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Transforming the workplace: an evolutionary perspective of human resources and technology

This article dives into the changes over the last fifty years, exploring the current trends and practices, and predicting the coming years. Highlighting the impact of technology in the field, the article guides the reader from the personnel management approach to the emergence of people analytics.

INTRODUCTION

The evolution of HR and IT: from personnel administration to people analytics

A significant evolution has been happening in human resources and processes included in the employee life-cycle such as recruitment and selection, onboarding, training and development, performance management, compensation, and benefits. Technology is one of the key factors that accelerated the transformation of this field.

With an initial focus on personnel administration, record-keeping, payroll processing, and administrative tasks, human resources has evolved and developed into a more mature area that provides employees with much more than just a salary.

Based on a study by [Ong008], technology has been the platform that enabled the change from administrative tasks to a focus on strategic planning and decision-making. The introduction of Human Resources Information Systems (HRIS) has been a game changer, expanding the approach to employee data with its detailed records and processes, and understanding the need to analyze it properly.

Due to talent shortage, high competition, time and resources and cost implications, one of the most affected areas is recruitment, an area that operates as a main pain point for all human resources departments. With the advancement of technology, new functionalities are now available such as online video interviews, online assessments and screening, and job postings, which not only makes human resources work easier but also enables the creation of an employer branding throughout the social platforms ([Parr11]).

Performance and development have always been a central point of attention when it comes to workforce management. According to a research report from [Smit11], the ability to collect and analyze performance data allows organizations to identify hidden talent and areas of improvement as well as provide targeted feedback. This approach supports inner growth for existing talent, a sustainable and healthy approach to improve organizations, employee experience and career development.

Recently it became clear that there is a need to go above and beyond with data analytics and do much more with the information that is gathered. Analyzing how an organization performs is one of the clearest examples, collecting performance metrics and feedback, productivity measures can lead an organization to identify high performers, recognize them and determine which factors contribute to productivity. Data analysis helps

organizations to make better decisions and to measure results. Companies cannot improve and control what is not measured. Luckily, business intelligence has become part of daily activities within human resources departments, which enables a new methodology towards decision-making in every step of the employee lifecycle as information can be gathered and analyzed anytime.

From employee records to automated processes going through enhanced employee information management, improved collaboration and efficiency, using cost- and time-saving technology has been substantial and an enabler of organizational growth in the last fifty years and will continue to grow in a better, smarter, and sustainable way in the years to come.

The intersection of technology and workplace management

With a significant impact on how the business operates, as well as how employees work, the intersection of technology and workplace management has become increasingly important for human resources operations.

One of the most evident areas where this collaboration can be noticed is collaborative work, specifically remote working. The International Workplace Group has identified that 85% of businesses increased productivity standards as a consequence of providing flexibility. Stanford University delivered results on research about remote work, and the results report that compared to office-based organizations, remote culture and remote working reduces the levels of stress and increases job satisfaction ([Bloo15]).

Sophisticated methods have become mandatory for employee communication and collaboration ([Bosu18]). The use of platforms and tools such as Teams or Slack has made it easier for distributed teams across the world, supporting asynchronous work and providing a central point for the organization's results.

Nevertheless, challenges have also appeared in the intersection of technology and human resources, mainly in terms of data privacy and security. The permanent use of technology for data gathering, collection, and analysis of employee data has become an issue to address, as it has become increasingly important for organizations, workers, and candidates. Ethical implications of the use of technology in human resources have been on the agenda for some time, [Wood19] emphasize the importance of ethical guidelines and standards that enables trust while addressing the topic of responsible use of workers' data.

THE PAST

Workplace management practices in the last fifty years

The combination between emerging technologies and the changes in workplace demographics has impacted significantly over the last fifty years. The focus shifted from personnel administration to a more strategic approach to managing people in organizations, which represents a major achievement.

[Pfe06] defined that evidence-based management leads to better and healthier organizations, improving performance and decision-making. The rise of evidence-based management practices is undeniable and represents one of the biggest achievements over the last fifty years in this field, as it enables the use of real information in decision making within organizations, avoiding intuition, bias or personal opinions. One of the biggest examples includes personnel changes. Some years ago, there were no HR analytics in place. Information was not measured; therefore, organizations weren't able to either detect or analyze high turnover rates.

Microsoft serves as a compelling case study in the transformative power of data-driven decision-making, steering the company toward resounding success. Beyond traditional human resources functions like talent acquisition and employee performance, Microsoft has harnessed data to navigate intricate territories such as diversity and inclusion, employee engagement, and the evolving landscape of remote work. In this data-driven journey, Microsoft exemplifies how organizations can seamlessly integrate data into their core operations, elevating their capacity to attract top talent, optimize workforce performance, foster inclusivity, enhance employee engagement, and adapt to the demands of an ever-evolving work environment. Microsoft's story underscores the pivotal role data plays in propelling organizations towards excellence and innovation.

Employee well-being has been on the agenda as well, as organizations started to understand that is not only salary that keeps workers happy. Well-being includes physical and mental health toward job satisfaction, a term that is defined as activities oriented towards the work being a non-observable construct that can be measured through productivity ([Urru17]). Mental health can have a huge impact on productivity, World Health Organization found that a lack of mental health in the workplace can cost the global economy a huge amount mainly in lost productivity ([WHO17]). This is where the need for a well-being strategy –

including both mental and physical health – is mandatory for any modern organization that aims to thrive.

From the workers' side, organizations have experienced changes in the demographics of employees, mainly in terms of Diversity. Age, gender, race, sexual orientation, and neurodiversity are just some of the factors which obligate companies to approach the topic and create policies that include every worker in the organization, to achieve the major goals that drive the business. Diversity enables a creative workplace and leads to better decision-making ([Cox91]).

Human resources practices have evolved significantly in the last fifty years, shifting from a personnel management approach to an employee-centered experience, including elements such as diversity and inclusion, employee well-being, and technology as main factors that challenged, and keep challenging, the practices in the workplace.

Major milestones in HR and IT during the last fifty years

From the introduction of personal computers in the workplace to automation and artificial intelligence, innovation has transformed human resources practices in organizations. It is difficult to create an exhaustive list of all achievements in the last fifty years, so we will only focus on the major ones.

The shift from a transactional to a strategic approach is one of the most important achievements that has improved the position of human resources departments in organizations. Using data analytics as a support, HR practices have experienced a revolution since the emergence of business intelligence which enables an evidence-based decision-making process.

The need for specific talent has created what some specialists like to call a war of talent, a concept that leads close to no space for organizations to avoid a talent management strategy. From leadership development programs, employee engagement policies, and performance management strategies, companies are obligated to put this topic on the agenda, if the goal is to thrive.

Employer branding and talent management have also been a challenge, which now relies on social media strategies to attract and retain candidates and workers. On the other hand, several services have appeared where employees are able to rate the companies and write a review about organizations' policies, salary, culture, and job satisfaction, such as Glassdoor. Transparency from both sides has become mandatory.

The role of technology in transforming human resources

Technology has played a big role in human resources. Some of the trends include new platforms to support streamlined processes, reduction of administrative tasks, and improvement of employee engagement.

One of the main examples that revolutionized the field is the adoption software, enabling employees and human resources to manage information and processes in an organized and coherent way. The impact is much more than just employee experience, it also reduces the number of administrative tasks for HR staff.

Artificial intelligence is also transforming workforce management, mainly in recruitment processes. Recruitment processes, including the attraction of new candidates, screening resumes, and scheduling interviews are just a few simple examples of the many things that new technology has to offer. IBM has implemented automated interview scheduling solutions to enhance efficiency in its hiring processes. The company uses technology to automate various aspects of candidate scheduling, such as sending interview invitations, coordinating interview panels, and managing candidate availability. This not only saves time for HR professionals but also provides a more seamless and convenient experience for job candidates.

Once again, by taking advantage of technology, companies can reduce costs, and time, and improve the quality of new hires. One clear example is predictive analysis: organizations are taking advantage of data analytics to predict employee behavior and identify issues before they occur. Predictive analytics in HR is a valuable tool widely adopted across various industries. The technology sector harnesses predictive analysis to forecast talent requirements and identify high-potential employees, improving talent acquisition and development strategies. In healthcare, predictive analytics optimizes staffing levels, ensuring healthcare facilities are adequately staffed to handle fluctuating patient volumes. In finance, predictive analytics aids in risk assessment and talent acquisition by analyzing employee performance data. The retail industry relies on predictive analytics to forecast workforce needs during peak seasons, enhancing customer service. Similarly, manufacturing utilizes predictive analysis for predicting equipment maintenance and optimizing production scheduling, thereby reducing costs and improving employee productivity.

To name another example, gamification and Virtual Reality have become mandatory for organizations that want to thrive in hiring and retaining new – mainly younger – talent. By using these tools, companies are engaging and empowering the workers, practices such as points, leaderboards, and points motivate and reward the user. Virtual Reality has also taken protagonism, as it can provide on-the-job experience without being physically present. It's commonly used for onboarding purposes but can also be applied for recruitment. Using gamification techniques make work more interesting and enjoyable for employees, increasing motivation and productivity ([Werb12]).

By infusing gamified elements into Microsoft Learn, Microsoft transformed the learning experience. Learners can embark on their educational journeys while earning badges and accumulating points. This not only makes learning more engaging but also provides a tangible sense of achievement. The results speak volumes, with a significant increase in learner engagement and completion rates. In fact, Microsoft has reported a success rate of over 80% in terms of learners completing their courses and earning certifications when gamified elements are incorporated into the learning process.

THE PRESENT

Overview of the current state of HR and IT

The integration of technology and innovation in human resources has become more than necessary and luckily, it's been a good match for both sides. Payroll has always been the core pain point for all organizations. Now that this challenge is sorted, a new one emerges and the need to address them is undeniable. The war on talent demands organizations to keep up with a good recruitment strategy including but not limited to Applicant Tracking Systems (ATS) and onboarding platforms.

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Another area that has been on the agenda is learning and development. Employees want to grow and learn, and an organization providing both will always stand out from the rest. Learning management systems are always in demand for customers who want to provide workers with good desktop and mobile platforms that help them stay updated with the latest resources.

Performance management is one of the most significant areas in human resources, as it accompanies the employee in the complete lifecycle, providing opportunities for promotions, and transfers and creating a healthy space for improvement. Supporting these processes with technology is a reality, by keeping track of goals and progress and providing feedback employees feel more engaged in the organization which has a direct positive impact on job satisfaction and productivity.

The introduction of data analytics is taking a central role, as it leverages existing data and provides insights about employee behavior, engagement levels, and overall job satisfaction, allowing organizations to make data-driven decisions about the company's journey.

THE FUTURE

Emerging technologies that will transform the workplace

The combination of new emerging technologies will enable new ways of working and change the nature of work itself. These challenges also represent a major need for organizations to adapt, stay updated, and be prepared to incorporate them into workplace management strategies. When technology and human resources merge in the future, what are possible scenarios? From automated processes, to revolutionized onboarding and learning, some of the examples include:

- Artificial Intelligence (AI) is already used in a wide range of HR processes, such as screening resumes, conducting initial interviews, and analyzing employee engagement data to identify and predict challenges. Leading technology companies have embraced AI-driven innovations in their HR processes. Microsoft exemplifies this trend by using AI to enhance its talent acquisition efforts. Microsoft's AI-powered chatbots assist in recruitment by managing initial candidate interactions, answering inquiries, and providing updates on application statuses. This not only streamlines the hiring process but also ensures a smoother experience for job applicants. Microsoft has reported significant success, with AI-driven HR practices leading to remarkable

increases in candidate conversion rates, underscoring the positive impact of AI on talent acquisition.

- Internet of Things (IoT) will also shift the workplace regarding employee productivity, tracking inventory, and managing energy consumption. They might look like disconnected topics but are all linked to the organization's success. The manufacturing industry has already embraced IoT for HR practices. Companies like General Electric (GE) have implemented wearable IoT devices to enhance employee safety. These devices monitor employees' movements and provide real-time alerts and guidance to prevent accidents in industrial settings. Additionally, IoT technology is used in smart office solutions, particularly in the tech sector, where companies like Microsoft and Cisco have developed IoT-enabled office environments. These systems adjust lighting, temperature, and workspace configurations based on employees' preferences, fostering a more comfortable and productive workplace and showcasing the IoT's potential for employee well-being and engagement.

- Augmented and Virtual Reality will revolutionize the way work gets done through immersive training experiences, remote collaboration, and a unique way to create and prototype processes. As it is already happening in the aerospace and aviation industry, companies have been at the forefront of AR adoption for HR purposes utilizing AR for employee training, where technicians use AR headsets to receive real-time instructions and visual aids during complex maintenance tasks. This not only accelerates training but also improves task accuracy and safety.

These are just some of the scenarios where both worlds merge to achieve something bigger: enable a simplified and smarter way to work and support a better digital experience for organizations.

Predictions for workplace management

The future of the workplace will be shaped by combining technology and changing workforce demographics and expectations. Companies should adapt to ongoing changes and put the employee at the center. Some of the predictions for the coming years are:

- Rise of Artificial Intelligence (AI): automating routine tasks and improving decision-making processes.
- Importance of data analytics: as already mentioned, data analytics plays a huge part in HR practices and will continue to develop, helping organizations to identify areas of improvement.
- Emphasis in Employee Experience (EX): creating an attractive employer branding, focusing on creating positive experiences to attract and retain employees.

This topic will also include flexible work arrangements, asynchronous, and remote work.

- Focus on Diversity, Equity, and Inclusion (DEI): it is expected to take much more space in the coming years, representing a priority for most successful organizations.
- Remote work for the win: after the accelerated trend towards remote work, it is expected for the coming years to keep adopting a flexible workplace that fulfills every employee's needs.

The role of human resources in the future of work

As technology pushes human resources practices forward, the need for HR staff to keep up will also be required. Workers performing HR roles will need to upskill and reskill in the necessary areas that will ensure organizational, professional, and personal success. Training programs will play a major role in the HR agenda in the coming years for workers in every area of the organization.

One area that has not been developed to the fullest is Diversity, Equity, and Inclusion (DEI), as it is one of the latest trends in the market, there are not that many organizations with guidelines to create a safer workspace for everyone regardless of gender, race, sexual orientation, and other preferences or beliefs. Developing a good strategy to conquer DEI practices will engage a diverse workforce and create a safe space for everyone to feel safe.

Employee experience is one of the concepts that emerged over the last years and some organizations are still trying to create the right environment and journey for the workforce. From managing employee engagement, providing interesting well-being programs, and creating a culture of growth, all these elements contribute to employee experience and will reduce turnover.

CONCLUSIONS

Over the last five decades, the realms of Human Resources (HR) and Information Technology (IT) have undergone remarkable transformations, reshaping the landscape of workplace management. What began as traditional personnel management has evolved into a dynamic domain driven by people analytics and data-driven decision-making. This intersection of HR and IT has become the breeding ground for innovative practices such as remote work, seamless collaboration, and sweeping digital transformations, all of which are poised to continue evolving.

The future of the workplace will be shaped by combining technology and changing workforce demographics and expectations

The future of work stands at the precipice of profound change, guided by an array of transformative technologies. From Artificial Intelligence's ability to automate routine tasks to machine learning's prowess in data analysis and the Internet of Things' power to connect the digital and physical worlds, these innovations are redefining roles, jobs, and entire organizations. The evolving workplace demands a commitment to adaptation and the development of new skills, with digital literacy, data analysis, and strategic thinking emerging as non-negotiable competencies.

Among this transformative landscape, the role of HR remains pivotal. It transcends traditional boundaries and focuses on complex and vital aspects such as Diversity, Equity, and Inclusion, shaping not only the workforce but also the ethos of organizations. This vision of the future workplace isn't a distant dream; it's a reality that we're actively shaping today.

This vision aligns closely with the forward-thinking ethos embodied by KPMG. In collaboration with our clients, we are dedicated to helping them not only anticipate but visualize the future that awaits them in the coming years. It's not merely about thriving in this transformative era; it's about flourishing and embracing change as a catalyst for progress. As the future of work unfolds, the partnership between HR, IT, and KPMG paves the way for a future that is innovative, inclusive, and full of possibilities. Together, we are co-architects of a tomorrow that transcends boundaries and redefines success.

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