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AI in HR: The New Frontier

INTRODUCTION

The robots have arrived. Only they don't look like robots. AI- and machine learning-based technology is embedded in the tools you likely interact with every day—navigation apps; predictive text in e-mail and messaging; digital assistants like Alexa and Siri; and recommendation engines on Netflix, YouTube and Spotify. Today, AI-powered technology seamlessly integrates into the things we already do—and it's poised to do the same for HR.

Since AI-based solutions predict, recommend and communicate based on data, AI has the opportunity to transform HR practices in areas where there is adequate data and where that data can be utilized to create greater efficiency, communicate at scale, provide recommendations and predict outcomes. Many companies already have a vast amount of data on candidates and employees that can help them source, assess, hire, train, develop and pay people more efficiently with the application of AI-driven tools.

The International Data Corporation (IDC) estimates that worldwide spending on AI systems will reach \$35.8 billion in 2019 and \$79 billion by 2022. And Gartner estimates that, by 2022, AI-derived business value will reach \$3.9 trillion. With its vast amount of underutilized data, HR has the potential to lead digital transformation and drive business value with AI-powered solutions.

RECRUITING

Recruiting is the most well-developed area of AI in HR, for several reasons. The vast size of the recruiting funnel—from job ad impressions, careers site visits, applications and hires—offers a wealth of data that AI-powered tools can learn from. Additionally, the recent talent shortage in a strong economy means that companies are paying closer attention to candidate experience and investing more in recruiting tools to improve it. Finally, shortening employee tenure has driven companies to seek out ways to make

smarter hiring choices that ensure quality hires while eliminating hidden biases.

The recruiting process is filled with numerous repeatable tasks such as resume screening and interview scheduling that, when given to AI, free up recruiters' time to focus on what matters: the human interaction between candidates and company personnel. And that can be done at scale with an intelligent chatbot trained to conduct preliminary screening and manage the interview process.

The interview process is rife with bias, and many of these tools help reduce race, gender, education and age biases. A key caveat is that an AI-based system can only return results as good as the data and the training put into it. For instance, if your employee population leans toward certain profiles, algorithms based on matching the characteristics of current employees with candidates will not help increase diversity. However, with oversight, AI can correct hidden biases. (See the final section of this paper for a discussion on the ethics of AI.)

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Recruiting Process	AI Solution
Candidate Selection	Screen candidate resumes, rediscover talent from existing pools
Sourcing	Surface appropriate candidates from online profiles, facilitate referrals
Recruitment Marketing	Automated job ad placement and bidding
Screening	Natural language processing (NLP) based chatbots to screen candidates, re-engage talent pools
Interviewing	Video interview analytics, chatbot-enabled scheduling, interview process analytics and predictions
Assessment	Assessments based on skills and cultural fit
Diversity and Inclusion	Identify and reduce bias in job descriptions, candidate communications, and interview patterns

LEARNING AND EMPLOYEE DEVELOPMENT

Talent availability, rapid technology change, and shifting candidate behavior are some of the factors contributing to companies' increased focus on retention through reskilling employees, providing better learning and onboarding programs, and developing top employees into leaders.

An Edelman study found that 59 percent of global employees fear job loss due to a lack of retraining and skills. Companies that invest more in "learning in the flow of work" are well poised to attract and retain employees, as well as to ensure their business stays competitive: 62 percent of global executives believe they will need to retrain or replace more than a quarter of their workforce by 2023 due to advancing automation and digitization.

AI-powered tools facilitate employee growth through automated matching of inferred skills, recommending adjacent skills, and serving up relevant learning content. Additionally, AI-based coach

matching, virtual reality (VR) training and micro-learning help provide employees with the knowledge they need to succeed on the job.

Internal mobility is a growing area of focus, and some companies are having success using AI-based systems that look at job experience inside and outside the company, and match this information against open positions, offering employees guidance on where they might go next.

CORE HR AND SERVICE DELIVERY

Core HR

Time tracking, payroll, expense reporting and benefits administration are benefiting from AI-powered analysis, employee nudges and predictive capabilities. An important area is compensation.

PayScale's 2019 study of compensation practices found that less than 40 percent of companies do any compensation equity analysis for race or gender. With a massive set of pressures facing companies

AI-powered tools facilitate employee growth through automated matching of inferred skills, recommending adjacent skills, and serving up relevant learning content.

Function	AI Solution
Learning	Learning/training matching, learning content delivery
Coaching/Mentoring	Coach/mentor matching
Internal Mobility	Skills matching and recommendations against openings

right now for gender pay equity reporting, it's prime time for AI-based tools to help companies determine fair pay and ensure all employees are being paid fairly.

Compensation is a tricky topic because there are so many objective factors that should determine pay: education, experience, work responsibilities, performance ratings and market competition. AI can help determine fair pay in a way that eliminates subjective biases like gender, race, age and favoritism and that identifies potential inequities.

HR Service Delivery

With the trend toward employee experience, employers now have to design HR services relating to pay, benefits, expenses and paid time off (PTO) requests for employee audiences expecting consumer-grade experiences in the workplace. The largest organizations have built employee service centers and self-service portals that merge HR, IT and other workplace services like badging, commuter passes and gym discounts.

AI-based chatbots already have a foothold with customer service organizations: 37 percent of service leaders are either piloting or using artificial intelligence bots and virtual customer assistants (VCAs), and 67 percent of those leaders believe they are high-value tools in the contact center.

Chatbots based on natural language processing (NLP) have the ever-increasing intelligence to answer routine employee questions and assist with employee journeys, freeing up HR administrators to focus on more complex tasks.

AI IN ENGAGEMENT, PRODUCTIVITY AND WELLNESS

Employee Engagement and Feedback Systems

In the evolution of employee engagement to employee experience, companies now consider every aspect of how an employee engages with his or her job, the company and colleagues.

The annual survey has gone by the wayside in favor of continuous feedback in the form of pulse surveys and other feedback systems that can be analyzed with NLP-based tools. Such tools can surface key themes, help diagnose manager effectiveness and detect risks stemming from discrimination or harassment.

Organizational Network Analysis

The highly networked workplace has vast amounts of data from e-mail, calendaring, messaging platforms and motion sensors that can be fed into systems using organizational network analysis (ONA). This technology can help companies identify strong influencers, patterns of strong or weak teamwork, micro-management and nondiverse or noninclusive communications.

The applications of ONA are as vast as the data available. By analyzing time spent in meetings, it can help eliminate time wasted in unproductive meetings. Analyzing the behavior of sales teams against performance can help identify new sales processes. Looking at motion patterns from embedded sensors can create more efficient processes and realistic guidelines based on data versus hunches.

The largest organizations have built employee service centers and self-service portals that merge HR, IT and other workplace services like badging, commuter passes and gym discounts.

HR Area	AI Solution
Compensation	Pay equity, recommended salary adjustments and raises
HR Service Delivery	AI-based chatbots for routine employee questions, employee journey assistance, process automation for HR transactions

Productivity

The above ONA scenarios have the ability to be great productivity drivers. In addition, many of today's productivity platforms as well as engagement tools have embedded AI that sends nudges, action plans and tips to help increase productivity. Domain-specific (non-HR) tools with embedded AI are already automating routine tasks, freeing up workers for work that requires human soft skills and strategic thinking.

Wellness

In 2019 the World Health Organization declared burnout an occupational phenomenon from chronic workplace stress in its International Classification of Diseases. Employers are beginning to address burnout with employee wellness programs and spending on global workplace wellbeing has become a \$48 billion market, growing at nearly 5 percent a year.

New AI-powered tools track and analyze health metrics, exercise and sleep to improve wellness, lower health care costs and prevent burnout. Other AI-powered tools can diagnose mental health and assign psychologists or other medical practitioners.

PREPARING FOR THE DISRUPTION— HOW TO GET STARTED

Bringing on any new tool requires a shift

in processes, organizational thinking and role responsibilities. AI-driven tools require a unique set of adjustments that we'll cover here.

Data Governance for AI

Ethics is a major consideration when you're looking at highly personal data such as that held by HR. Employees need to trust that the data is being used for good purposes, that their privacy is protected, that the data is secure and that it won't be used to further existing bias. Following is a framework for ethics of data and AI that can help organize your thinking and action steps as you move forward with any AI project.

Privacy

When employees join your company, they give you the rights to collect a lot of data, but employers do not have the rights to expose this data, share it or link it with personally identified information. According to general data protection regulation (GDPR) rules, organizations also have to "forget" this data if the employee asks, so there are some important business practices to consider. Who can access this data, and have these people been trained on privacy rules and procedures?

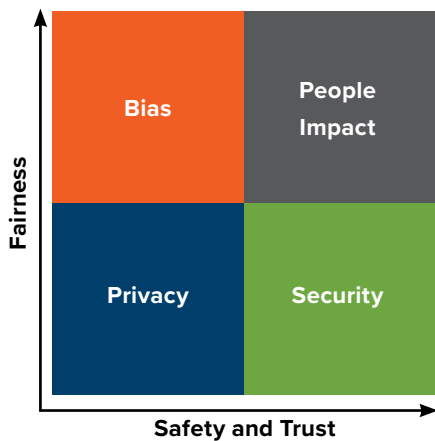
Security

Is the data system and algorithm safe?

Ethics is a major consideration when you're looking at highly personal data such as that held by HR.

Engagement and Productivity Area	AI Solution
Engagement and Feedback	Pulse surveys, sentiment analysis, feedback tools
Organizational Design	ONA that identifies strong influencers, patterns of strong or weak teamwork, micro-management, nondiverse or noninclusive communications
Productivity	Tracking time spent in meetings, time wasted in unproductive meetings, tracking of motion efficiency, e-mail usage patterns
Wellbeing	Health metrics, exercise, sleep, diagnosis of mental health, AI-assignment of psychologists or medical practitioners

A Framework for Ethics of Data and AI



Source: Josh Bersin.com

Are you protecting your employees' confidentiality and providing security from cyber snoops? Who has access to this data, and how will you audit its use and path through the company?

Bias

Is the data and algorithm you're using fair? Does it accurately reflect the performance or productivity data you want without excluding, discriminating or inadvertently biasing the results? Since all algorithmic systems are based on existing data, if that data is biased, the predictions and recommendations will be biased. Unknown bias that creeps into the hiring process can open companies up to discrimination lawsuits, so it's important to correct any biases in the algorithms and data used.

People Impact

Will your people trust your use of this data and the recommendations the AI provides? This entails being clear about your intent for capturing and using the data. The big question to ask is this: Why are you implementing this particular analytics or AI tool? How will it help employees? Or is it being used for monitoring

or surreptitious performance assessment? People trust the data more when they are offered some level of transparency into the inputs of AI and know that it isn't being used to reinforce existing biases.

Data Integrity

Underlying all these issues is the collection and maintenance of the data itself, which can present challenges when bringing on an AI-powered solution. Since data is the all-important factor underlying any AI-based tool, any data that goes into the tool must be high quality. The data requirements may be different from those your team is used to working with. The tool may also need to ingest data from sources that don't typically talk to each other.

As you look at these solutions, be sure to consider if you can meet the data requirements. If not, decide what practices can be put in place to collect enough data for an AI-based tool to work effectively.

Monitoring and Training

While some AI-driven tools such as chatbots may already come with pre-trained models, most companies will have to train the algorithms used to achieve reliable results. Without training, an off-the-shelf AI model will probably be based on assumptions that don't quite meet your company's exact needs. HR teams have to take responsibility for understanding underlying algorithms and adapting them to the unique needs of the business and its employees. Algorithms also have to be monitored and adjusted on a regular basis to ensure the tools don't return incorrect, wacky or dangerous results.

AI IN YOUR ORGANIZATION

Bringing on AI-powered tools has the ability to lead digital transformation within your organization. A substantial AI project

When employees join your company, they give you the rights to collect a lot of data, but employers do not have the rights to expose this data, share it or link it with personally identified information.

will require you to gather cross-functional teams to understand how to configure and use the data. Teams should include representatives from the business unit that will use the tools, HR and compliance staff, and IT and analytical staff.

Since the point of AI is reduce human work by automating time-consuming processes, there will likely be a shift in roles and responsibilities within HR and recruiting. Some tasks will go away or be reduced, while other tasks related to technology management will increase. Your HR organization will need to be upskilled along with other areas of the organization impacted by automation.

EVALUATING AND SELECTING AI-POWERED TOOLS

There's a lot of hype around AI, and it's currently a buzzword that companies are latching onto for differentiation. Instead of buying AI just to be part of the trend, consider the most pressing problems of your business and the areas with time-consuming routine tasks and adequate data. Focus your evaluation on tools that can best solve these problems. As you speak to vendors, listen carefully to make sure they understand HR-specific problems and provide answers that directly address your concerns. Also look for customer references in your industry.

Looking Ahead

There is great potential for business returns from AI. A Deloitte survey of 1,100 business leaders found that 82 percent have gained a financial return from their AI investments, and 88 percent plan to invest more in AI technologies in the coming year. It is truly the wave of the future, and your company will be poised to lead the digital transformation in the coming years by implementing AI solutions now.

AUTHOR

Josh Bersin is an analyst, author, educator, and thought leader focusing on the global talent market and the challenges and trends impacting business workforces around the world. Earlier this year, Josh launched the Josh Bersin Academy, the only professional development community for HR and talent professionals. Josh is the principal research partner for HR People + Strategy.

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