

White Paper

Beyond Technology: Preparing People for Success in the Era of AI

The Fourth Industrial Revolution: Artificial Intelligence

In the simplest terms, artificial intelligence (AI) refers to IT systems that sense, comprehend, learn, and act. It includes things such as voice, facial and image recognition, and the systems associated with making sense of that input. AI's power lies in improving predictability. It isn't new – it's been developing for decades – but in the era of Big Data, it's becoming increasingly practical for many more applications, and its predictive power is improving dramatically. According to recent research by Deloitte, although most consumers are not aware of it, more than two-thirds of mobile users are already using some form of AI or machine learning (ML) on their smartphones. The highest use categories include predictive text, driving route suggestions, and voice assistants. AI is becoming pervasive, and experts say this is just the beginning.

Oxford University's Future of Humanity Institute asked several hundred AI/ML experts about their predictions for AI. They say that there is a relatively high chance that AI will beat humans at all work-related tasks by 2063 and that AI will automate all human jobs within 120 years.¹

It's only natural, then, to wonder what that means for us as humans when it comes to our own occupations.

McKinsey estimates that a reduction in FTE hours of perhaps half could be achieved using available technologies, especially in economies with relatively high wages and which are heavily manufacturing-based.² That doesn't necessarily mean that entire jobs will be eliminated in all cases. In the near term, AI will likely affect just a portion of the activities within each role. While AI is now making significant inroads even into areas such as managing and developing people, currently, predictable physical activity has the highest potential for automation, followed by collecting and processing data, unpredictable physical activity, interfacing with stakeholders, and applying expertise to decision-making.³

That kind of data may seem exciting or depressing, depending on your point of view. How are people feeling about advancements in AI? In this paper, we present our latest research into attitudes about AI. We explore the skills that will be needed to maximize the human-machine partnership of the future and lay out what C-Level, HR, and L&D professionals who have plans to implement AI in their own organizations can do to help ensure its success.

Attitudes and Expectations

In an online, web-based survey, we asked more than 3,500 employees – from CEOs to individual contributors, across a wide range of industries and company sizes and spanning 11 countries – how they feel about AI and what they expect from it, with the objective of providing useful insights for leaders. Our research reveals a snapshot of current attitudes as well as important factors that could inform AI implementation. Successful adoption of AI depends on human employees embracing their changing role in the future of work.

At a high level, optimism toward AI prevails, but it's worth looking below the surface.

"Keep your mind open to change all the time...It is only by examining and reexamining your opinions and ideas that you can progress."

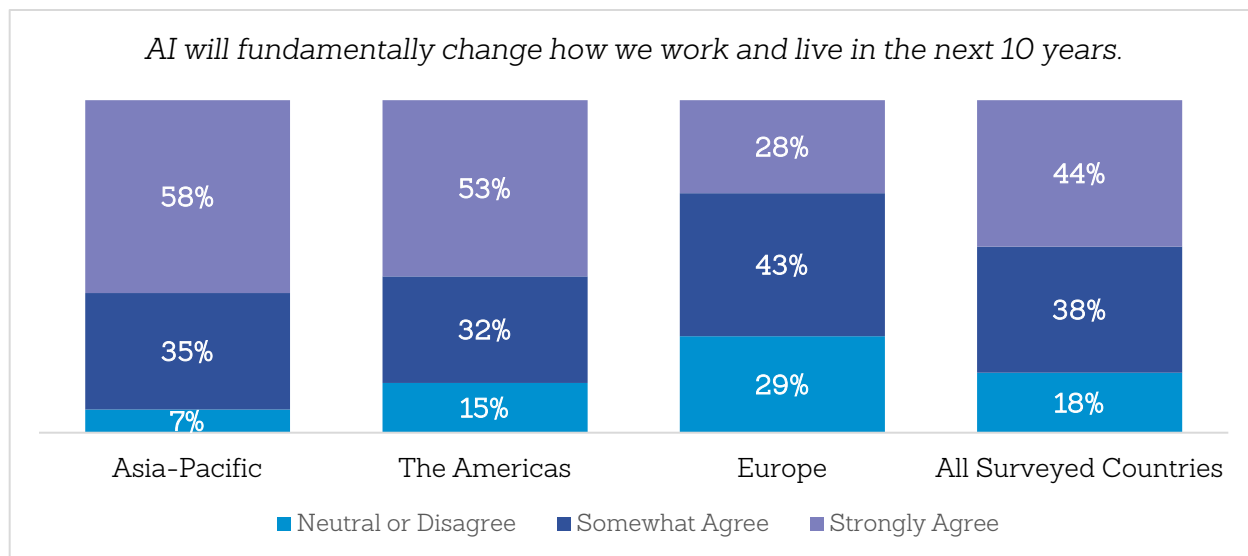
- Dale Carnegie

¹ Grace, Katja, et al. "Viewpoint: When Will AI Exceed Human Performance? Evidence from AI Experts." *Journal of Artificial Intelligence Research*, vol. 62, July 2018, pp. 729–754., www.jair.org/index.php/jair/article/view/11222/26431.

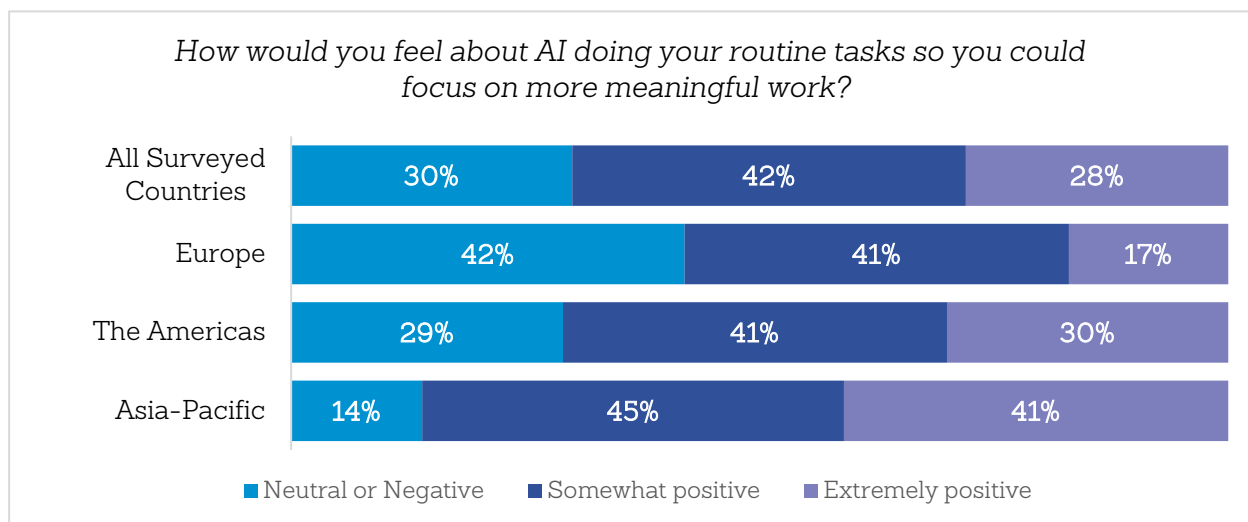
² *A Future That Works: Automation, Employment and Productivity*. McKinsey & Company, Jan. 2017, [www.mckinsey.com/~/media/mckinsey/featured_insights/Digital Disruption/Harnessing automation for a future that works/MGI-A-future-that-works-Executive-summary.ashx](http://www.mckinsey.com/~/media/mckinsey/featured_insights/Digital%20Disruption/Harnessing%20automation%20for%20a%20future%20that%20works/MGI-A-future-that-works-Executive-summary.ashx).

³ Chui, Michael, et al. "Where Machines Could Replace Humans--and Where They Can't ..." *McKinsey Quarterly*, McKinsey & Company, July 2016, www.mckinsey.com/business-functions/digital-mckinsey/our-insights/where-machines-could-replace-humans-and-where-they-cant-yet.

Forty-four percent of respondents in our study strongly agree that AI will fundamentally change the way we work and live in the next 10 years, and overwhelmingly, they expect those changes to be positive.



Yet many are ambivalent about the impact that AI may have. While the survey revealed that nearly two-thirds are at least slightly worried about losing their jobs as a result of advancements in AI in the near future, 70% said they would feel positive about the potential to hand over *some* of their activities to AI, giving up routine tasks that get in the way of focusing on more meaningful work.



Since machines, including AI, have the advantage when the need for creative and social intelligence is low, routine tasks like coordinating and controlling work are easy to automate. In contrast, as the need for these types of intelligence in a given task grows, humans continue to have the advantage. Work that involves using judgment – whether related to people development, problem-solving, or strategizing and innovating – calls for considerable degrees of creative and social intelligence. We will still expect people to provide context, interpret, and monitor AI decisions for fairness; watch for bias; and evaluate the appropriateness of implementing those decisions, in addition to communicating them in a clear, empathetic and convincing way.

Twenty-three percent of respondents to our survey said AI and automation are already impacting them in their roles, and another 44% say they expect it to in the next 1-5 years. But while AI has the potential to transform our work experiences for the better, it can also have unintended consequences. Technology, in general, can impact corporate culture and employee engagement in both positive and negative ways.

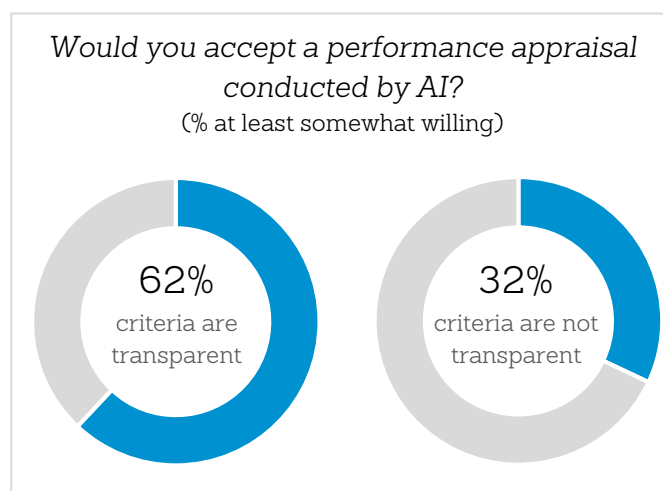
Unintended Consequences

Recent decades have seen dramatic shifts in the way information is shared. Instead of a primarily one-way flow down through the traditional hierarchy, information now moves in every direction, via email, social media, apps, pulse surveys — both inside and outside the company. Employees' perceptions of the companies they work for are now shaped by more than official communications from the CEO, HR, and their direct supervisors, but also by forums where a company's message and image can be difficult to control. These same advances in communication, while offering tremendous benefits, can also create new challenges. The effect that companies such as GlassDoor have had by making corporate reputations more visible to potential candidates and the resulting effect — good or bad — on those companies' ability to recruit illustrates the point.

In the same vein, while the increased usage of virtual meetings has reduced travel time and costs significantly, they can be less effective in many situations. For example, research has shown that physically shaking hands promotes the adoption of cooperative strategies and positively influences negotiation outcomes⁴ — that can't yet be done via video.

And though monitoring software in the workplace has undoubtedly improved productivity and security, it can also send the message to employees that the company does not trust them, which research shows decreases morale and worker productivity.

In fact, 64% of respondents to our survey at the level of director or above said they were at least moderately worried about the potential impact of AI on their organization's culture. These leaders recognize that gains from AI could be offset by losses, at least in part, if the resulting impact on corporate culture has the effect of disengaging employees.



We will still expect people to evaluate the appropriateness of implementing decisions made by AI, and to communicate them in a clear, empathetic, and convincing way.

The danger isn't theoretical. Global mega-retailer Amazon, among those on the cutting-edge of AI implementation, uses technology in its warehouses that track employees' every move. In an article that vividly illustrates the potential impact on employee engagement, one former Amazon warehouse worker told the *New York Times*, "After a year working on the floor, I felt like I had become a version of the robots I was working with." Examples like these offer a glimpse into unintended consequences to employee engagement that can result from AI.

While a recent study of HR leaders and employees suggests that 9 in 10 are ready to

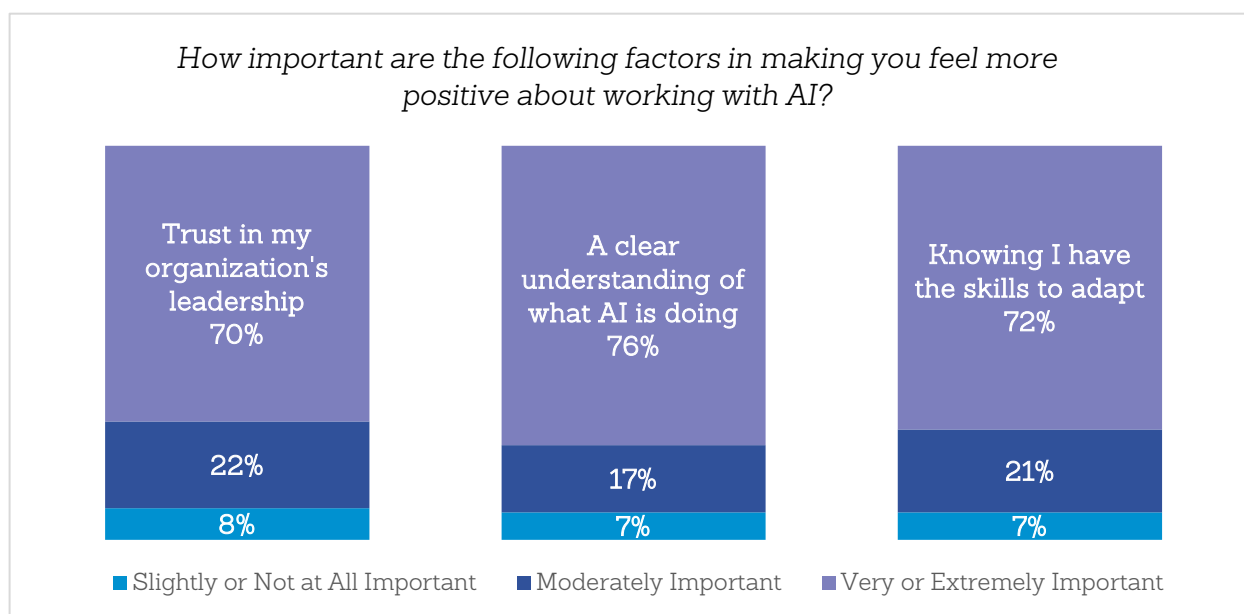
⁴ Schroeder, Juliana and Risen, Jane and Gino, Francesca and Norton, Michael I., "Handshaking Promotes Cooperative Dealmaking", May 29, 2014. Available at SSRN: <https://ssrn.com/abstract=2443551> or <http://dx.doi.org/10.2139/ssrn.2443551>

accept orders from robots at work⁵, our research reveals a lingering hesitancy to accept AI in other areas. For instance, we asked the question, “How likely would you be to trust and accept a performance appraisal conducted by AI instead of a human supervisor?” with the caveat that the criteria be completely transparent. In that situation, 62% of respondents were at least somewhat likely to accept the appraisal. However, when we asked the same question and specified that the criteria would not be fully transparent – more likely situation given that AI engineers often don’t know what exactly is prompting the decisions of their machine learning algorithms – the results were dramatically different: Just 32% of respondents were willing to accept the appraisal.

People want to be sure that AI is delivering decisions that are fair and in a way that can be explained. They may also respond differently to a decision they know is made by a machine versus one made by a person they know. The more sensitive the decision, the more important it will be for the people sharing it to be trusted and skilled communicators.

What would make people feel more positive about AI?

Our research identified three things that would help employees feel more positive about AI: trust in their organization’s leadership, transparency resulting in a clear understanding of what the AI does, and having confidence that they will have the skills to transition by adapting to the changes resulting from AI.



1. Building and maintaining trust

Trust is at the center of any healthy corporate culture. Unfortunately, machine learning and the algorithms that result from it are inherently difficult to understand, and humans don’t trust what they can’t understand. Most leaders recognize the challenge. In a survey by PwC, 67% of CEOs say AI and automation will affect trust levels in the future.⁶

Building and maintaining trust in leadership isn’t easy in general because it requires all leaders to be honest *and* consistent in what they say and do. In an environment where much that is written or said is recorded in one way or another, inconsistencies are easier than ever to uncover. Anecdotes about senior leaders professing one set of values while overlooking even minor inconsistencies in their own decisions

⁵ “New Study: 93% of People Would Trust Orders from a Robot at Work.” Oracle, 28 June 2018, www.oracle.com/corporate/pressrelease/robots-at-work-062818.html.

⁶ *20 Years inside the Mind of the CEO... What's next?* Edited by Suzanne Snowden et al., PwC, 2017, www.pwc.com/gx/en/ceo-survey/2017/pwc-ceo-20th-survey-report-2017.pdf.

and behaviors relating to those same values illustrate why it's so easy to damage trust, no matter how well-intentioned the organization is.

And AI brings its own set of pitfalls when it comes to trust. Employees may wonder what the true purpose of deploying the AI is, and there are privacy and security concerns as well. Companies using AI to personalize an employee or customer experience must be aware of how their employees and customers think about privacy issues. Data breaches, which have hit so many companies already, require delicate handling and often have lingering negative impacts and perceptions about an organization's trustworthiness. In our survey, 63% of respondents are at least moderately worried about privacy issues, and 67% are worried about cyber security issues.

It's easy to imagine how privacy and security concerns might occur, for instance, in companies using AI to predict turnover and engagement through natural language processing of the content of employees' social media, text messages, and emails.

Responses to our survey gave weight to concerns about trust. The chart to the right, with respondents broken out by job level, reveals that employees' trust in their senior leadership to make the right decisions regarding implementation of AI has an inverse relationship with the respondent's position in the organizational hierarchy. Only about a quarter of individual contributors (those with no direct reports) say they have a high level of trust in their leadership, as compared with just under half of managers. Perhaps unsurprisingly, those at the director level or above feel differently, revealing a potential disconnect between leadership and the rest of the workforce: Senior leadership may be completely unaware that there is a trust issue at all.



If there is an issue with trust in an organization, it's likely that implementing AI (or any other strategic initiative that is perceived as threatening to employees) carries additional risk of failure. Organizations are well-advised to assess the existing level of trust, which can be accomplished through any number of tools, such as engagement assessments, apps for sentiment analysis, pulse surveys, and exit interviews. Questions such as these can be informative:

- How much does the team trust their immediate supervisor? Senior leadership?
- How openly does our organization share information?
- How well do the actions of leaders align with our organization's principles?

Leaders must live the stated values, adhere to principles, be consistent in their words, decisions and actions, and make building trust a priority.

2. Providing transparency

A second area of focus closely related to trust revolves around the ability to explain AI and resulting perceptions of fairness. This is particularly important as AI has moved into realms such as HR (hiring, evaluating performance, promotions, etc.), where things become even more personal for employees. As illustrated by our earlier example of respondents' willingness to accept a performance appraisal generated by AI, the level of transparency of the AI in question is an important factor. While they don't

expect to understand every technical detail, people do demand that decision-making by AI be at least moderately explainable if they are expected to accept that the underlying process is fair.⁷

Our survey revealed that 63% of respondents are at least moderately concerned about human biases built into AI systems or legal issues related to responsibility for problems with AI. Unfortunately, the more complicated algorithms become, the more difficult they are to explain satisfactorily. Tension exists between AI's predictive power and the appropriateness of using that power, especially in HR applications.⁸ To use a simple example, in an organization using AI to determine how best to target its hiring efforts to fill its future leadership pipeline, predictive power may suggest the desirability of hiring more white males. AI may correctly determine from historical data that they have demonstrated the best track record in making it to leadership positions at the company. However, most humans would have a strong aversion to the appropriateness of using that predictive power, recognizing the probability that racism and gender bias are having an impact.

Once again, the continuing role of human leaders in AI oversight is critical, and organizations must be prepared to provide satisfactory explanations of AI algorithms they have chosen to implement or risk having to defend against legal challenges.

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3. Giving employees confidence in their ability to transition

People who have confidence approach change with an eye toward the opportunities it presents rather than fixating on the potential negatives, and today organizations in every industry need to embrace change. They must learn to gather and act on information, make decisions quickly, and implement change to meet rapidly evolving requirements of customers and the business environment; they must become more agile.

What makes an organization agile?

Efficient tools and processes that make use of the advantages today's technology offers, along with accurate data, are essential. Organizations need to proactively ask the right questions, gather, share, and analyze information – the impetus for change – and then make decisions and act.

But it takes more than good data to become agile. Along with effective tools and processes, it takes the right combination of resilience, social intelligence and capacity for action – aligned with a clear organizational purpose – to create a strong foundation for agility. Agility also requires a workforce that is comfortable seeking out new information, learning new skills, and embracing continuous change in a collaborative way, without resistance or resentment.

Trust and transparency will go a long way towards helping employees approach AI with a positive attitude, particularly when they can make decisions in an information-rich, agile environment. If they also feel confident that they will be able to survive changes by developing the skills they need to adapt to new roles, organizations have a good shot at maintaining their engagement. Sixty-eight percent of all respondents said that getting additional training would be very or extremely important to avoid losing their job given advancements in AI in the workplace. We also asked them where they would prefer to get that training, and overwhelmingly, they expect and prefer their employers to provide it.

⁷ Hosanagar, Kartik, and Vivian Jair. "We Need Transparency in Algorithms, But Too Much Can Backfire." *Harvard Business Review*, HBR, 23 July 2018, hbr.org/2018/07/we-need-transparency-in-algorithms-but-too-much-can-backfire.

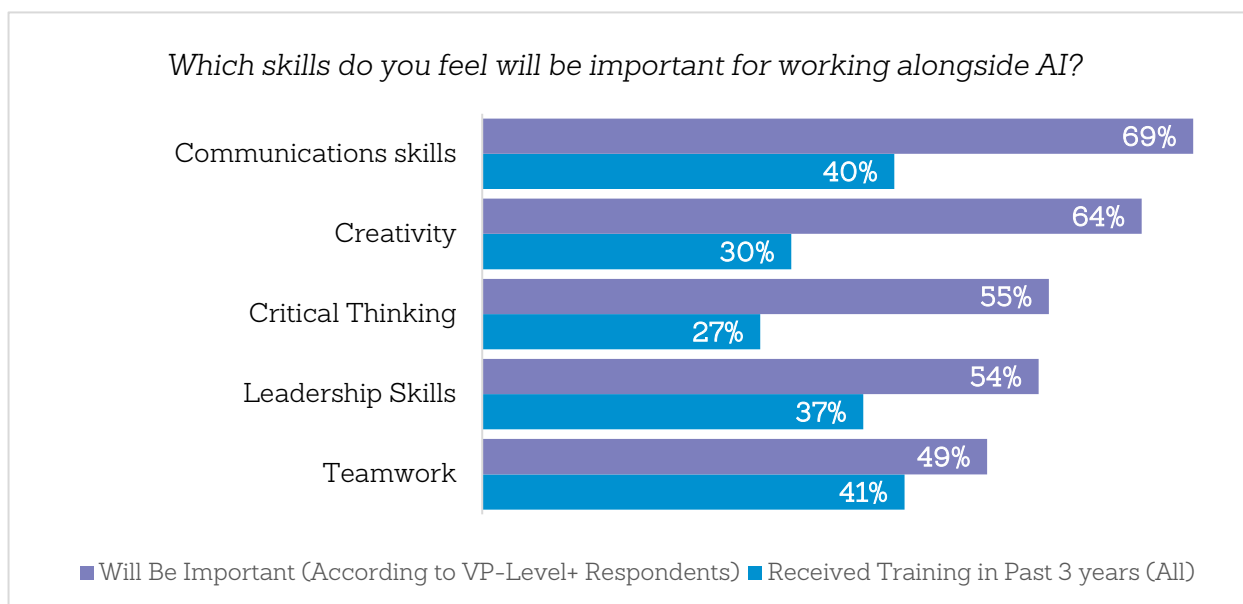
⁸ Cappelli, Peter & Tambe, Prasanna & Yakubovich, Valery. (2018). Artificial Intelligence in Human Resources Management: Challenges and a Path Forward. SSRN Electronic Journal. 10.2139/ssrn.3263878.

So, what skills should we be training employees for, considering what we know about the expected impact of AI? Machines already surpass humans in performing many routine tasks, but people are still much better at work that requires creativity, social skills, and judgment. In the foreseeable future, humans will still be needed to manage the technology itself, but also in non-routine situations and for the tasks that require the highest levels of social and creative intelligence.

Experts agree that these soft skills are going to be essential.

The challenge of finding the people with needed skills will become even greater as business models evolve. While in a survey of CEOs by PwC more than three quarters (76%) are concerned about the lack of digital skills, even more – 91% – said that they need to strengthen their organization’s soft skills.⁹

Google’s highly publicized *Project Oxygen* underscores the importance of soft skills. After originally setting up its hiring algorithms to sort for computer science students with top grades from elite science universities, Google conducted a rigorous analysis of its hiring, firing, and promotion data and concluded that, among the eight most important qualities of Google’s top employees, STEM expertise came in last. The seven top characteristics of success at Google were all soft skills: being a good coach, communicating and listening well, possessing insights into others (including others’ different values and points of view), having empathy towards and being supportive of one’s colleagues, being a good critical thinker and problem solver, and being able to make connections across complex ideas. In 2018 Google updated the *Oxygen* analysis, and the results largely stand.¹⁰



In our survey, nearly seven in 10 VP-Level and above respondents identified communications skills as particularly important for employees to have in order to work in an organization using AI, yet only 4 in 10 respondents at all levels report they’ve received communications skills training in the past three years. Gaps also existed for other crucial skill sets, including creativity (64% of senior leaders say that creativity will be important, just 30% of all respondents have had creativity-related training in the past three years), critical thinking (55% vs. 27%) and leaderships skills (54% vs. 37%). The smallest gap was in the area of teamwork, where the fraction of company leaders saying it will be important was most similar to the fraction of respondents who have participated in related training in the past three years (49% vs. 41%).

⁹ 21st CEO Survey: *The Talent Challenge: Rebalancing Skills for the Digital Age*. PwC, 2018, www.pwc.com/gx/en/ceo-survey/2018/deep-dives/pwc-ceo-survey-talent.pdf.

¹⁰ Harrell, Melissa, and Lauren Barbato. “Great Managers Still Matter: The Evolution of Google’s Project Oxygen.” *Re:Work*, Google, 27 Feb. 2018, rework.withgoogle.com/blog/the-evolution-of-project-oxygen/.

Helping employees feel confident that they will be able to develop the skills needed to continue to succeed in the era of AI is critical to achieve a positive attitude toward AI initiatives. In fact, of those who trust their leadership, feel they have a solid understanding of AI, *and* have received training in soft skills within the last three years, 68% are extremely positive about the changes AI will bring, compared with just 21% of all others. For organizations that see AI as vital to their success, the value of having employees who are extremely positive about AI – who are willing to embrace the technology as well as their own changing roles at work – can't be overstated, because they will be the advocates who help build momentum for success with AI projects.

Those who trust leadership, feel they understand AI, and have had soft skills training are >3x more likely to feel extremely positive about the changes AI will bring.

The Bottom Line

Achieving the full potential of AI depends on a successful partnership between humans and machines. For leaders, encouraging a positive attitude toward AI projects will be an important first step. Strong trust in leadership, transparency in how AI algorithms work, and confidence in their ability to transition to their skills to those needed now and, in the future, will go a long way in helping employees become advocates for what can, and will, be done with AI.

To learn more about how Dale Carnegie Training can help you prepare your organization to succeed in the era of artificial intelligence, contact your local Dale Carnegie office today. Please go to: dalecarnegie.com/office

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