SAP SuccessFactors

SAP White Paper | PUBLIC

Empowering Employees and Organizations with Intelligent HR Technology

Contents

Introduction

In HR, use cases of intelligent technology – for example, artificial intelligence (AI) and machine learning (ML) – are becoming increasingly common. Whether it's used to identify the right talent for employers, to provide targeted skills and learning recommendations for employees, or to leverage chatbots that improve service delivery across the organization, HR is beginning to realize the significant value that intelligent technology can offer. Yet according to research by IDC[1], understanding where and how to implement intelligent technology is one of the top 10 challenges HR is grappling with today. HR needs guidance as to where these technologies will offer the most value, both to the organization and to employees, and which use cases will be met with the least resistance. Better understanding employees' comfort, preferences, and concerns related to the use of intelligent technology is critical to ensuring organizational success and that intelligent technology will enhance, rather than detract, from employees' experience at work.

To help better understand the impact of intelligent technology[2] on employees and organizations, the Growth & Insights team for SAP® SuccessFactors® solutions hosted interviews with 41 HR leaders from SAP customer organizations and conducted a survey of 1,378 employees from around the globe.

Intelligent technology is defined as any technology that can perform human-like activities, such as learning, problem solving, or decision making, without the assistance of a human.

Our research focused on the following questions:

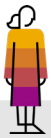
- What is the current state of organizational adoption of intelligent technology for HR use cases, and what future trends are on the horizon?
- How do employees feel about the idea of intelligent technology at work, generally, and about intelligent technology for specific HR use cases?
- What are the critical privacy and ethical considerations related to the use of intelligent technology in HR?
- How can organizations facilitate the right conditions to increase employee acceptance and foster adoption of intelligent technology in HR?

[1]IDC, Market Analysis Perspective: Worldwide Modern Human Resources Strategies and Opportunities, 2022, Doc # US49130622, September 2022

[2] Since originally conducting this research, advances in generative AI and Large Language Models (LLMs) have attracted significant public attention on the impact of intelligent technologies across all aspects of our lives. While the present research did not look specifically at generative AI models such as ChatGPT, our broader focus and findings related to intelligent technology in HR, generally, would have applicability to this use case.

Part I: Is HR ready to embrace intelligent technology?

It was important for us to first understand organizations' levels of maturity related to intelligent technology adoption. Were organizations aggressively adopting these technologies, waiting for them to first prove their value, actively avoiding adoption (unsure of where to start), or, somewhere in between? Not surprisingly, our results showed a wide dispersion of maturity across the organizations we spoke with.



"Non-Active" (44%)

- These companies were grappling with immaturity of org from digitalization perspective generally, often dealing with existing legacy systems
- Unsure where or how to start their journey with intelligent technology and are seeking external guidance
- May have adopted very simple use cases (for example, chatbot) but have not considered adoption across employee journey

"Reactive" (22%)

- These companies were often in process of broader digital transformation, and viewed adoption of intelligent technologies as a priority
- Waited for technologies to prove themselves before adopting, but now feel prepared to act
- Question how quickly they can mobilize to deliver more mature vision

"Proactive" (34%)

- These companies tended to be early adopters of technology in general, staying abreast of major trends and new/emerging technologies
- Actively adopting intelligent technologies across employee journey, though use cases still tend to be relatively basic
- Sometimes have small team dedicated to building these technologies in-house

Figure 1: The three maturity levels of organizations' intelligent technology adoption in HR

Importantly, nearly all organizations we spoke with indicated a desire to increase their maturity, the most popular reasons cited by HR leaders being to:

1. Ensure the longevity of their business

"If we continue to use old technologies as a business in the tech space, we are doomed."

2. Improve employee experience (EX)

"EX is everything. If we can improve it through AI/ML, that's reason enough to adopt."

3. Make better use of their data

"Data is abundant today, and AI is the differentiator for how to make that data meaningful and use it to drive meaningful change."

4. Retain top talent

"The world is changing and if you don't retain your talent, you're in trouble. The shift became very clear as a result of the pandemic."

However, organizations also cited a number of challenges that make increasing their maturity feel like an uphill battle:

Organizational
- Cost
- Stakeholder buy-in
- Accountability for delivering results
- Inconsistent priorities
- HR excluded from technological investment conversations

Legal
- Lack of AI authority
- Varying legal from country to country
- Uncertainty
- Data leaks/hacks/security risks

Technical
- Complicated integrations
- Data quality and availability
- Work needed to trainchatbots
- Biased data and algorithm development

Employee
- Distrust
- Lack of perceived value
- Tech overload/fatigue
- Change management required
- Lack of education about tech purpose & operation

Figure 2: Reported challenges to adopting and using intelligent technologies in HR

Where are organizations investing today? What trends are on the horizon?

A key differentiator amongst those more and less mature organizations was the breadth of their adoption of intelligent technology. Although less mature organizations tended to have adopted only a single use case or several basic use cases in one HR area, more mature organizations had explored adoption of intelligent technology across the entire employee journey. Interviews with our customer organizations revealed that recruiting and learning were the two highest priority areas for adoption as of today, but interestingly were expected to be deprioritized in the near future to make room for use cases that support employees and internal mobility.

Key HR areas and use cases: Current and future adoption priorities

HR Area	Use Cases	Current Priority	Future Priority
Recruiting	CV matching, automated scheduling & interviewing, chatbots, "Tinder Profile" for employees	#1	↓
Learning	Learning recommendations/"pathways" (what employee needs now, next, and what skills org needs), VR learning	#2	↓
Employee Engagement	Chatbot (for admin and more complex tasks), HR self-service & ticketing Intelligent employee engagement platform	#3	↑
Internal Mobility	Skill profiles and career paths, opportunity matching, succession identification	#4	↑
Analytics*	Workforce planning, skill planning	#5	↑

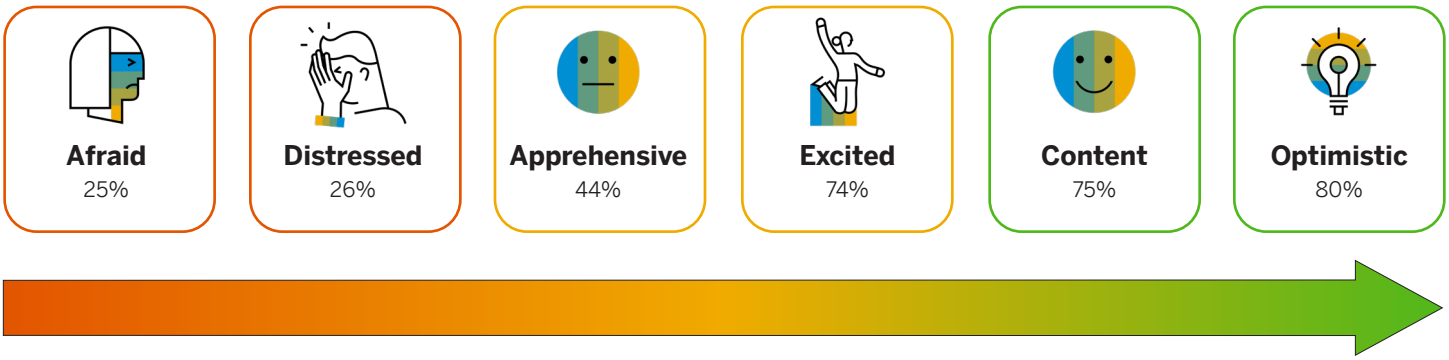
Figure 3: *While our primary focus is employee-facing examples of intelligent tech in HR, there are also "back office" use cases HR currently/plans to leverage.

Part II: How do employees feel about intelligent technology at work?

Our research revealed that decisions related to the adoption of intelligent technology do not sit solely with HR, but rather span across other decision-makers in the C-suite as well as legal, compliance, and other groups. However, we would argue that employees too should have a voice (whether implicit or explicit) in the intelligent technology and use cases that an organization implements.

Although the media has often depicted employees as being fearful of and resistant toward intelligent technology at work, our employee survey data paints a more nuanced picture. The apprehension may exist, but so does a sense of optimism and excitement about the potential value that these technologies bring.

Emotions elicited by intelligent technology*



*% of employees who selected "yes" vs. "no"

Indeed when we asked employees what they felt were the biggest motivations behind companies adopting intelligent technology, the more negative sentiments (for example, "to get employees to work longer and harder" or "to automate or eliminate jobs") were rated as the weakest motivations, while positive benefits such as "to help employees do their jobs more effectively" or "to give employees more flexibility in how they work" were rated as the strongest.

And, when it comes to responsible adoption, it turns out that employees genuinely trust their employers. Our survey data shows that **75%** of employees agreed or strongly agreed with the statement, "I trust that my company would only adopt intelligent technology that benefitted employees" and **81%** agreed or strongly agreed, "I trust that my company would use intelligent technology responsibly."

Taken together, these findings suggest that employees are not inherently starting from a baseline of skepticism or distrust. Therefore, organizations have an opportunity to secure and build upon that trust by creating the right conditions whereby intelligent technology enhance – rather than detract from – their experience.

Trust starts by understanding the specific use cases that employees are comfortable with, and those that they feel are invasive or not beneficial.

Employees rated the following reasons the **strongest motivations** behind companies adopting intelligent technologies:

1. To improve company's overall efficiency
2. To help employees do their jobs more effectively
3. To give employees more flexibility in how they worked

Employees rated the following reasons the **weakest motivations** behind companies adopting intelligent technologies:

1. To provide employees with a more personalized experience
2. To automate or eliminate employees' jobs
3. To get employees to work longer and harder

Figure 4: Employees are generally positive about intelligent technologies at work.

Assessing employee acceptance of intelligent technology use in HR

We asked employees to rate their comfort with 22 different HR use cases of intelligent technology (the full list appears in the Appendix). Across all use cases, only 23% of our respondents would be considered "promoters" (for example, proponents of intelligent technology, in general) whereas 35% would be considered "detractors" (for example, skeptical of intelligent technology, in general), leaving 42% as "passives" (for example, do not have a strong sentiment toward intelligent technology, in general). This indicates, first, that employees are indeed discerning about the application of intelligent technology in the workplace, and second, that organizations have an opportunity to increase overall acceptance and adoption by turning those employees who are currently "passive" into promoters.

When we dug into the data to understand which specific use cases employees most and least preferred, we found that employees felt most positively about instances where intelligent technology enabled them to do their work more effectively, such as finding relevant documents, answering basic questions, or identifying learning courses they should take. Employees felt most negatively about use cases where intelligent technology was used to evaluate them, such as to assess their performance, fit with a job, or skill level.

People want technology to **enable** them...

- Calculating the number of hours I spend working each day
- Answering my basic HR questions
- Completing basic HR tasks
- Suggesting relevant HR documents and instructions
- Suggesting learning courses I should take
- Calculating my pay increase

People do not want technology to **evaluate** them...

- Conducting my exit interview when I leave a company
- Analyzing my performance in a job interview
- Assessing how well I communicate with others
- Determining my fit with a job I applied for
- Determining how well I am able to withstand challenges at work
- Measuring my stress at work and risk of quitting
- Analyzing my leadership (for example, how often I provide feedback or recognition to coworkers)

Figure 5: Turning detractors into passives and passives into promoters: Where to start and what use cases to avoid

Our take on these findings is not to suggest that organizations should only adopt administrative use cases of intelligent technology, nor is it to say that organizations should automatically and necessarily avoid use cases where intelligent technology is used in a more evaluative sense. Rather, we believe that these results can be used to help organizations know "where to start" – in other words, which use cases are likely to be met with least resistance and can serve as a "foot in the door" to further adoption. And for those use cases that do encounter resistance from employees, we urge organizations to take employee sentiment into account and to consider how they can increase employees' sense of trust and comfort. We discuss best practices for increasing employees' acceptance and adoption of intelligent technology in part IV.

Are HR and employees on the same page?

We wanted to understand the extent to which HR's stated current and future areas for intelligent technology investment matched up with the areas that employees feel most comfortable and receptive toward.

Our data suggests good alignment in general, but two particular areas where HR and employees disagree are the use of intelligent technology for recruiting and career pathing.

Again, we do not include these findings to suggest that organizations should avoid consider adopting intelligent technology for these two use cases. Rather, we want to reiterate the importance of understanding employees' concerns around recruiting and career pathing use cases specifically so that interventions can be designed to increase trust and acceptance.

Where are HR and Employees aligned?

Both HR and employees *like* intelligent technology for:

- Learning new skills
- Development opportunities
- HR self-service

Both HR and employees *dislike* intelligent technology for:

- Sensitive data
- Evaluation (of performance, potential, etc.)
- Employee monitoring

Where are HR and Employees misaligned?

HR and **employees** *disagree* on the use of intelligent technology for:

- Recruiting automation
- Career pathing

Figure 6: Use case desirability: Are employees and HR aligned?

Part III: How are organizations balancing intelligent technology and data privacy?

Perhaps more than any other topic, the privacy and ethical considerations related to the use of intelligent technology have been front and center in the popular and business press. The organizations we spoke with as part of our research echoed the critical importance of data privacy and compliance, with many taking a "better safe than sorry" approach, adopting the strictest possible privacy standards (for example, GDPR[1]) even when not required by law.

For employees, key privacy and ethical concerns relate to levels of transparency as to how the intelligent technology works, the accuracy and equity of decisions generated, and the sources of data used by the technology.

Indeed, when asked about a variety of different data sources, our survey results show that employees are most comfortable with intelligent technology accessing work-related data sources such as work calendars, active status, time tracking, and e-mails, and least comfortable with intelligent technology accessing data related to their physical body, such as their tone of voice, eye movement, body language, or facial expressions.

While this result on its own may not be altogether shocking, it is an important reminder that in the case of intelligent technologies, the "means" are just as important for organizations to consider as the "ends."

"Can and will this data ever be used against employees? Can we delete records and be sure that the data is deleted everywhere in the system? What are and aren't employees comfortable with? These are all extremely important questions to us." **– HR leader**

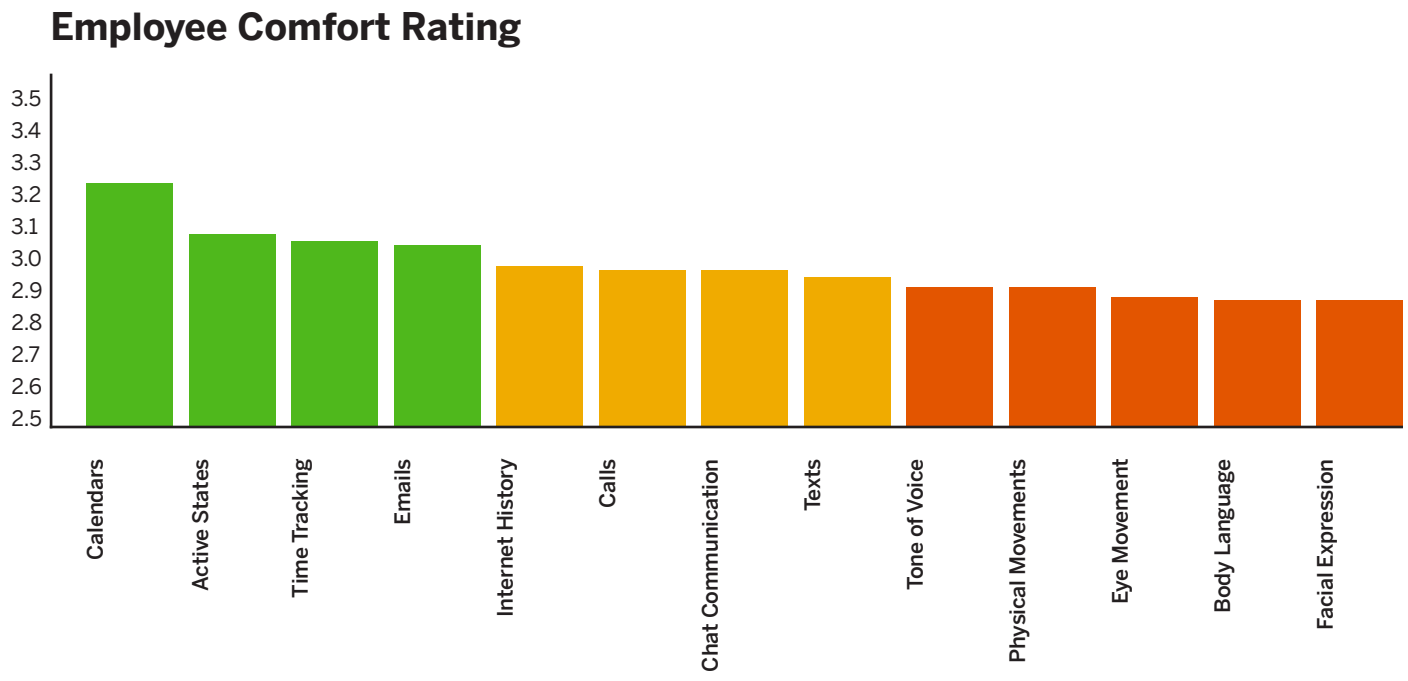


Figure 7: Certain data sources are more likely to violate employees' privacy expectations.

[1]GDPR – The General Data Protection Regulation, a data privacy and security law in the European Union.

Part IV: How can organizations empower employees with intelligent technology?

When it comes to introducing intelligent technology in the workplace and driving a positive experience for employees, our research suggests the following best practices:

"Rarely can you overcommunicate to employees – especially when it comes to adoption of technology."
– HR leader

1. Provide employees with more information about the purpose and scope of the technology

To make employees feel more comfortable with and willing to use intelligent technology, transparency is key, as one of the HR leaders we interviewed stated. Indeed, of 44 interventions tested in our survey, we found that "Providing employees more information about the data intelligent technology uses" (#1) and "Providing employees more information about how the intelligent technology works" (#2) were rated most important to increasing employees' willingness to use intelligent technology. It is also in organizations' best interests to provide employees with more transparency around where their data is stored, how it will and won't be used, and the rationale behind organization adopting the intelligent technology. In fact, "Understanding the benefits associated with the use of the technology (for example, "what's in it for me?")" was rated the second most important intervention by those "detractor" respondents in our survey, suggesting that this information is particularly important for getting more skeptical employees on board.

2. Ensure decision accuracy and equity

One of the biggest concerns associated with the use of AI discussed in the popular and business press is bias. In fact, IDC[1] predicts that by 2025, 50% of the Global 2000 will increase data scientist diversity by 50% to help mitigate AI bias and errors in development and model training. According to our own employee survey data, "Conducting tests to ensure decisions and recommendations generated by the intelligent technology are equitable" was the third most important intervention overall to increase employees' willingness to use intelligent technology. However, when it came to those particularly skeptical employees (for example, "detractors"), this was rated the most important intervention, followed by other accountability mechanisms such as "Establishing an organizational fairness officer or ethics board to be responsible for implementation."

3. Give employees autonomy where possible

It is important that employees have a sense of autonomy and ownership when it comes to their data. As discussed earlier, many of the organizations we spoke with are taking an extremely conservative approach to data management and asking critical questions around ability to access and delete data permanently. This is top of mind for employees as well. Our survey data shows that employees rated "The ability to access any data collected by intelligent technology upon request" and "Allowing employees to opt out of any systems collecting data that they are not comfortable with" as the #4 and #5 most important interventions (out of 16) for increasing their willingness to use intelligent technology.

[1]IDC, Futurescape: Worldwide Future of Customer and Consumer 2022 Predictions, 2022, Doc #US48297321, October 2021

Top 5 most impactful interventions amongst:

	Full employee sample	121 "detractors"
# 1	Give employees more information about the data smart technology uses	Conduct tests to ensure decisions and recommendations generated by smart technology are equitable
# 2	Give employees more information about how the smart technology works	Provide employees with more information about the benefits of using new technologies
# 3	Conduct tests to ensure decisions and recommendations generated by smart technology are equitable	Provide employee with more information about how the new technology works
# 4	Allow employees the ability to access any data collected by smart technology upon request	Establish an organizational fairness officer or ethics board to be responsible for implementation
# 5	Allow employees to opt out of any systems collecting data about they employee that they are not comfortable with	Provide the option to "human override" decisions made by smart technology

Figure 8: Research best practice #1: Provide employees with more information and assurances of equity.

4. Be thoughtful about notifications, nudges, and reminders

As intelligent technology becomes a bigger part of employee's working life, so too do the nudges and notifications these technologies generate. While 81% of surveyed employees said they rely on notifications and nudges at work to complete tasks and 67% feel "positive" or "very positively" about receiving notifications, nudges and reminders at work, employees also expressed some concerns. Employees' top-rated concerns related to notifications, nudges, and reminders were:

1. Receiving too many notifications and nudges that are irrelevant

2. Not receiving notifications and nudges that are relevant

3. Receiving notifications and nudges at inconvenient times

When asked about how their experience with nudges, notifications, and reminders could be improved, employees said the following interventions would be most impactful:

1. Allow users to set custom nudges, notifications, and reminders

2. Allow users to choose the type of notifications, nudges, or reminders they receive

3. Allow users to choose when they do and do not receive nudges, notifications, and reminders

5. Drive an innovative and supportive culture

Successful implementation of intelligent technology requires more than a focus on the technology itself. There are also important cultural drivers that can "make or break" the success of intelligent technology as far as employees willingness to accept and adopt. Indeed, our research found that employees who were more likely to be "promoters" of intelligent technology overall tended to be those who 1) worked for organizations with stronger innovation cultures (for example, work environments that nurture creativity and innovation), 2) perceived having more organizational support, and 3) had stronger trust in technology, generally.

By working to drive an innovative and supportive culture, and provide the resources and training necessary to generate a high level of trust in technology, we can facilitate an environment where employees are more likely to accept intelligent technology.

Conclusion

Together, our research with HR leaders and employees paints a complex picture when it comes to the future of intelligent technology in HR. With employees expressing both apprehension and optimism, trust and skepticism, organizations find themselves in a unique position. Those that choose to prioritize employees' preferences, comfort and trust will inevitably see greater long-term acceptance and adoption of intelligent technology, and ultimately generate a more positive experience for employees at work.

Appendix

Below is the list of all intelligent technology use cases included in our global employee survey.

Evaluative use cases

- Determining your fit with a job you applied to
- Analyzing your performance in a job interview
- Evaluating your knowledge, skills, and abilities
- Evaluating your personality traits and interests
- Analyzing your leadership (for example, how often you provide feedback or recognition to coworkers)
- Assessing how well you communicate with others
- Determining how well you are able to withstand challenges at work
- Determining how engaged you are during virtual meetings
- Evaluating your progress against your work goals
- Calculating your pay increase
- Evaluating your readiness for promotion
- Measuring your stress at work and risk of quitting

Administrative use cases

- Answering your basic HR questions (for example, "what are the company holidays?")
- Completing your basic HR tasks (for example, requesting a day off work)
- Suggesting relevant HR documents and instructions (for example, how to apply for parental leave)
- Conducting your exit interview when you leave the company
- Calculating the number of hours you spend working each day

Developmental use cases

- Suggesting learning courses or training you should take
- Suggesting career paths you should pursue
- Suggesting jobs or projects in your company you would be good at
- Suggesting people in your company who could be your career coach or mentor
- Prompting a development conversation with your manager

Lauren Bidwell, Ph.D., Senior Research Scientist, SAP SuccessFactors

Caitlynn Sendra, Ph.D., EX Product Scientist, SAP SuccessFactors

Talya Bauer, Ph.D., Cameron Endowed Professor of Management, Portland State University

Donald Truxillo, Ph.D., Professor, Kemmy Business School, University of Limerick, Ireland