

AI in Human Resources

The Time is Now



Machine Learning. Artificial Intelligence. Digital Assistants.

What's the Difference?

Technology has always been a part of achieving business outcomes, driving greater efficiency and optimization. Artificial intelligence is about to change how humans interact with technology for the better.

Before we explain how, let's take a moment to define some of the relevant terminology. While machine learning and artificial intelligence are related concepts and are often used interchangeably, they are different.

Artificial intelligence (AI) is an area of computer science that emphasizes the creation of intelligent machines that work and react like humans.

Machine learning (ML) is a subset of AI that is more narrowly focused on how computer programs interpret data and learn. Instead of relying on a person to code a program to complete a task, ML can recognize patterns and make predictions that can inform the AI. For example, a ML system can catalog employee behaviors to evaluate whether they may be departing for a new opportunity.

In short, AI encompasses all of the ways computer programs can make intelligent decisions, while ML focuses on how AI collects and uses data that's not explicitly programmed by a person.

Digital assistants are conversational interfaces where users can ask questions using their own words. For example, digital assistants can help new hires complete onboarding tasks and provide guidance on what to do next, and they can help employees quickly get the answers they are looking for, without having to scour various documents or web pages and take up valuable work time.

Digital assistants are built with ML algorithms to understand natural language and the intent of a user's question, and to provide intelligent guidance to complete required steps.

Artificial Intelligence Is Winning More Hearts and Minds in the Workplace

50% of workers are currently using some form of AI at work, compared to **32%** last year, with workers in some countries adopting AI over **2X more** than others.

Oracle and Future Workplace AI at Work Global Study 2019

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How AI Helps Address Common HR Challenges

Talent acquisition

Common challenges

Effective recruiting is vital to a modern business. When done right, it allows organizations to grow and add value to their respective industries. Yet, current talent acquisition efforts often suffer from several issues:

- **Time consuming:** The Society for Human Resource Management Talent Acquisition Benchmarking Report says the average time to fill on all roles is 26 days. The process is slowed by activities such as waiting on approvals, initial candidate screenings, and long decision-making processes. Despite new recruiting technologies, time to hire has actually increased¹ in the last decade across most white-collar roles.
- **Rooted in subjectivity:** Recruiting expert Dr. John Sullivan recently argued that job interviews have become predictable², ineffective, and fraught with bias³. In the age of data-driven business decisions, organizations can no longer hire using generic questions such as “Can you walk me through your resume?” or “Where do you see yourself in five years?”

¹ <https://www.glassdoor.com/blog/how-long-should-interviews-take/>

² <https://business.linkedin.com/talent-solutions/blog/interview-questions/2017/job-interviews-have-become-predictable-and-ineffective-here-are-10-ways-to-change-that>

³ <https://www.nytimes.com/2019/06/07/business/economy/age-discrimination-jobs-hiring.html>

- **Reactive instead of proactive:** Hiring is often necessary because of turnover or evolving needs. While businesses should operate proactively and constructively, new talent acquisition is typically a reaction to past events instead of strategic preparation for the future.

The cost of a bad hire can be significant. According to the U.S. Department of Labor, the price of a bad hire is at least 30 percent⁴ of the employee's first-year earnings and while the financial costs are great, bad hires also have a significant impact on the morale and productivity of other employees and teams.

Using AI to improve sourcing can greatly enhance an organization's ability to find the right talent at just the right time.

Value of AI

SOURCING

Today's organizations must continuously market their open roles due to one of the tightest labor markets in history⁵. Using AI to improve sourcing can greatly enhance an organization's ability to find the right talent at just the right time. It can help to:

- **Find the best candidates:** Uncover candidates with the best match between job requirements and their skills and experience. Beyond a simple search for key terms, ML algorithms learn synonymous words that are commonly used in resumes.
- **Recommend jobs to candidates:** Prospective candidates, found either through organic search activity or a targeted campaign, receive recommendations to apply for open positions. AI can alert the right people with the right skill sets to available jobs prior to their posting.
- **Predict candidate performance:** AI-based candidate matching uses HR data to calculate a candidate's likelihood to accept a job offer, project performance outcomes, and estimate their expected tenure.

⁴ <https://recruitingdaily.com/how-new-tech-can-navigate-the-island-of-misfit-candidates/>

⁵ <https://www.cnn.com/2018/10/18/alan-greenspan-this-is-the-tightest-labor-market-ive-ever-seen.html>

SCREENING AND INTERVIEWING

A major benefit of AI at the interview stage is the use of digital assistants for a more engaging candidate experience, which can:

- **Help candidates become more self-sufficient:** The entire interviewing process is in their control, from rescheduling or canceling to sending reminders, sharing notes, and recommending resources for review.
- **Assist hiring managers:** AI reminds them of upcoming interviews and provides details on candidates.

AI can also help overcome subjectivity by gathering data from previous employees in similar roles and preparing targeted questions for hiring managers. This provides greater focus on the candidate's skill set, more context on the nature of the job, and measures against similar roles in other organizations.

SELECTING AND OFFERING

While ML applications should never be making the final decision on who gets hired, AI can help recruiters and managers make better hiring decisions. It allows them to:

- **Compare candidates to existing top performers:** Use benchmark data and AI to compare job candidates with others who have succeeded in similar roles in the organization.
- **Create individualized offers:** Evaluate the wealth of data points relative to the local market and listed salaries by competitor, providing a nuanced and strategic view into how roles should be banded. Getting even more granular, AI can also increase recruiting efficacy by matching a specific offer with individual job and employee histories to calculate the odds of whether a candidate will accept.
- **Anticipate candidate behavior:** Predict a candidate's likelihood to accept, perform, and remain in the position being offered.

ONBOARDING

Onboarding is critical because it sets the tone for the employee's tenure. According to research by Work Institute encompassing data from 34,000 exit interviews, approximately 40% of new employees quit within the first year of being hired⁶. Work Institute estimates that three-quarters of that turnover was preventable if onboarding had been handled more effectively. AI helps to:

- **Ease the administrative burden:** Automate delivery and receipt of necessary paperwork, company policies, and login information. AI can track which documents were read, capture electronic signatures once steps are completed, and remove the need for HR to follow up manually.

⁶ <https://www.shrm.org/resourcesandtools/hr-topics/talent-acquisition/pages/workers-are-quitting-jobs-record-numbers.aspx>

- **Allow onboarding to occur 24/7:** Digital assistants improve the process by guiding the new hire through all required onboarding steps and proactively suggesting next steps to ramp up quickly in their role.
- **Shorten time to productivity:** AI-driven digital assistants can recommend job related-learning based on successful employees in similar roles, and offer relevant content such as books and journal articles.



Talent management

Common challenges

Employee retention is a continuing challenge for employers who want to engage their workforce.

One area continuing to receive focus is talent management, driven by a workplace where five generations work side-by-side and that's becoming increasingly purpose driven.

Still, many organizations have yet to fully embrace the opportunity of modern talent management and continue to experience high turnover due to:

- **Passive career development:** Organizations struggle to deliver on expectations for career growth across the workforce.
- **Traditional succession planning:** Many organizations continue to rely on reactive succession planning, leaving organizations unprepared when employees do leave.

- **Rigid, undifferentiated learning:** Traditional learning offerings fail to meet evolving expectations for more differentiated learning styles and learning content anticipating future skills requirements.
- **Compensation expectations:** While employers leverage market data to determine compensation expectations, workers continue to search even after accepting an offer for better opportunities.

AI can equip an employee with intelligent suggestions for courses or reading that will aid in day-to-day job duties.

Value of AI

AI can enable organizations to realize the full potential of talent management by creating an environment that meets employee needs and improves retention. Such technology can personalize career development, optimize succession planning, close skills gaps, and steer compensation strategy—supporting managers, leaders, and managers in developing and deploying talent, which in turn creates strategic advantages for the business.

For example, AI can equip an employee with intelligent suggestions for courses or reading that will aid in day-to-day job duties. As a positive deviation from the traditional one-size-fits-all approach, employees will feel the difference in an experience that accounts for their personal goals, needs, and well-being, and organizations will find investing in employee growth and satisfaction easier and more effective.

CAREER DEVELOPMENT

One of the emerging nuances of work is the evolution of how job seekers and employees achieve career growth. In the distant past, workers often stayed with their employers for the entirety of their careers and grew from entry level roles into leadership. With a faster moving economy, more frequent layoffs, and emerging startups, employees can now move at a much higher rate. Some data indicates that millennial

and Gen Z workers will switch jobs at least four times by the time they are 32 years old.

In order to retain employees, organizations must take a strategic approach to career development. Employees expect to be offered learning and career opportunities that help them grow their career and realize their goals. AI offers:

- **Personalized recommendations:** Employees can get curated career development recommendations that shift with the business and maximize career potential. Carefully tailored content not only acts as a supplement to manager guidance but will also show employees that their employers are invested in their career.
- **Individualized career pathing:** AI collects insights around each employee's career progression and deliver it in a personalized way. Each person can map their own career path, mapped to specific learning experiences required to bridge current and projected skills gaps. Providing employees with clarity and necessary tools to make career shifts is one of the best ways to encourage learning.

AI collects insights around each employee's career progression and deliver it in a personalized way.

SUCCESSION PLANNING

Even with the best retention strategies, an organization will experience some kind of turnover as employees decide to move on or retire. When employees with critical skills or domain expertise leave, it can often create huge gaps in the organization that impede company success and create a negative experience for the employees left in their wake. It is imperative that organizations have solid succession plans in place to ensure this transition is as smooth as possible. Yet, succession planning can be one of the trickiest parts of talent management. Leaders struggle to communicate succession plans to their teams and manage an effective process that can be fraught with bias. AI can help:

- **Identify flight risk:** Flight risk prediction draws on different attributes and behaviors in order to formulate its conclusions. The attributes include employee sentiment, an employee's mentors and influences, their number of years in a position, how long they've been reporting to their current

Workers Trust Robots More Than Their Managers

64% of people would trust a robot more than their manager and half have turned to a robot instead of their manager for advice.

Oracle and Future Workplace AI at Work Global Study 2019

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manager, their potential career path, their salary history, and whether and when they last received a raise. These all factor into a predicted attrition rate and offer leaders a number of useful cues and clues on how to retain their most valuable people.

- **Uncover most capable successors:** Leveraging data models to analyze employee behavior and determine which employees are ready to step up based on cultural fit, leadership capability, and the accomplishments of past successors.

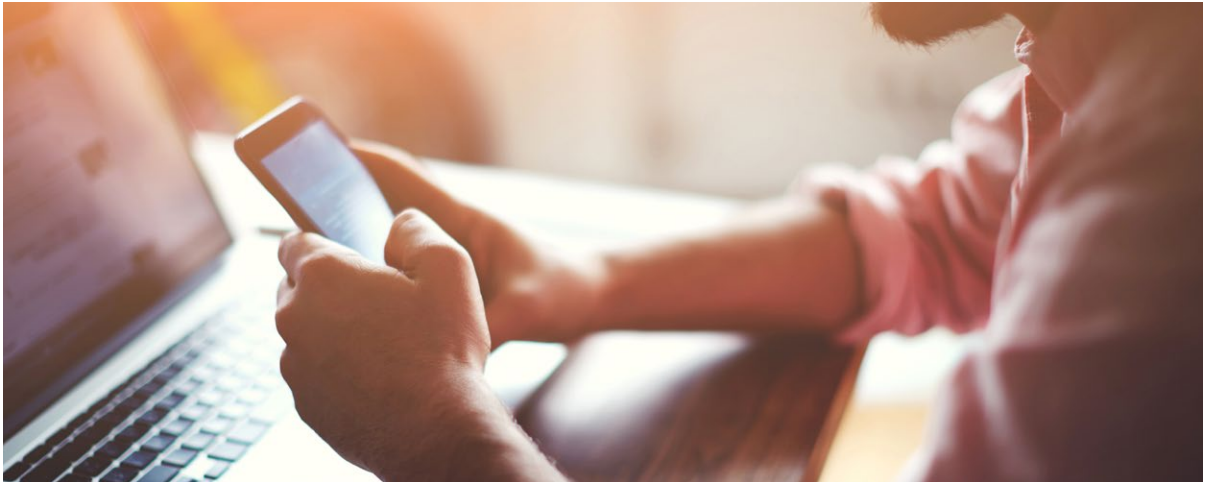
Leaders must work strategically and seek to understand competitor trends so they can meet employee expectations and keep top talent.

COMPENSATION

A continuing concern of the labor market is compensation, as workers seek to be paid for their value. In this tight labor market, employees feel confident in seeking jobs elsewhere or asking for pay raises to improve their quality of life. In this environment, employers also face the challenge of ensuring the right compensation for the right positions to avoid paying too little or too much. Leaders must work strategically and seek to understand competitor trends so they can meet employee expectations and keep top talent.

With HR continuing to evolve, it's important to also change how compensation is determined. Organizations need a wider range of data to create a strategy that works for their people and matches differences in expectations, roles, and skill sets. AI helps to:

- **Provide market insights:** AI provides a nuanced and strategic view into how roles should be banded by analyzing a wealth of salary data points relative to the local market and available competitor data.
- **Increase recruiting efficacy:** By matching a specific offer with individual job and employee histories to calculate the odds of whether a candidate will accept.



Learning

Common challenges

The stakes have never been higher for learning. The rapid advancement of technology is changing the very definition of employment, and businesses can no longer view learning and skill acquisition as a luxury. With data from the World Economic Forum⁷ forecasting that automation will displace 75 million jobs but generate 133 million new ones worldwide by 2022, employees must either adapt or face the prospect of becoming irrelevant.

Learning can be a significant competitive advantage, helping organizations eliminate skills gaps, encourage development, and engage and retain top talent. But even organizations that commit to learning as a priority are faced with challenges, since curricula are often designed to drive compliance rather than workforce agility and performance.

Employees from different departments often need to learn together and from each other, and AI can help them pair up.

⁷ <https://www.weforum.org/reports/the-future-of-jobs-report-2018>

Value of AI

These fundamental changes have led reskilling to be called “the new trend in recruiting.” Therefore, organizations are now increasingly looking to learning and development (L&D) to fill skills gaps in multiple functional areas. AI helps to:

- **Offer personalized learning:** Learning matters more when it’s relevant, adaptive, and meaningful. AI can gather information on an employee’s learning habits, skill interests, work style, and projects and responsibilities to provide appropriate recommendations for courses that will enhance the employee’s productivity and competency in the workplace.
- **Promote collaborative learning:** Employees from different departments often need to learn together and from each other, and AI can help them pair up. Collaboration drives cross-functional learning, simplifies organizational operations, and improves team performance⁸. This approach to learning is very effective for today’s work culture, where much of the actual day-to-day work happens at a team level.
- **Optimize learning administration:** AI can ease the workload of administrators by modifying curricula based on role, location, and line of business while also capturing data on learner engagement, interactions, and outcomes. With greater optimization and better insight, leadership can effectively manage and report on how learning benefits the organization.

⁸ <https://hbr.org/2007/11/eight-ways-to-build-collaborative-teams>



How Oracle HCM Cloud is Leading the Way with AI

Oracle is leading the way in leveraging AI, providing candidates, employees, managers, and HR organizations with a variety of role-specific benefits.

White-box approach

A key component of Oracle's AI strategy is the white-box approach: AI needs to be transparent, explainable, and provable. Users may not trust AI if they can't understand how it works, and leaders may not invest in AI if they can't see evidence of how it made its decisions. This issue has garnered so much attention that Gartner called out Explainable AI as of the Top 10 Data and Analytics Technology Trends for 2019⁹.

Digital assistant

The Oracle Digital Assistant uses AI, natural language processing, natural language understanding, and ML to understand user intent and to provide a personalized, conversational experience. The Digital Assistant also makes recommendations based on usage history and preferences. In this way, using a

⁹ <https://www.gartner.com/en/newsroom/press-releases/2019-02-18-gartner-identifies-top-10-data-and-analytics-technolo>

AI is Changing the Relationship Between People and Technology at Work

65% of workers are optimistic, excited, and grateful about having robot co-workers.

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digital assistant becomes a personalized experience tailored to your needs, accessible from within Oracle HCM Cloud on interfaces including laptops, mobile devices, messaging applications, and voice. What's more, the Oracle Digital Assistant isn't limited to answering HR-related questions, extending to finance, supply chain and customer experience.

Native extension, not a third-party bolt-on

Unlike other offerings in the market that rely on integrating third party technologies into their HCM suite, Oracle's emerging technologies, including the Digital Assistant, are natively built in Oracle HCM Cloud. This approach has many advantages because there's no need to integrate disparate technologies, worry about functionality post-upgrade, or fret about data privacy since you're only working with one vendor.

Talent acquisition

- **Best applicant identification:** The AI in Oracle Recruiting Cloud can help find the ideal candidate for every job by modeling and matching qualifications to open job requisitions. ML algorithms learn synonymous words that are commonly used in resumes (like manage, oversee, or supervise) to rank recommendations that match closely with the job requisition.
- **Personalized candidate experience:** AI creates a more engaging hiring experience with a Digital Assistant to answer questions commonly asked during the in-person interview or initial phone screening, as well as by delivering personalized job recommendations.
- **Smarter offers:** Optimize job offers based on market data, increasing the probability of closing the deal with the preferred candidate. AI helps with dynamic offer generation, leveraging common HR data to predict offer acceptance based on role, title, and career stage.

Talent management

- **Anytime Feedback:** Performance and talent management have evolved to emphasize ongoing and frequent feedback. Through Anytime Feedback, the Oracle Digital Assistant simplifies the feedback process and ensures that everyone is aware of ongoing progress.
- **Goal setting:** Regular goal setting is critical for setting the tone for the quarter or year ahead. The Oracle Digital Assistant lets team managers verify if their reports have completed their goals for the upcoming review period.

- **Performance evaluations:** Team managers can verify if their reports have completed their evaluations through the usage of key phrases. The digital assistant returns a list of who has completed their evaluations, providing next step actions for appropriate follow-up.
- **Intelligent career planning:** Career growth opportunities directly correlate with retention. That's where our intelligent career planning capabilities help align employees define their career goals, connect with supportive mentors, recommend new positions, and suggest relevant learning paths.

Learning

- **Learning recommendations:** The built-in recommendation engine provides end users with personalized HR and development content based on their role, interests, career goals, and compliance requirements. Employees are always prepared for their next challenge since the right learning content is always delivered at the right time.

With a recommendation engine in place, organizations see increased employee engagement and work satisfaction, resulting in lower attrition rates – a recipe for continued relevance in changing markets.

- **Smart learning nudges:** The Oracle Digital Assistant alerts employees to learning activities, helps them discover the right content, and provides the status of their courses and timelines.
- **Intelligent team planning:** Managers can determine relevant learning based on their team charter and ongoing projects. Employees can focus on the right skills that maximize productivity.
- **Personalized coaching:** Managers can provide employees with personalized coaching and recommended courses to optimize career development.
- **Insights for executives:** Oracle's AI provides a dashboard and heat map of learning topics and skills across the organization, assisting with strategic workforce planning and upskilling or reskilling efforts necessary for business transformation. Moreover, leadership can track and report on compliance across the organization while automating follow-up and assigning recurring training for specific jobs that require certification or compliance adherence.

Key Takeaway

Organizations are focused on addressing skills gaps, aligning skill sets with current and future business needs, maintaining compliance, and ensuring quick responses to changing industry developments. In addition to these key priorities, organizations must also focus on their leadership pipeline to address operational challenges and prepare their people for the future.



[Learn more](#) about how to personalize the employee experience and maximize retention with our industry-leading AI.

[Discover more](#) in the **AI at Work Global Research Study** that highlights how AI is winning hearts and minds in the workplace. People have more trust in robots than their managers—according to the second annual study conducted by Oracle and Future Workplace—of 8,370 employees, managers, and HR leaders across 10 countries.

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