Deloitte.

AI Trends Outlook

From the age of adoption to the age of value

A perspective by the Deloitte AI Institute

About the Deloitte AI Institute

The Deloitte AI Institute helps organizations connect all the different dimensions of the robust, highly dynamic and rapidly evolving AI ecosystem. The AI Institute leads conversations on applied AI innovation across industries, with cutting-edge insights, to promote human-machine collaboration in the "Age of With". Deloitte AI Institute aims to promote a dialogue and development of artificial intelligence, stimulate innovation, and examine challenges to AI implementation and ways to address them. The AI Institute collaborates with an ecosystem composed of academic research groups, start-ups, entrepreneurs, innovators, mature AI product leaders, and AI visionaries, to explore key areas of artificial intelligence including risks, policies, ethics, future of work and talent, and applied AI use cases. Combined with Deloitte's deep knowledge and experience in artificial intelligence applications, the Institute helps make sense of this complex ecosystem, and as a result, deliver impactful perspectives to help organizations succeed by making informed AI decisions.

No matter what stage of the AI journey you're in; whether you're a board member or a C-Suite leader driving strategy for your organization, or a hands on data scientist, bringing an AI strategy to life, the Deloitte AI institute can help you learn more about how enterprises across the world are leveraging AI for a competitive advantage. Visit us at the Deloitte AI Institute for a full body of our work, subscribe to our podcasts and newsletter, and join us at our meet ups and live events. Let's explore the future of AI together.

www.deloitte.com/us/AIInstitute

To understand where you're going, it's helpful to consider where you've been. Artificial intelligence (AI) is the transformative technology of our era and the next step in the evolution of cognition. Realizing the potential, organizations are in the thick of adoption and innovation. It is in the boardrooms, back offices, manufacturing plants, brick-and-mortar stores, and across the marketplace that a big part of the AI story is unfolding. The reflections and views of business leaders are being revealed.

Since 2017, the Deloitte AI Institute has conducted surveys with about 3,000 executives annually to understand their organizations' AI journeys. The results, offered in the annual *State of AI in the Enterprise* reports, chronicle the views and lessons learned from organizations using AI, from the most boldly innovative to the new and cautious entrants.

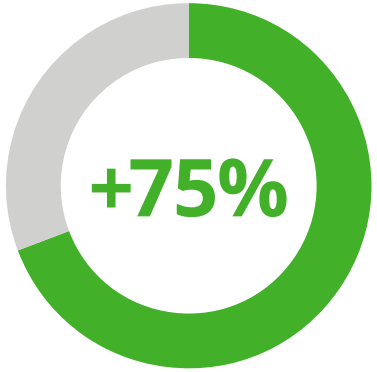
Looking across several years of business leader impressions reveals the trajectory of our story with AI and illuminates where we may be heading next.

Let's look at multiyear trends on the topics of AI's transformative potential, the investments and changes it requires, and the risks and complexity that result.

Envisioning the business potential in AI

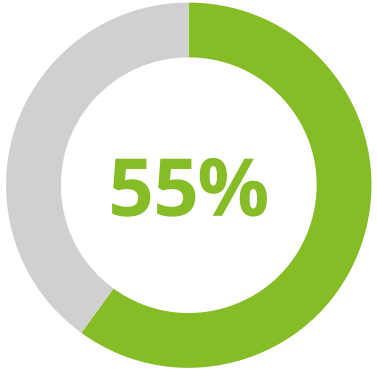
2017

In 2017, the sentiment around AI deployment was heady excitement over near-term value. More than 75% of executives said they expected AI would "substantially transform" their companies in three years or less. This transformation was coming in the shape of enhancing the features, functions, and performance of products and services, which 51% ranked as being in the top three intended outcomes.



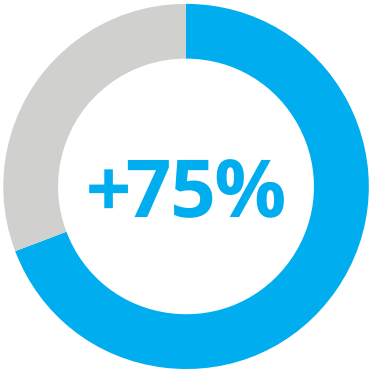
2018

These sentiments were a prelude for a blitz in pilots and implementations. By 2018, 55% of business leaders said their companies had launched six or more pilots (up from 35% a year prior), and 58% said their organizations pursued six or more full AI implementations (32% in 2017). Expanding cloud-based AI services helped fuel this activity, and the momentum was only accelerating. Nearly 90% of companies planned to increase AI spending in the next year.



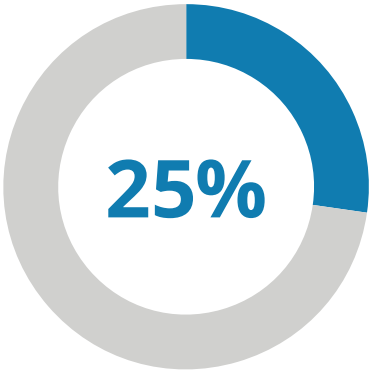
2020

By 2020, the sense of urgency in AI adoption had magnified. Nearly 75% of executives reported AI was very or critically important to the business, and nearly the same number said AI would be integrated in all enterprise applications within three years. To get there, about half of companies were buying more AI services than they developed in-house, and 30% pursued a blended strategy of buying and building.



2021

Which brings us to 2021, when we assessed the market as "rapidly transforming but not fully transformed." About half of companies said IT was one of the top two functions for AI deployment, followed by cybersecurity, production and manufacturing, and engineering and product development. More than 25% had achieved full-scale deployment of at least five AI applications.



Over the last five years, the exuberance for AI and the expectation of value evolved, with expectations becoming increasingly grounded in experience and lessons learned. Many of those lessons relate to how to affect change across the enterprise.

Investing in people, technology, and change

Back in 2017, as automation applications proliferated, there was uncertainty in the public square around whether AI use would eliminate jobs, replacing people with machines. However, nearly 70% of enterprises using AI anticipated limited job losses, with a generally positive assessment on job impacts within a decade. This expectation was prescient in as much as the following years revealed the mix of talent and technology that is required for AI programs at scale.

In 2018, companies increasingly sought ways to rapidly build capacity in the workforce and technology infrastructure, and a common approach was to turn to third parties to supplement business capabilities. Nearly 60% of companies expedited their access to AI by purchasing enterprise software with embedded AI. More than half co-developed AI solutions with outside partners, and there was also a preference for cloud-based AI-as-a-service models. With opportunity and competition mounting, nearly 90% of companies planned to increase AI spending.

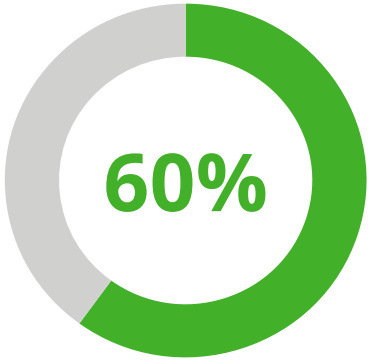
And they did...

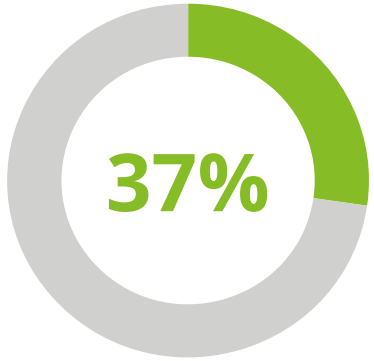
By 2020, more than half of companies reported spending more than $20 million in the preceding year on AI-related technologies and talent, and more than 70% expected to increase investment in the next year by an average of 26%. Technology and talent acquisition, however, were not the sole drivers of success. Indeed, as we found in 2020, businesses that made significant changes to workflows or added new roles were 1.5 times as likely to achieve outcomes to a high degree. What is more, businesses that invested in change management to a high degree were 1.6 times more likely to report that AI initiatives exceeded expectations and more than 1.5 times as likely to achieve the desired goals.

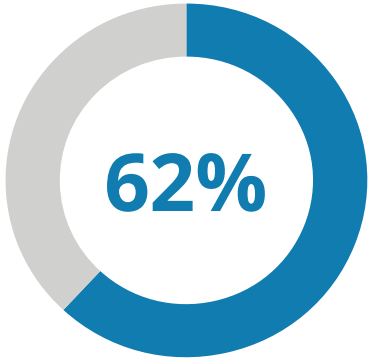
It should follow that investments in change management and process improvements would increase alongside tech and talent acquisition, but that wasn't what was reported a year later. In 2021, just 37% of business leaders reported significant investment in change management, incentives, or training activities to integrate new technologies into the enterprise activities. The consequence: slower, less successful transformations.

Discovering complexity and risks

While driving toward value and making investments, many companies discovered just how complex AI programs become at scale. Back in 2017, nearly 60% of companies expected industrywide transformation by use of AI within just three years. A year later, only 37% held the same view. AI-deploying companies began to realize that conceiving of the transformative value of AI was easier than making it real. In addition, business leaders were becoming increasingly aware of enterprise risks that could arise from AI deployment.

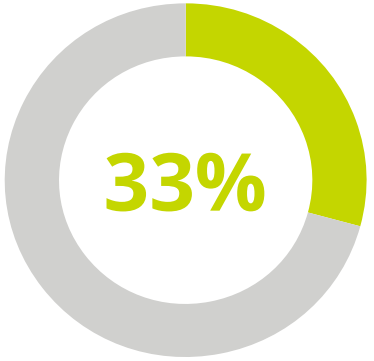






In 2020, more than half of company leaders reported that their organization was slowing AI adoption because of emerging strategic, operational, and ethical risks. The same proportion cited negative public perceptions of AI as factors in slowing or even stopping AI adoption. Meanwhile, governments worldwide were revealing new AI regulations or signaling their intention to do so. As a result, even as 62% of executives believed that AI should be heavily regulated, about the same proportion said regulations would limit AI innovation and that they held major or extreme worries over how regulations could impact their AI programs.

Efforts to mitigate AI risks, manage for trust, and prepare for regulations are all aided by operating models and processes that uphold quality and drive innovation, collectively known as MLOps. In 2021, we found that organizations following MLOps processes were twice as likely to achieve their goals and twice as likely to report being extremely prepared for AI risks. Mass adoption of MLOps, as well as other tactics, talent, and technology that support AI deployment, is still in progress. Last year, just 33% of business leaders said they had MLOps processes in place.



Turning the page on the next chapter

Today, investment continues with as much vigor as years prior, and the challenges in accessing talent, technology, transformed processes, and risk mitigation persist. Deloitte's ongoing surveys reveal that while companies are not shying away from AI investment, ROI is lagging. Whereas five years ago many business leaders felt certain that AI transformation would be as rapid as it is powerful, today, there is a more sober appreciation that simply accessing the technology is not enough. The alignment of people, processes, and technologies involved in AI deployment requires a methodical and often inspiring approach to adoption.

We are at an inflection point with AI, shifting from the age of adoption into the age of value. The technology is mature, businesses have made years of investments and learned hard lessons, and now comes the creative, studious work of pursuing the greatest potential value AI has to offer. This can mean focusing on use cases that can fuel and fund other transformations, targeting investment in leadership positions, and fully implementing MLOps processes across the enterprise.

Each business will find its own mix of strategies and tactics that enable the greatest value AI has to offer. There are sure to be discoveries, as well as setbacks, but our story with AI is far from over. To learn about what comes next, sign up to read Deloitte's latest report, the new *State of AI in the Enterprise, 5th edition*, available online.

Authors

Beena Ammanath
Executive Director
Global Deloitte AI Institute
Email: bammanath@deloitte.com

Deloitte.