition to strategic functions and technical literacy.

In addition, the regulatory environment can serve as a decisive factor in how the implemented AI-based processes will shape the future of the HR field, in which specialists will understand the unified structure of the program, which contributes to building trust in technology and healthy transformation of functions while maintaining a balance in work between man and machine. Although there are now some laws aimed at maintaining data confidentiality when using AI, which require transformations in the form of new positions such as compliance specialists to ensure the ethical use of artificial intelligence systems and compliance with regulatory requirements, along with these provisions, a policy with rules and clear regulatory recommendations for Perhaps a single AI-based program will be defined for the implementation and use of this technology, which will be indicated in the regulation, that is, it will be fixed at the state level, which to some extent will allow company managers and HR specialists, in whose departments this technology is sometimes introduced, to feel clarity in the use of artificial intelligence and want to use it and implement AI in their functions, since all uncertainty has been eliminated by standardization.

Thus, when AI is introduced and used in a company by specialists from the human resources department, adaptation occurs, in which the roles and functions of employees are rebuilt, and new skills are acquired (critical thinking, working with data, making logical, meaningful, and most importantly accurate queries, etc.). Moreover, adapting to AI, companies Thus, they prepare employees for the upcoming development of the HR sphere, which is characterized by the fact that people and machines will work together.

## **Analysis of Russian companies**

For this study, Russian companies from industries such as the financial sector (banks), software development and audit and consulting, who are familiar with the concept of artificial intelligence and the subtleties of its implementation, were also taken for analysis. Artificial intelligence, reflecting the global trend towards digital transformation in the workplace, is being dynamically introduced and used in Russian companies in the human resources department to automate routine tasks, and this use will only grow when people understand this concept of artificial intelligence. Since Russia is also making great achievements in the field of technology and innovation and is trying to meet international standards, it will be quite interesting to consider their practice of using AI and their vision of the future of HR: will it disappear or will people and machines go side by side to achieve their goals, reaching a new strategic level of HR department work.

*HR department functions that already use artificial intelligence*

Two of the three companies from the financial sector and audit and consulting industries use artificial intelligence in the following day-to-day functions: training and recruitment. In recruitment, it becomes easier for HR department employees to evaluate resumes (identify suitable resumes), search for candidates, collect and structure data, etc. As for training, in this function, AI helps to generate various training materials for courses or onboarding and offers certain recommendations based on employee data.

It is worth noting that in the HR department, a specialist from the financial sector implements AI in numerous personnel management functions (recruitment and hiring), ranging from document recognition, recruitment planning, to such non-standard tasks as finding similar employees (skills, experience, etc.), which can help in succession planning and in general, to ensure better compliance with official duties), and forecasting the success of the probation period. With this data, HR department employees can actively support new employees to avoid staff turnover and that will then lead to effective talent management. Since the focus in this industry is on innovation and significant investments are made in the development of new technologies to improve efficiency, the HR specialist shared that they use their own developments that help to perform not only standard HR functions, but also a little creative, for example, generating illustrations for educational programs, for video content, etc.

A company from the software development industry has not yet used such technology, but it is being discussed among themselves. However, AI is used selectively, as we mentioned earlier, locally, for example, in creative functions handled by the internal communications department and also in working with students for various creative tasks. The GPT chat, which is available on the market, is used to compose short texts when you need to give a thought, in composing questions for podcasts, etc.

*Factors influencing the introduction of artificial intelligence*

Indeed, working with personnel, the HR department deals with a huge set of sensitive information, they know quite a lot about their employees, and as can be understood from a conversation with specialists, the implementation of certain solutions will depend on how secure the solution will be. Now there are solutions on the market, for example, that allow you to somehow track and control an employee’s working time, collect information from his computer and thus consider his effectiveness and draw certain conclusions. In my opinion, this is a sensitive topic, so you need to think several times before investing and implementing such technology. All respondents share the same thoughts about this, as it really directly affects the decision to integrate such technology. In addition, an important factor is financial opportunity, the real need for the introduction of technology and culture (since with automation and the disappearance of some positions in the department, some respondents think that a culture focused on people and personal communication will gradually be lost).

As some experts have noted, there are now some concerns and disappointments when it comes to understanding that *“for a fairly large investment we get sometimes quite modest or some small improvements in business metrics, or we don't realize at all what we have improved or not”* *(HR specialist of the company from the software development industry).*

Specialists in companies from the software development industry mainly use it locally and this popularity is noticeable, but its large implementation so far often rests on the issue of financial feasibility and efficiency, or the issue of ethics in terms of what will need to transfer this data. In addition, there may be resistance from employees, as they will worry about their data, which may fall into the hands of other people when attacking the company's servers.

*Structural changes in the HR department and the necessary skills*

In general, neural networks, in my opinion, have good prospects, since they help to some extent reduce the time allotted for performing routine tasks and spend it on more creative and strategic ones. However, in order to obtain such results, it is necessary to acquire certain skills, for example, to form a question correctly, as HR specialists from companies from the financial sector (banks), software development said.

*“In general, nothing much will change in the structure of the HR department”*

*(HR specialist of the company from the software development industry)*

AI can make us faster and better somewhere, for example, automatically close some applications, automatically make decisions, but one way or another *“there will be people on the ground”*, especially what concerns not so much administrative system functions of personnel, but functions that, for example, are engaged in corporate events or others, hiring, and other tasks where face-to-face communication with a person is required. No one wants to communicate with robots in voice chats, everyone wants warm communication with people.

In general, when using artificial intelligence, it is important to learn the right approach, that is, to work correctly with a generative neural network, to be able to ask it a question correctly, to describe the context. One of the HR specialists said that *“an industrial engineer can become the profession of the future in the HR department”*. Such technology could be applied to recruiters of a company from the software development industry that has not yet implemented AI in its functions, in forming requirements for vacancies, making complex search queries, in search engine optimization, that is, when they work with work sites, they can use a neural network to form some kind of complex query to search for competitive candidates.

Moreover, targeted training is needed during such transformations in functions. People whose functions have gradually begun to implement artificial intelligence, in general, should understand how such technology works, understand what neural networks have parameters, how these parameters can be controlled, how they can be influenced in order to get as close to the desired result as possible.

*New trends and innovations in the field of AI for HR*

A frequently mentioned innovation among the HR experts interviewed was generative artificial intelligence.

*“Generative AI, which is associated with the renaissance and the growth of interest in AI, may be our future”.*

*(HR specialist of a company from the financial sector (banks))*

I think it became clear from the conversation with the respondents that so far the use of such AI in HR is non-tactical, that is, its use in the HR department was quite limited or even better to say selective, which may be due to certain tasks and functions, and was not systematically implemented into all HR functions. Now such an innovation is still rare, but the key functions where it will be implemented are: *“employee support and recruitment”* (HR specialist of the company from the financial sector (banks)).

Moreover, now more and more time is being devoted to the well-being of employees and their emotional state, as noted by HR specialists from companies from the financial sector (banks) and audit and consulting. The introduction and use of artificial intelligence, which is able to analyze a large amount of data, will be able to adapt and recommend, for example, useful wellness programs or steps to combat stress and burnout in the workplace based on the information provided by a person through corporate surveys from the human resources department. In principle, forecasting such situations in the company by HR staff and then controlling them will make it possible to prevent, for example, the dismissal of an employee due to such factors and increase his job satisfaction.

As mentioned earlier, the implementation of such technological solutions always requires a large material base, that is, all the data that must be digitized and brought to some common denominator.

*“It is absolutely necessary to work with data. You need to bring the data into an adequate state, structure it correctly, systematize it so that when it's time to implement AI, you are technically ready to do it, in terms of how you store and systematize the data”.*

*(HR specialist of a company from the software development industry)*

However, even if artificial intelligence is not implemented in a company from this industry (software development), the specialist notes that *“in the future it would be interesting to work with an AI that would be trained on their own corporate data, some local knowledge about employees (their experience, skills, hobbies), etc.”*, which can later help, for example, in forming a team for some project for a client.

*The future of HR in the context of AI implementation*

Respondents claim that this area will exist in the near future, but will undergo some changes in the form of transformation of some functions and a change of roles in the department. Employees of this department will gradually be involved in the company's affairs at a high level, that is, close work with the company's management is expected.

It is also noted that large companies will have to *“slowly and thoughtfully implement artificial intelligence”* by the HR specialist of the company from (financial sector (banks)), since this is a responsible decision that entails large financial investments, and it is not a fact that artificial intelligence solutions that are currently on the market can lead to the desired As a result, since this area is still developing, there are no regulations in the laws on its use yet.

One of the experts noticed that this year (2024) the word *“human-centricity”* appears at all HR events and conferences. Indeed, in this rushing era of both digitalization in general and digitalization with the help of such “scary” technologies as AI, human communication is coming to the fore. Such a role and function of HR will not go anywhere, it will rather acquire improvements and additions with the help of AI and its functionality. I think that in the near future, all digital services in human resources departments will help relieve people from routine activities and give them the opportunity to devote more time to live communication.

*“AI is a machine tool that allows you to either produce something more at a time, or do it automatically and free up time for other tasks”.*

*(HR specialist of a company from the software industry)*

For example, if AI automatically shuts down all the tasks associated with routine work (applications, holidays, overtime), then HR staff will have more time for strategic planning and communicating with people who come to them with some other issues, the same goes for recruiters, the same goes for specialists. HR specialists will soon have to deal with other new functions, for example, forecasting with the help of analytics and data volume, in order to predict future strategies in the development of the department and staff of the company, predict staff turnover, the need for training, etc. AI is a tool that can allow you to allocate additional time or somehow highlight or aggregate data in order for an HR specialist to then use his real intelligence to draw some interesting conclusions and hypotheses from them.

In general, the respondents’ responses showed that Russian specialists have relatively similar views on the transformation of functions in the HR department and its future. Most likely, this is due to the understanding of specialists whose company operates at about a similar pace and with the constant use of technology, potential and AI problems associated with the development of the HR department in the future.

## **Comparative analysis: brief conclusions of the chapter**

International companies were the main consideration, as these countries are often where new developments in technology and trends emerge, which other companies around the world try to replicate. It was also interesting to see how companies from Russia are joining the technological wave caused by artificial intelligence, since Russia can also be considered a leader in the development of technologies of various kinds.

Having analyzed international and Russian companies in this chapter, several important patterns and differences in the practice and vision of HR development can be observed. HR specialists from both sides noted that artificial intelligence is now used in most cases to improve both recruitment and training processes. In recruitment, artificial intelligence significantly saves time in reviewing and analyzing CVs and matching them to specific criteria, and facilitates initial interviews. In addition, by using artificial intelligence, specialists can process large volumes of applications from candidates and subsequently improve candidate performance due to this speed in screening. As for training, AI is used by specialists to write training materials, and it can also serve the progress of employees who have decided to take a training course.

The next point that should be highlighted is that the implementation of AI in international and Russian companies differs in such factors as scale and pace. Since most international companies have a culture that is focused on innovation and strives for experimentation in technology, and a higher level of investment. Although Russian companies recognize and realize the advantages of AI (some even use it in their functions), sometimes they face problems such as limited resources. Understanding these factors that may favor the adoption of AI, and some that hinder it, helps predict the scope and pace of HR transformation and the future direction of HR.

Russian companies, like international companies, mostly prioritize strategic alignment and operational efficiency when using AI, but a distinctive trend is the use of artificial intelligence in creative tasks, for example, HR specialists generate images and text for corporate blog posts, use it to develop event concepts, create programs for interactive training courses or podcasts, etc. This cultural nuance indicates that creativity, which is supported by technology such as AI, can be seen as a competitive advantage of Russian companies in attracting and retaining talent.

Against the background of the active use and implementation of artificial intelligence in the functions of the human resources department, new trends are emerging, for example, in the need for specialists to acquire new competencies, such as managing AI tools, data analysis, promptig (writing accurate queries for a neural network). Moreover, the department is undergoing small structural changes due to the emergence of new positions, for example, HR data analysts are needed to use such technology and analyze the data, HR technologists who meet the needs of the department in terms of the quality of the internal data provided and its ethical compliance, as noted by one HR specialist from an international company, and people who understand how to accurately formulate a neural network request — ptompt engineers (noted by a specialist from a Russian company) — will also be needed to ensure that the neural network is able to provide an accurate and efficient response to the needs of the department. All these trends highlight the diversity of companies’ approaches to AI integration and represent a unique combination of human and technical knowledge in the workforce of the future.

The HR field will not disappear in the future, as some respondents suggested, but they agreed with other experts that the full integration of artificial intelligence is still a long way off and the technology is likely not yet fully mature. It is predicted that HR specialists will increasingly focus on strategic initiatives such as organizational development, talent management, etc. Moreover, the desire to emphasize the strategic importance of HR for business success, it is expected that the role of the HR business partner will become more prominent. Perhaps in a few years there will be some kind of strong structural transformation in the human resources department, for example, the full integration of artificial intelligence using super artificial intelligence, which is currently only a tentative concept, but now human-oriented personnel management practices will develop.

## **Theoretical and Practical implications**

**Theoretical implications:**

The paper provides up-to-date information on global trends in the transformation of HR department functions and the prospects for the development of the HR sphere with the emergence of artificial intelligence in various industries and countries.

Moreover, the paper sheds light on how the integration of AI into everyday HR department functions and processes leads to structural changes, namely the evolution of existing roles and positions and the creation of new ones, such as HR analysts or operational engineers, which contributes to the theory of job design and to the identification of a significant shift in the required competences and in the overall job content.

The theoretical framework in the form of the importance of human-centric approaches in AI integration highlighted in this paper, and emphasizing the additional role of AI in enhancing human capabilities rather than replacing them, contributes to the ongoing theoretical debate on the social and ethical implications of AI for HR, emphasizing the need for responsible application of AI in HR practice.

**Practical implications:**

As the analysis of this paper shows that the HR field will continue to exist and evolve with artificial intelligence, which will continue to automate routine tasks, HR managers, both department heads and companies, can use the information from this study to ensure that AI tools used in HR do not replace human interaction in functions where engagement and empathy are required, such as conflict resolution, but instead complement it, thereby preserving the existing solution

Since this paper has highlighted the potential for generative AI, which is gaining popularity and may in the future be used by companies in core functions rather than locally, managers and HR professionals should pay attention to this emerging technology and explore how generative AI can be used to increase productivity and creativity in HR tasks.

Company and HR managers can use the results of this paper, which contains global trends in HR functions and field, to make strategic decisions regarding the implementation of AI in HR, noting that integration should start with small targeted implementations, such as CV screening, to minimize the disruption and resistance that often occur with the emergence of new technologies, even in large companies.

In addition, the work emphasizes the ongoing training and onboarding of employees in HR. And in order to develop a culture that focuses on continuous learning and innovation, which is inherent in international companies that are relatively easy to implement AI in HR functions, HR heads, by paying attention to this, in order to stay competitive, can keep abreast of all innovations, trends, best practices, so that they too can develop the kind of culture that respondents noted and that will help smoothly implement new technologies, because AI is the future.

## **Conclusion**

With the advent and introduction of artificial intelligence, which opens up many opportunities to improve the work of the department and marks a new stage in the development of the human resources department, priorities and focus in the work have changed, now the entire spector of the functions of the human resources department is going through significant transformations and form the basis for the further development and existence of this industry. Since the concept of AI and its integration have not yet reached that technological level and are still at an early stage, companies wishing to implement such technology try to start from the initial stages and try to implement it locally for familiarization for specific tasks, rather than complex integration, which requires a lot of analysis of various aspects. Also, from the analysis conducted, it can be noted that both international and Russian companies, although with different nuances and at different speeds, are experiencing significant transformations in the field of personnel management against the background of active development and implementation of AI.

A pattern was revealed that both international and Russian companies from different industries use artificial intelligence in the HR department practice to optimize recruitment, employee development, and training processes, which helps to conduct initial interviews, analyze resumes and select candidates according to specified criteria, which can help HR specialists increase their experience working with candidates and, accordingly, efficiency. Moreover, generative AI is gaining popularity now, which, according to respondents, may soon be introduced into the HR department and used to perform real tasks, for example, compiling training materials, posts for a corporate blog, interview questions, generating pictures for an event or references for another department, etc., and not just for entertainment. In addition, although virtual assistants exist and have been used for a long time on almost any company website, specialists are beginning to implement, and some are already using, an advanced bot that not only answers questions from candidates and employees, which can significantly reduce the time for processing such requests by HR specialists, and for candidates and employees it is an excellent a way to quickly get the necessary information and documents. In addition, the widespread use in the future of services such as iCIMS Talent Cloud, JobVite, etc., offered by international HR specialists in the field of Human Capital Management (HCM), can also help automate various processes in the department, for example, the transformation of the personnel adaptation process or the preparation of job descriptions. Experts also believe that in the future, the focus will also be on a relatively forgotten digital identity management solution, which also uses AI and which is aimed at improving security.

Such attention to artificial intelligence and its use can lead to such functional transformations as the emergence of new functions against the background of the creation of new positions in the human resources department, for example, HR technologies and analysts who can participate in the implementation of AI and directly analyze data and metrics, specialists who will be responsible for the quality of the data provided and their compliance with the standards. Transformations in functions can often be identified due to the degree of implementation of AI, which in turn depends on the industry and the country in which the company operates. For example, in industries where technological orientation is valued and stimulated with a culture of continuous improvement and the introduction of new innovations and technologies, usually the logistics and transportation and mechanical engineering industries, AI is very actively discussed and implemented in the human resources department, since it also adheres to the company's culture. However, industries and countries with relatively low regulatory support and awareness of technology may implement such technologies a little slowly, understanding all the subtleties of this initiative, which may have a neutral effect on transformations in the field of HR specialists' functions, practically without changing anything in the structure, since AI will only be at the stage of consideration.

As for the important issue of the future of HR, which worried many, in the near future artificial intelligence will not be able to replace a human resources specialist and perform all his tasks, yes, there will be some structural changes, but the usual functions will remain, and AI, on the contrary, will take over only part of the work that is associated with administrative and repetitive tasks related to a large amount of data. The introduction of this technology into the HR department may entail a transformation of culture, which will now focus on continuous learning, which will be an important aspect in the effective integration of AI, which requires new skills, for example, in the form of data analysis. HR managers of Russian and international companies have come to the general conclusion that the main function will still be a people-oriented function, since empathy is required in such matters, for example, to make some exceptions for an employee who asked a question, given his merits and relationships with colleagues, that a machine would not be able to to do this, and made a decision on the request based on the algorithm embedded in it. However, it is worth noting, according to the forecast of an HR manager from an international company, significant transformations may occur in the next 15-20 years if artificial intelligence is used to improve it. Maybe there will be a breakthrough in strong and super AI, which will be able to take away even more functions and HR specialists.

*Limitations:*

This study examines 9 companies, 6 of which are located in United Arab Emirates, Kazakhstan, UK, France, Germany, and 3 in Russia. In addition, large companies operating in the following industries were taken for analysis: ground logistics and transportation, electrical, mining, financial (banks), audit and consulting, education (educational products), engineering (household appliances, transportation, medical equipment) and electronics, software development. Work may have a limited size samples, which to some extent may not cover the entire range of prospects for the introduction and use of AI. Therefore, for future research, in order to increase the generalizability of the results, it is possible to diversify both the number of countries, industries, and company sizes.

In addition, the presence of some kind of bias in the responses may be another limitation, since they could be influenced by various factors, for example, organizational culture, their level of familiarity with artificial intelligence and personal biases, which may slightly distort the result by giving preference to certain points of view. Therefore, in the following studies, different methods of data collection can be used, not only interviews, but also surveys, the data of which can then be studied using a quantitative methodology in order to focus on several sources when writing inputs.

*Directions for further development of the research results:*

This study was conducted among HR managers, HR business partners, HR analysts and HR consultants, therefore, taking into account the results of this work, it is possible to focus subsequent research on identifying the perception of HR department employees (because their vision may differ from the head) or other employees in the company who communicate with this data the department of automation, transformations in functions and the development of their department in the future with the introduction of artificial intelligence and conduct a comparative analysis.

The results showed that many HR specialists are concerned about the issue of data security, the transparency of algorithms, and the regulation of AI in the company. Respondents sometimes do not trust such technologies. Therefore, based on the information from this work, it is possible to consider in subsequent studies the ethical consequences, may even affect the legal, implementation of AI in the human resources department, studying aspects related to bias, data confidentiality, unified platforms, which are discussed at the legislative level, etc. In the future, this can become a basis and food for thought for the development of guidelines and principles, which will then ensure the responsible use of artificial intelligence.

The paper described various factors that HR specialists identified when the question concerned factors that influence decisions on the implementation and non-implementation of AI in functions. Therefore, the following studies can use this information as a basis to assess organizational readiness for the introduction of artificial intelligence, using a different research methodology, which will subsequently provide information about what and to what extent affects the successful implementation of AI and what is needed to support effective change management.

Thus, the above limitations and ways of developing this topic can provide a basis for further analysis of individual aspects. The transformations in the HR department show that there is a rethinking of functions and now the focus is on strategic activities and efficiency improvement. In the near future, the HR sphere will harmoniously exist with artificial intelligence in the modern business landscape with its deliberate and correct implementation, considering all opportunities and risks, and using, combining technological innovations and human experience and feelings in such relations. In addition, strategic investments, continuous training and responsible use of AI in both international and Russian companies will be key factors in shaping the future direction of HR development.

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## **Appendix**

**Interview Questions**

*The question bank is still being edited and replenished.*

1. Could you please tell me about how artificial intelligence is being used in your HR department?
2. How do you assess the impact of artificial intelligence on traditional HR functions in your company?
3. In your opinion, what are the current trends and future directions for the application of artificial intelligence in HR?
4. What factors influenced your decision-making process to implement artificial intelligence in HR (e.g., cost effectiveness, technology readiness, organizational culture)?
5. What are the key criteria or conditions under which your organization decides to adopt a particular approach to integrating artificial intelligence into HR processes (e.g., scalability, data privacy issues, regulatory compliance).
6. Can you highlight any notable successes or failures in implementing AI in HR in your organization or industry?
7. In your opinion, what are the key conditions that contribute to the successful implementation of AI in HR practices in today's digitized environment?
8. How do you think the role of HR professionals will change due to the growing integration of AI? Do you expect any changes in job responsibilities or required skills, or will the HR department probably disappear altogether in a few years?
9. What advice would you give to HR departments considering integrating AI into their day-to-day functions? How should they deal with the challenges of choosing the right approach to digitizing their organization?