

Preparing for the Era of Artificial Intelligence: The Skills Leaders Need Now

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The recent progress made in the field of artificial intelligence (AI) is changing the way people manage both work and home lives. What was once science fiction is now an integral part of our everyday experience, often in ways we don't notice. The rapid growth of its use is quickly changing the workforce, creating both excitement about the possibilities, and concern about the ramifications of replacing human workers with computers and machines. Businesses are embracing AI's ability to increase productivity and take over time-consuming tasks, while workers are concerned about losing jobs. Leaders today face the challenge of embracing technology and simultaneously preparing themselves and their teams with the skills and knowledge they will need to succeed in this new era.

What is AI and How is it Being Used?

AI is the science of programming computers and software to complete activities that have traditionally required human intelligence. The programs use algorithms to classify, analyze, and make predictions based on data. It can also involve acting on that data, and even learning and improving over time. Unlike standard programming that defines all scenarios and parameters and can only operate within those parameters, AI is programmed to "learn" to improve on its own. For example, Microsoft Word doesn't improve on its own the more you use it, and only changes when it is updated manually with new software. In contrast, facial recognition programs get faster and more accurate at identifying faces the longer they run, and the more images they collect. AI becomes more effective at recognizing patterns, making predictions, and recommending or performing tasks as it collects more data over time.



AI at Home

We interact with AI every day, both at work and at home. At home, many people have embraced AI virtual assistants like Apple's Siri, Google Home, Amazon's Alexa, and more. These devices can recognize voice commands and perform tasks like setting timers, remind users of important events, control lighting and other appliances, and answer simple questions conversationally. The more you use them, the better they become at anticipating your needs and making suggestions based on your previous preferences.

There are less noticeable examples, such as Gmail's priority inbox, programmed to predict which emails the user would prefer to see first and organize the inbox accordingly. Predictive text on search engines, email applications, and mobile phones is another example of technology that improves as you use it, learning the words you type most often, predicting when you will use them, and suggesting them as needed. Social media apps have implemented

algorithms to predict what users want to see first, as well as facial recognition programs that can identify other users that appear in uploaded photos and suggest connections.

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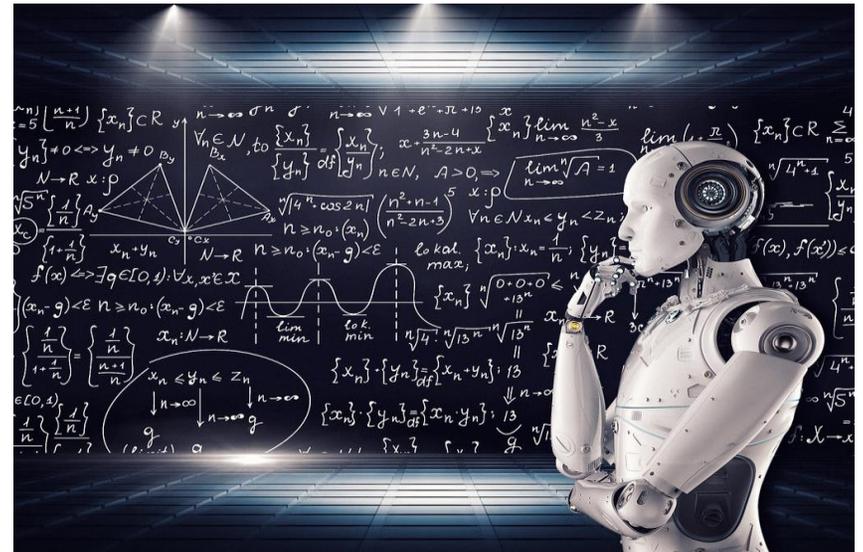
AI in Business

A [2019 McKinsey Global Survey](#) about AI in business indicates a nearly 25% increase year over year in the use of AI for standard business processes. It also revealed that a majority of companies that have adopted AI saw an uptick in revenue, and 44% say AI has reduced costs. Through the adoption of machine learning technologies, companies are improving the way business is done. Machine learning is a subset of artificial intelligence that involves computers discovering how to perform tasks without being explicitly programmed. In essence, the machine can develop its algorithm to complete a task, without a human programmer specifying every step. This technology is being used in several ways:

- **Chatbots:** Using chatbots streamlines customer service, allows customers to ask questions, and either get the answers they need or, if they need further assistance, be referred to a live customer service agent to complete the service call. This helps reduce how long customers wait on hold and allows live customer service agents to be readily available to resolve serious or complex service issues.
- **Market Research & Data Analysis:** Machine learning algorithms can analyze large amounts of data, recognize patterns, and predict outcomes faster and more accurately than people. For example, in finance, these programs can analyze data trends over time and

recommend profitable trades and predict market conditions. Other industries use it to predict customer behavior to target marketing campaigns.

- **Decision Support:** AI is also used to facilitate the decision-making process by prioritizing objectives, evaluating options, and simulating possible results. These programs can compare current and past behavior to find discrepancies. For example, research has shown that judges are more likely to grant political asylum more frequently before lunch than in the late afternoon; and give lighter prison sentences the day after their favorite football team wins a game. AI programs can identify and alert the judge to these discrepancies for further consideration.



- **Cybersecurity:** AI can use machine learning to identify data breaches and respond to threats by removing malicious software. It can even track abnormal user behavior, like an employee clicking on a phishing link that could be a virus, so it can then block it immediately.

- **Recommendation Engines:** [Netflix uses machine learning](#) to shape their catalog of movies and TV shows by analyzing popular content and relevant user data. It also personalizes the user experience, meaning that it learns what users watch most often and uses that information to recommend other content. Their algorithms even generate personalized artwork and thumbnails for movies and TV shows based on past preferences to entice users to click on items they might otherwise ignore.
- **Inventory and Warehouse Operations:** Amazon not only uses AI to predict how many units of product customers will buy but also when and where, helping them to stock warehouses strategically. In the warehouses, computer systems analyze images to track where each item is located, and [robots are used](#) to store and retrieve items, and prep them for shipping, saving employees from hunting through shelves and freeing them up to focus on more complex tasks.

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Those are just a few examples of current uses of AI in companies today, and there are more on the horizon as developers discover new applications for this technology. Companies are also embracing AI and machine learning to provide coaching and feedback to employees, maintain digital files, and automate tedious tasks. Law firms are using it to research case law more efficiently, finding the reference a lawyer needs in minutes as opposed to having a legal aid combing through a library for hours. There is great potential still in the field of AI; however, with the automation of so many tasks, many people find themselves concerned about the potential drawbacks of relying too heavily on technology.



Concerns about AI

In 1825 when the Stockton-Darlington Railway opened, critics of this new form of transportation insisted that the human body would be torn apart by the high speeds of 30-50 miles per hour. It is human nature to be suspicious of new inventions we don't yet understand, and AI is no different. Throughout history, whenever new technology disrupts the business landscape, there has been concern about the ramifications, and there are some serious concerns about the drawbacks of AI.

Bias in AI

We know that humans make biased decisions influenced by their own experiences and personality traits, whether consciously or unconsciously. In some ways, AI can reduce this by using algorithms that analyze data without the influence of

of a person's subjective interpretation. Also, the decisions made by these systems can be investigated and analyzed objectively, whereas human decisions cannot.

However, there is also evidence that algorithms can embed societal biases and deploy them at scale. In the criminal justice system, AI programs have been used to assess the risk of recidivism. The program analyzes data to provide a score used in courtrooms to make decisions about setting bond amounts, sentencing, and eligibility for parole. In a study of one such program in Broward County, Florida, [ProPublica](#) discovered that the algorithm predicted Black offenders to be a higher risk of re-offending at twice the rate of white offenders. However, of the Black people labeled as high risk, 44.9% never re-offended. In contrast, of white people labeled as high risk, only 23.5% did not re-offend. Alternately 47.7% of white offenders labeled as low risk did re-offend as opposed to just 28% of low-risk black offenders. This mislabeling can lead to unfair judgments and add to the bias already found in the criminal justice system. In another instance, a technology company had to discontinue using a program designed to help in their hiring process because they discovered that, despite being programmed to disregard gender, it began to decline applicants that attended women's colleges.



Because AI learns from data, these systems have been shown to exhibit the same bias we find in society. Data drawn from criminal justice models can become skewed because certain groups and neighborhoods are over-policed, leading to more data about criminal incidents, causing the algorithm to predict that people from those locations or similar backgrounds are a higher risk. Similarly, algorithms can learn gender stereotypes from being fed data from article headlines and advertising content. A system used to evaluate mortgage lending could learn that older people have a higher risk of defaulting and start declining applications based on age, which is illegal.

Just as leaders must be vigilant about their own unconscious bias, they should be vigilant about bias in their AI tools.

Approaching the design of AI will require careful consideration and built-in safeguards. While AI can be used to support decision making and reduce bias, it is susceptible to biased data. Human judgment will still be needed to ensure that the algorithm complies with both law and ethics. Just as leaders must be vigilant about their own unconscious bias, they should be vigilant about bias in their AI tools.

Will AI Replace Human Workers?

In the words of Stewart Brand, "Once a new technology rolls over you if you're not part of the steamroller, you're part of the road." Likewise, many people fear that AI and other automation will replace many workers. One [McKinsey study](#) estimates that close to half of US jobs could be automated in the next decade. Many routine and repetitive tasks can be easily automated now. In the near future, AI and robotics will replace people in jobs like truck driving, stocking warehouses, and even coffee baristas. [Forrester](#) predicts



that over one million knowledge-work jobs will also be replaced by AI technology in 2020 alone.

[Research](#) shows that technology can impact the demand for mid-wage workers more than low and high wage tiers. Jobs are mostly a collection of tasks, and these tasks will be re-allocated due to the adoption of new technologies. As technology takes over functions of low wage earners, those workers can take on tasks that were previously performed by mid-wage earners; and as AI takes some time-consuming tasks from high-wage earners, they can re-absorb some functions from the mid-wage earners. Some experts predict that this will raise salaries for both low and high wage jobs while squeezing out the mid-wage workers.

The innovations of AI create a new challenge for business leaders, who must navigate the potential advantages of embracing this technology while investing in re-skilling the workforce. Technical training will be essential. Additionally, executives and managers will need to focus on preparing workers with soft skills like effective communication, strategic thinking, and creativity.

AI-Proof Job Skills

The rise of AI is not all bad news for jobs. It will also create new jobs, and not just in the tech industry. In most cases, AI will be used in partnership with humans, not instead of humans. While the algorithms can sort and analyze data, humans are needed to interpret it and use it strategically. For example, in a hospital, AI may be able to diagnose disease more quickly and accurately. However, it will be a physician who sits down with the patient and family to discuss the diagnosis and make a treatment plan. The emotional element of patient care will always be needed, and with the help of AI, doctors can focus more time on those interactions with patients and less time analyzing lab reports.

As the job market changes with the introduction of AI, employers will be looking for uniquely human skills.

As the job market changes with the introduction of AI, employers will be looking for uniquely human skills. Workers will still need job-specific knowledge, but with AI doing more heavy lifting when it comes to processing data and information, employers will be looking for talent that demonstrates the ability to conceptualize, synthesize and communicate ideas. Tech expertise will continue to be highly sought after. However, [LinkedIn](#) reports that the most common traits employers are looking for are creativity, persuasion, collaboration, adaptability, and emotional intelligence. In fact, in one [survey](#), 93% of employers reported that “a candidate’s demonstrated capacity to think critically, communicate clearly, and solve complex problems is more important than his or her undergraduate major.” However, leaders around the globe report it is increasingly difficult to fill vacancies in their companies. Not because the applicants lacked the technical skills needed, but because they lack communication and problem-solving capabilities.

The Soft Skills Gap

There are notable gaps in technical skills in today's workforce. However, most can be attributed to the rapid changes in technology. The software a college student learned to operate in 2018 can be obsolete by 2020. However, in the 2019 National Skills Gap Survey by Adecco, 44% of executives said they were more concerned about workers lacking critical soft skills, especially those needed to collaborate and work effectively in teams. 45% of these leaders feel like their company is missing out on growth opportunities because of the lack of soft skills in their organizations, and 34% believe their product development is suffering.

The top soft skills in demand are:

- Adaptability and Continuous Learning
- Advanced Communication and Negotiation Skills
- Interpersonal Skills and Empathy
- Leadership and People Management
- Entrepreneurship and Creativity

Some leaders blame this skills gap on the current state of higher education. The rising cost of attending college increases the pressure to produce graduates with measurable hard skills, making the soft-skill curriculum less of a priority. This is evident in the steady decline of Liberal Arts and Humanities degrees among Millennials and Gen Z. High schools are also increasing focus on math and technical skills at the cost of communication and critical thinking skills. Others say that the overuse of technology in childhood is causing a lack of social skills in younger workers. No matter the reason, it is clear that business leaders must find new ways to address this skills gap and prepare their workforce for the future.

A Call for Leadership

Meta-analytic studies reviewing 50 years of research show that personality traits like curiosity and emotional stability are twice as important as IQ when predicting effective leadership. In the age of AI, leaders will face constant disruption and rapid change. To thrive in this ambiguous business landscape, leaders will need to become more agile to be successful. Today's leaders need humility, adaptability, and vision. As they prepare their organizations for the changes AI will bring, they must focus on rebalancing resources to onboard new technology, re-skill their teams, and embrace new models for education and lifelong learning. It will be critically important for organizations to allocate funds for employee learning and development.



Companies must be held accountable not only for delivering value to shareholders but also to stakeholders like their employees and local communities. Investment in talent is essential to the long-term financial success of any organization. In a [2019 Business Roundtable](#) statement, President and CEO of Progressive Corporation, Tricia Griffith, stated that “CEOs work to generate profits and return value to shareholders, but the best-run companies do more. They put the customer first and invest in their employees and communities. In the end, it’s the most promising way to build long-term value.”

Invest in Workforce Training

Millions of workers will need to be retrained or re-skilled as a result of AI over the next few years. Technical training is a necessary component, but as uniquely human attributes rise in value, there will also be a renewed focus on fostering and growing people skills. Business leaders will need to partner with policymakers, communities, and learning institutions to encourage continuous learning, and prioritize required skills at every level of schooling.

Within their organizations, leaders can prioritize apprenticeships and mentorships to help develop the leaders of tomorrow. Through mentoring relationships, employees can learn soft skills such as relationship building, listening, and the ability to be empathetic. Mentorship programs facilitate the growth and development of high-potential leaders and transfer valuable institutional knowledge vital to succession planning. It also demonstrates an organization’s commitment to its employees, which can help reduce turnover.

Organizations can also invest in quality learning and [development programs](#) to help employees develop the soft-skills needed to be successful. Businesses can encourage and

sponsor their employees’ participation in these learning opportunities. [A study](#) by Boston University, Harvard University, and the Ross School of Business at the University of Michigan revealed that training in self-awareness and soft skills produce a 256% return on investment, based on an average rate of 12% higher team productivity and retention. Effective training programs should focus on soft skills, like interpersonal communication and problem-solving, and provide structure for real-life action plans and accountability.

The Future is Now

Steve Jobs once said, “Technology is nothing. What’s important is that you have a faith in people, that they’re basically good and smart, and if you give them tools, they’ll do wonderful things with them.” Like all new technology, AI is disrupting the way businesses operate and how people go about their daily lives. AI can expand business capabilities and improve productivity in exciting ways. However, the key to unlocking an organization’s real potential lies in combining the infinite possibilities of AI with people’s uniquely human skills and talents.

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