



AI 360: insights from the next frontier of business

From the corner office to the corner store,
mapping the progress and challenges
of AI adoption



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AI adoption accelerates, but is everyone on board?

While the media continues to debate artificial intelligence (AI), businesses are clear. AI is here to stay. Companies around the world are adopting it to boost performance and insights, and are reaching the point where it is no longer just on the fringes of an organization but at its core - the neural wiring. The **second edition of Genpact's research series of C-suite and senior executives, consumers, and workers** shows remarkable progress in AI adoption and awareness since the [inaugural 2017 study](#).

Within large companies, a quarter of senior executives say they plan to fundamentally reimagine their businesses with AI by the end of 2021 (compared to 14% in 2017), and 54% will use AI to transform processes (up from 41%). But many people - consumers and workers - still have doubts.

Consumers worry about bias and discrimination from AI-based decisions, data protection, and the

job market for future generations. And even though workers say they are willing to be retrained and more businesses now offer reskilling opportunities, few employees say that they have seen them, and even fewer have taken advantage.

With media attention often focused on the negative impact of AI on workers and consumers, organizations must continue to change this narrative. To move beyond the hype, advanced businesses are taking practical steps to respond to lingering concerns, aligning AI to the business strategy, and dedicating time to deciding where and how to roll it out.

As businesses' attitudes toward AI evolve, they are more likely to see it as a means to a much larger end, says **Sanjay Srivastava, Genpact's chief digital officer**. "After all, it isn't just about AI. It's about transforming the business strategy, value proposition, and operations. AI facilitates that," he says.



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The future is instinctive

For companies that seek to stay relevant and thrive in markets that face constant disruption, AI plays a significant role. We believe the next generation of advanced businesses will have AI embedded as their neural wiring, allowing them to adapt instinctively and make accurate, real-time decisions for the benefit of their customers.

This organization of the future is an instinctive enterprise and has three hallmarks. With a connected ecosystem, interwoven with AI, it eliminates silos and strengthens external partnerships. It uses AI to spot

patterns and generate predictive insights, while also enhancing how its people work, enabling an adaptive workforce with purpose-driven careers.

The 25% of respondents who say their companies plan to reimagine their businesses with AI are the visionaries who are taking bolder steps toward becoming instinctive enterprises. For example, two-thirds of these visionaries already apply AI in at least four business functions, and 26% have it in seven or more (figure 1). We will draw on the experiences from these visionaries throughout the report.

Where organizations are adopting AI

In which of the following areas is your company using AI?

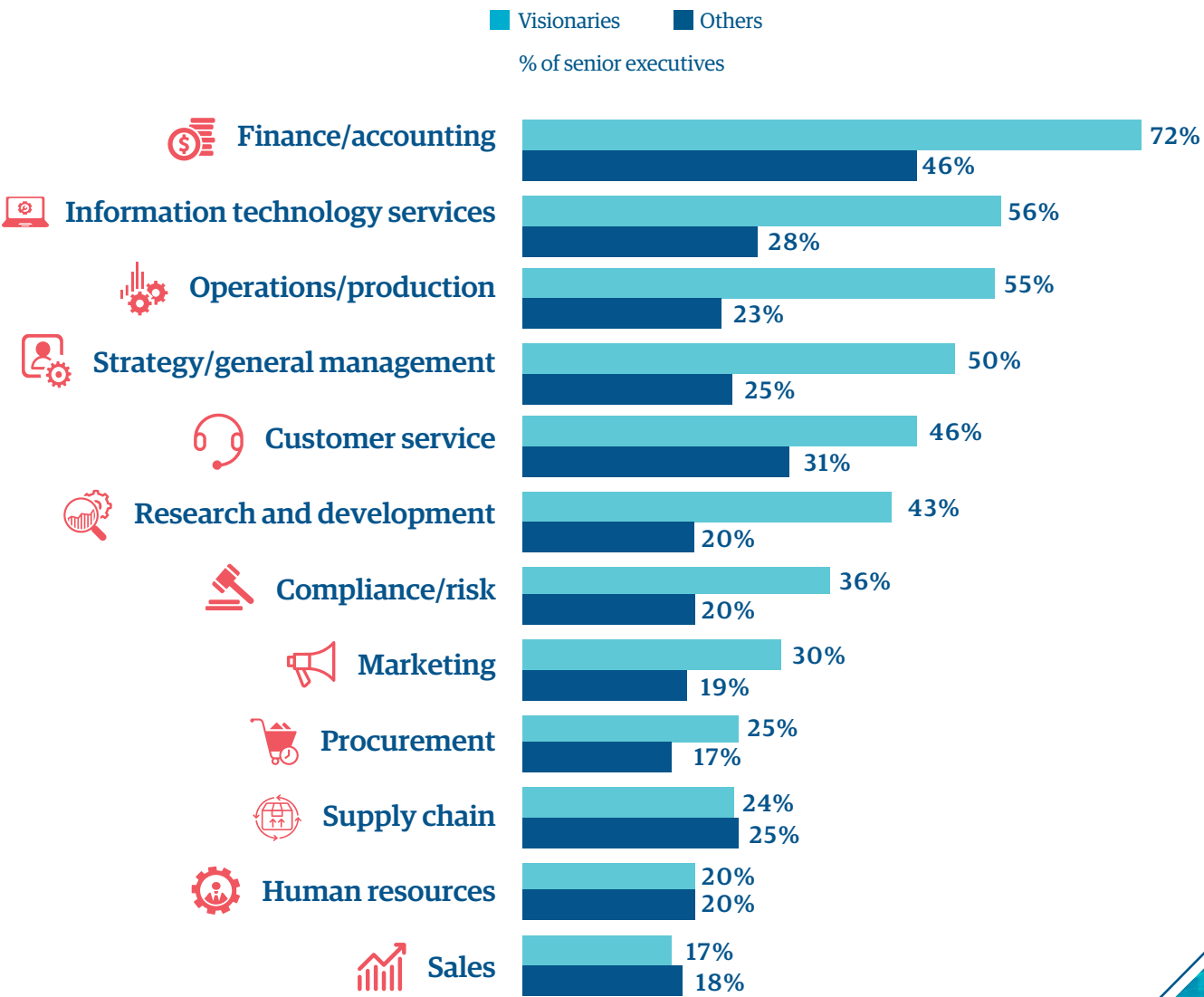


Figure 1

Senior executives say performance eclipses cost savings as the biggest payoff

With the growth of AI adoption, companies are generating greater impact and have higher expectations (figure 2). For example, when they were asked about the biggest benefit from AI, improved ability to leverage data and analytics rose to the top (37%), compared to fifth place in a similar ranking of AI benefits in 2017. This reflects how companies are getting a better handle on their analytics strategies and **developing more sophisticated algorithms that light up dark data**.

The value of better data visibility also supports the second biggest areas of impact: collaboration and improved processes at 35% each. In 2017, senior executives cited cost reduction as the top benefit, followed closely by improved customer experience and more efficient processes. But in the current study, two purely financial indicators - reduced costs and increased revenues - stand at the bottom of a list of nine potential benefits.

Feeling the impact from AI

Where is AI generating benefits for your business?

■ Now ■ In three years
% of senior executives

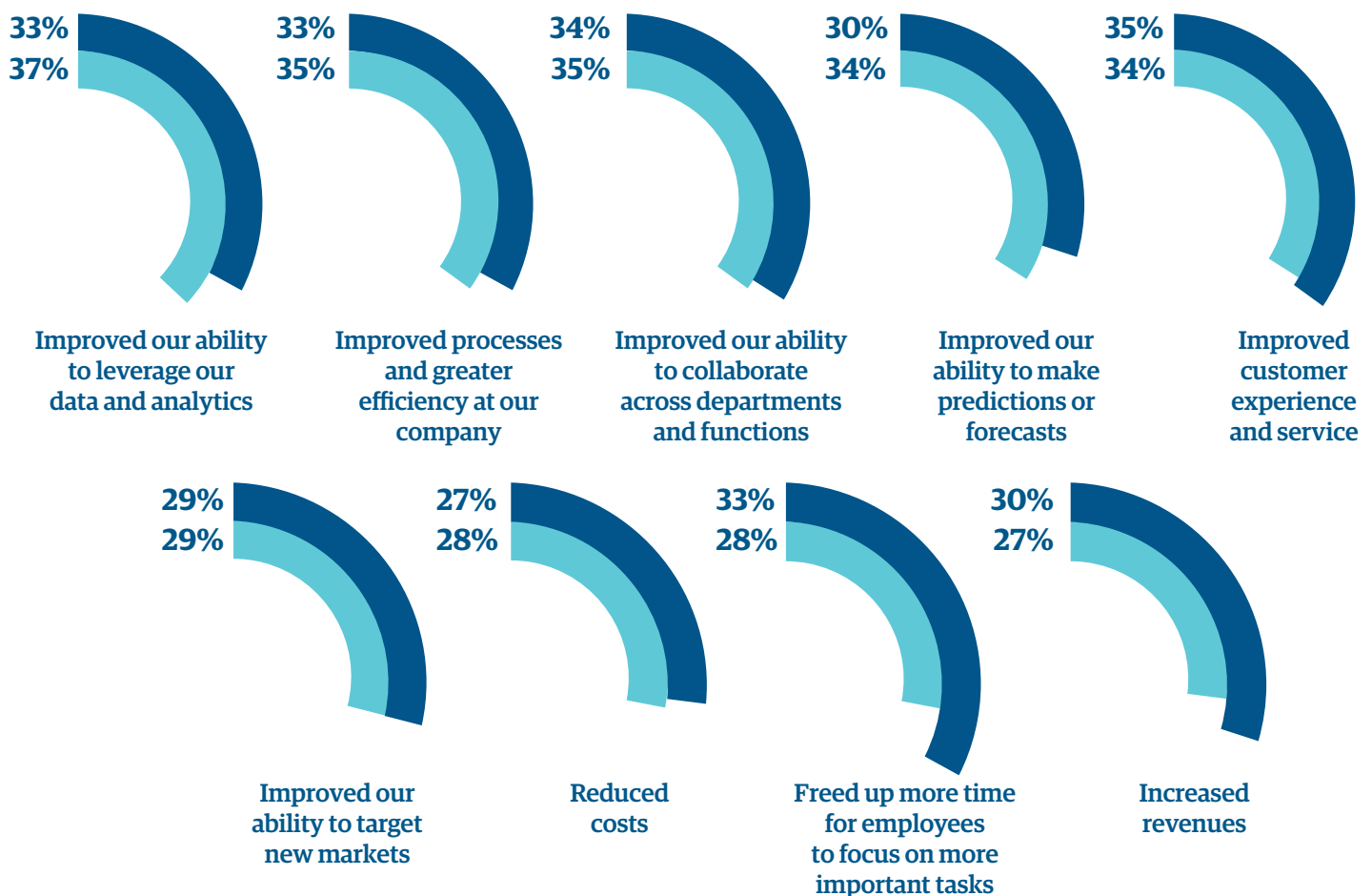


Figure 2

A game changer: from process improvement to prediction

Robert Pompey, senior vice president, commercial credit management at TD Bank, a US financial institution with operations on the East Coast, says these findings on impact coincide with his own experience. He says AI is making a difference in process functions, such as early-warning mechanisms in the credit cycle.

“Process functions have become a primary focus for us,” Pompey says. “In the past, we were touching every [loan application] and doing a deep analysis of each one to understand credit histories. Now we’re largely just doing exception processing manually. Using AI, we can be more predictive about client behaviors that could lead to a potential default or credit risk. TD Bank is also leveraging AI tools and machine-learning capabilities with documents to deal with financial statement spreading to make credit decisions faster.”

Pompey adds that while the firm recognizes these functional improvements, the impact is also being felt in the institution’s commercial credit workforce and in the customer experience. “Anti-money-laundering activities are another great example of

the transformational properties of AI. Investigative transactional reviews that used to take days can now be completed in hours and/or minutes using forms of AI – a game changer. We’re also increasing our ability to mitigate fraud – and **that translates into an improved customer experience, even if customers aren’t aware** that we’ve created a better and safer environment for them.

“Then there’s speed to market. Customers are expecting faster credit decisions and banks are driving this change. And, finally, we can now enhance our employees’ jobs by elevating their roles to higher levels of activity beyond data entry or other skills and requirements. Those are all developments made possible by technology and AI.”

Executives expect the trend for enhancing functional performance with AI to continue into 2021. They also anticipate that better customer experience will remain a top benefit. And they believe freeing up time for employees to focus on more valuable tasks will continue to increase in importance.



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Robert Pompey, SVP, commercial credit management, TD Bank

Pushback falls away and shifts from the corner office to entry-level workers

Another key development is that resistance to AI implementation has sharply diminished since the 2017 study. About 58% of senior executives now say there is no individual or group resisting the adoption of AI, compared with 21% previously.

Notably, the proportion of executives who say that they perceive the strongest resistance from the top (C-suite, board, or upper-management) plummeted to only 15% from 51% in 2017. Srivastava says this isn't surprising because **executives are now more likely to see and understand the benefits of AI**, so they are more likely to embrace it.

At the same time, though, respondents are reporting greater resistance from entry-level workers, a number that has jumped significantly to 19% from 5% in 2017. Indeed, the AI visionaries are more likely to report

pushback (41%) from these employees. As companies, especially those most advanced with AI, extend the technology across the organization, entry-level workers – a group that typically knows less about AI or how to implement it – are getting exposed to it more.

In addition, senior executives often have unrealistic expectations from AI, expecting an Alexa-style experience within weeks or months that employees can't deliver. For this reason, the next vital phase of change management will occur among the entry and mid-level ranks, where much of a company's crucial work gets done.

On the whole, however, consumers and workers have become more accepting of AI, in part because they are now more familiar with it. Yet pockets of concern remain that AI proponents need to address.



The next vital phase of change management will occur among the entry and mid-level ranks.

Consumers more open to AI but have doubts that businesses can't afford to miss

Consumers are generally more at ease with AI than they were in 2017. The proportion who say that AI has made their lives at least a little better rose to more than half (53%), compared to about a third (34%) in the previous study. Only 29% of people say AI makes no difference in their lives, falling from 41% in 2017.

But acceptance is still far from widespread. Only 15% of consumers say AI has made their lives much better. And 37% say either that AI does not personally benefit them or that they don't know if it does. Broader acceptance is held back by several specific concerns that businesses do not always fully understand.

Greater willingness to share data, but reservations remain

Consumer-facing AI applications rely on users' data to personalize services and improve the customer experience. But despite many well-known businesses suffering high-profile data breaches recently, consumers have become more open to sharing their data. When asked if they are comfortable with companies using AI to access personal data to improve their customer experience, 54% say they are (figure 3), an increase from 30% in

2017. That said, 46% still have concerns, and more than half (52%) think that the government should be doing more to protect their data, although this has dropped from 59%.

"There are two things companies have to provide consumers with when they use their data," says **Kristian Hammond of Northwestern University**. Hammond directs the school's CS+X initiative, where



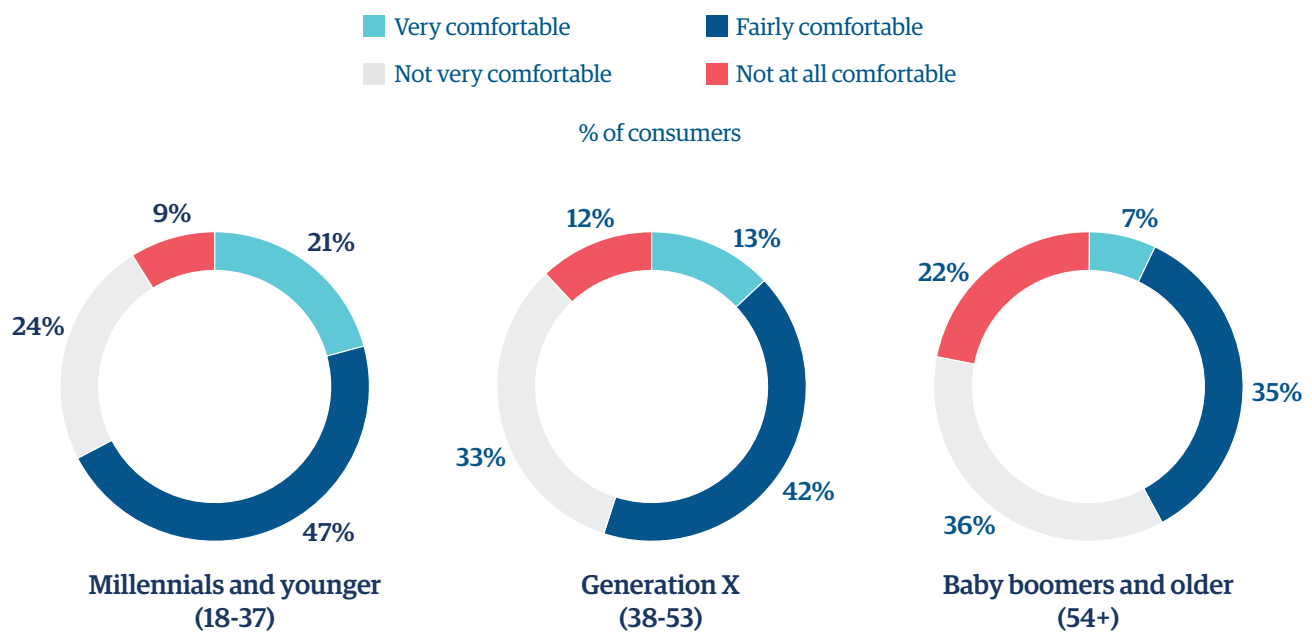
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students combine a computer science curriculum with another subject that they are passionate about. A computer sciences professor himself, he also heads Northwestern's Master of Science in Artificial Intelligence programs.

"One, companies have to be incredibly transparent about how they're using the data and who gets to have access to it," he says. "And, two, they have to be more vigilant about protecting it. There are always going to be people ahead of the curve who can hack into systems, but the reality is that more can be done to protect data so that if it does slip out, it doesn't slip out completely."

AI and your personal data

How comfortable are you with companies using AI to access your personal data to improve your customer experience?



Percentages may not add to 100% due to number rounding

Figure 3

Confronting AI bias is a major challenge for all

While there is greater openness among consumers about AI accessing personal data, a large majority (78%) expect companies to actively address bias and discrimination from AI, fearing it can cause them harm. For example, some systems that identify candidates for recruitment or promotion have been shown to be biased against women because the algorithms are based on data from when men were prevalent in senior roles.

“We can take the approach based on historical data or we could diversify by using other AI techniques,” says Srivastava. For example, when finding the right team for a candidate, instead of using algorithms that inadvertently favor a candidate’s face, race, religion, or résumé, recruiters can expose them to a series of photographs and, according to the choices they make, use algorithms to indicate the best kind of team for each person. “That’s a very different way to use AI for recruitment,” says Srivastava.

Financial services firms, for example, have already taken steps to prevent bias from entering their systems and affecting their customers.

“From the commercial credit management standpoint, if we can’t explain how the technology works, we’re not touching it,” says TD Bank’s Pompey. “It’s critical that we understand the algorithms before we implement them. We need a clear picture of how they operate. Then we have to be able to communicate that information to our employees to ensure they’re being transparent with our customers, too.”

More than two-thirds (67%) of all consumers say they are at least somewhat concerned about AI discriminating against them in the way it makes decisions. And there are only minor differences among age groups, ranging from 68% for Gen-Z to 69% and higher for baby boomers and older generations. In other words, AI bias is a serious issue for nearly everyone, which calls for urgent attention from companies that deploy AI.

The good news is that nearly all companies say they are addressing AI bias, but, for the most part, their efforts have not been aggressive. Nearly all executives say that they have taken at least one action to combat AI bias, and about half have taken more



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Robert Pompey, senior vice president, commercial credit management, TD Bank

than one. But most firms have only begun to address the bias issue. Just 34% of all companies say they have established a comprehensive governance and internal control framework to manage AI bias. Most of the others have taken smaller steps, such as using diverse teams to eliminate particular biases, discussing the potential of AI bias with employees who use the data, and modifying algorithms to eliminate particular biases. Once again, the visionaries – the senior executives from companies with deeper plans for AI – have made the most progress here (figure 4).

Rob Laubacher, executive director at the MIT Center for Collective Intelligence, shares an example of bias that could have had disastrous effects.

“There was a research group using machine learning to identify pneumonia patients needing special attention,” he explains. Yet asthmatics, who are in particular danger from pneumonia, were not identified as needing extra attention within this group. “It turned out that doctors addressed these cases right away, as they knew asthmatics were at higher risk, so they were already getting additional help. But because the algorithm didn’t know that, it would have told hospitals to ignore that class of patient. In this case, the researcher told the hospital not to use the algorithm because he did not understand the reasoning behind it. Companies would do well to use similar caution.”

Addressing AI bias

Which of the following steps has your company taken to combat AI bias?

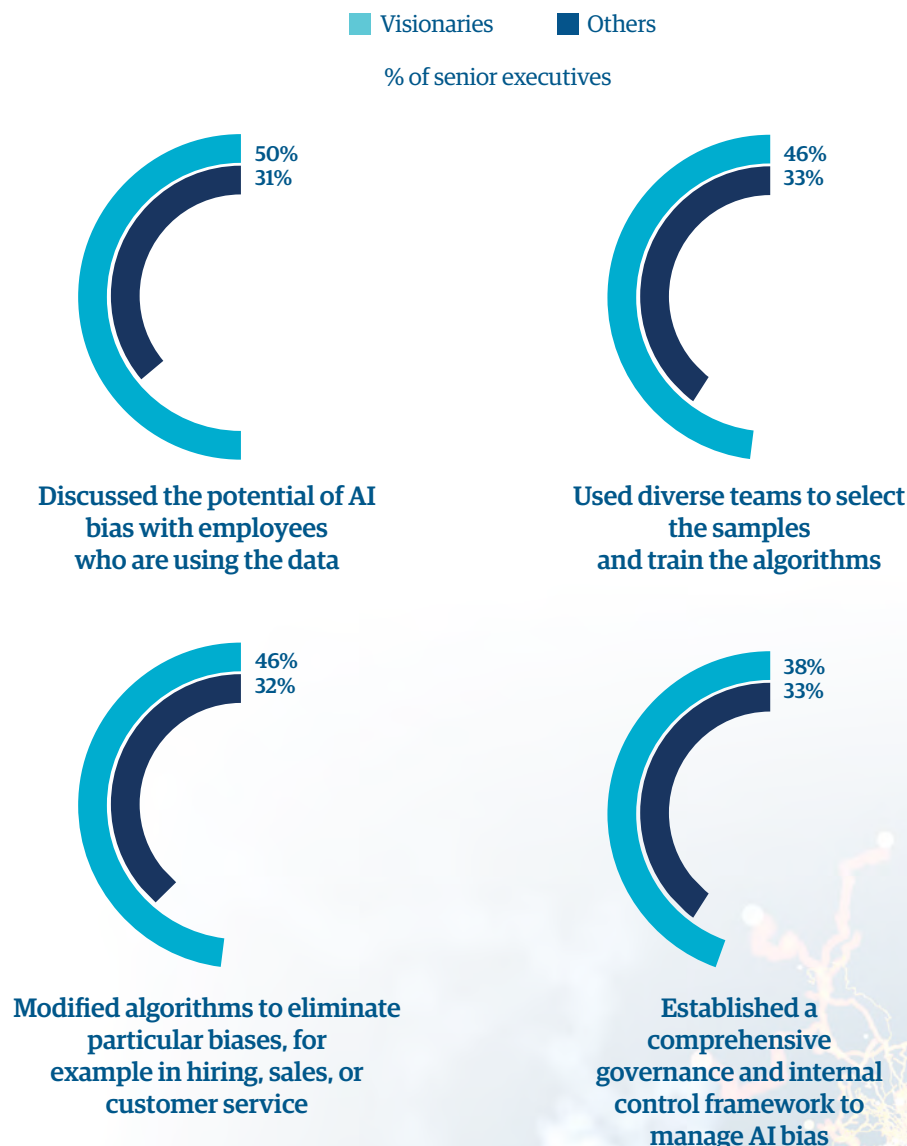


Figure 4

To bot or not to bot?

Another major disconnect: Senior executives may be making decisions about the use of customer-facing bots without fully understanding consumer preferences.

More than 86% of senior executives believe customers will prefer to be served by a bot than a call center agent by 2021, a significant increase from 38% in 2017. Moreover, 45% strongly believe this to be the case. But the consumer perspective is much different and has hardly changed from the previous study: in 2017, only 12% said they would prefer to be served by a chatbot in the next three years, compared to 15% in this latest study.

Laubacher argues that this disconnect may be because executives are responding to the cost-saving properties of bots, while consumers are responding to their perceptions or experiences with them.

"I wonder whether chatbots on their own are a flawed customer-service model and that's why only 15% of consumers feel that they're being well served by them," says Laubacher. "Chatbots were overhyped for a while - not just for tech support but also for marketing. But if companies can combine elements of self-service with a good web experience, using chatbots as intermediaries could work."

Many businesses have been quick to implement chatbots and AI, but **not all have taken an end-to-end view of the customer experience** that requires connecting often-siloed internal functions. To close the perception gap, companies can use techniques like service design and design thinking to identify where a chatbot will be most effective and make the customer interaction seamless.

Workers' comfort and concerns

Workers are also becoming more at ease with AI. For one thing, the expectation concerning job security is becoming more positive, with those who say that AI presents new career opportunities (36%) slightly outnumbering those who say it threatens their jobs (28%). But while they may not be worried about their roles, 43% of workers are concerned about jobs for their children and future generations, which could indicate they are still unclear on the long-term benefits of the technology.

And **even though workers are not overwhelmingly worried about losing their current jobs, their enthusiasm for AI falls short of senior executive expectations.** The vast majority (86%) of senior executives expect workers to be

comfortable working alongside AI by the end of 2021, and 26% believe so strongly. But while more workers say they expect to be at least fairly comfortable working alongside robots than in 2017 (62% today vs. 40% in 2017), workers are less emphatic than senior executives expect them to be. Indeed, only 17% say they would be very comfortable.

The survey findings suggest that companies can address this gap in expectations and continue changing the narrative by communicating with workers about the value AI will bring. A majority (59%) of workers say they would be more comfortable with AI if they understood it better, while only 11% disagree, pointing to a practical way to get workers on side with better communications and education.

A rise in reskilling but room to improve

Workers are very interested in receiving AI-related training. Fully 80% say they are willing to learn new skills to take advantage of AI in their current job, and 31% say they are very willing. Notably, this interest is strong across age groups. While Gen-Z and millennial workers are most interested at 87%, 67% of the boomer generation also say they are willing to learn new skills. Also, workers who have invested in training on their own time are more likely to say that AI is having a positive impact on their lives.

This willingness to accept training should be good news to companies, especially in an era of skills shortages. While businesses are moving in the right direction, there's still room to improve: in 2017, only 38% of senior executives said their companies offered reskilling options like training, seminars, and workshops, compared to 53% today. But few workers have been exposed to those options, as only 35% say their organizations offer AI-related training, and

fewer than one-quarter of workers say they have received training. Even among the tech-friendly Gen-Z and millennial groups, only 27% say they have taken advantage of training at their companies. Businesses risk missing a key opportunity to get employees ready for AI.

TD Bank's Robert Pompey says his team equates training with engagement, which he counts as a critical imperative. That's why he says the commercial credit division involves and trains workers at every stage of an AI initiative.

"We welcome employees to participate in the design, development, and testing of our AI deployments," he says. "We're transparent, so they understand when something is coming, know exactly what it is, and are clear about how it's going to fix their pain points. Our technologies focus on helping them feel more connected and being part of the transformation. That's how we get engagement."

The rising demand for 'bilingual' workers

When it comes to the skills and experience that businesses need to succeed with AI, Srivastava says both technical and industry or process expertise are crucial. If organizations have what he calls 'bilingual' talent - **workers who are confident moving between the fields of business and technology** - they are ready for the future workforce.

"The world will be at the intersection of those technical and business skills," he says. "And that's great

because today's workforce already has deep skills in one or the other of those languages, so we are not starting from scratch. You're just broadening people into the other language. When I evaluate AI maturity at companies, I don't look at how many data scientists they have. I don't look at how many process engineers they have. I try to find how many bilinguals they have. Because true success comes at that intersection."

Embedding AI as your neural wiring: the view from the visionaries

Having AI embedded throughout the organization is a core trait of an instinctive enterprise. And the senior executives who say their companies are planning to fundamentally reimagine their businesses with AI are ahead of the pack.

These companies - the visionaries - are on the road to becoming instinctive enterprises and are starting to exhibit the core hallmarks. They demonstrate how they are developing a connected ecosystem, as they strongly agree that they can easily share data across all departments (63% vs. 41% of other respondents) and find that AI helps them collaborate across departments and functions (36% vs. 33%). They also strongly agree that AI is improving their company's ability to make more effective business decisions (70% vs. 46%) and that it is freeing up time for employees to focus on more important tasks (34% vs. 25%).

Furthermore, they are more likely to say that their employees are willing to learn new skills to take advantage of AI (59% vs. 46% strongly agree). As such, these senior executives' organizations

are much more likely to provide employees with reskilling options, such as training, seminars, and workshops (81% vs. 44%).

These organizations are reshaping their businesses to thrive in the future. With AI as their neural wiring, they will be better set to evolve into instinctive enterprises, able to move markets, reinvent business models, and amplify human potential.

But to get there, they must first be very clear on which processes to apply AI to and ensure it will impact their business' strategy. They must also address consumers' doubts about privacy, bias, and AI-enabled services such as chatbots. Enterprises that undertake their own disruption must fully engage their employees in the journey by offering training and education on roles for future generations and be transparent about how new technologies will affect their customers. In a highly interconnected world, consumers' and workers' trust must be earned and renewed constantly, with each new platform, device, or algorithm companies introduce.

Making decisions

AI is improving my company's ability to make more effective business decisions

% of senior executives

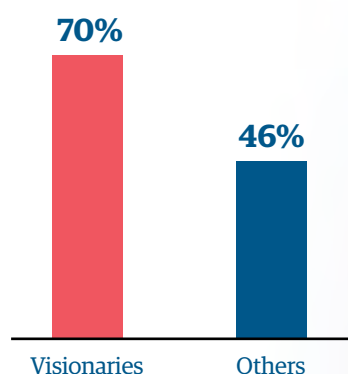


Figure 5

Cross-industry insights

AI is becoming ubiquitous across processes and functions, but each industry has its own priorities, areas of impact, and adoption challenges. See how your industry compares.

High tech

Reimagining their businesses

The technology sector ranks far ahead of other industries in its AI adoption. With pressure from companies such as Microsoft, Amazon, Alibaba, and Google, it's not surprising that more than 60% of high-tech senior executives say they are extensively implementing AI to reimagine their businesses, compared with the all-industry average of 25%. Technology companies are also more likely to have adopted a greater number of AI technologies than other sectors.

This industry has applied AI more extensively in nine out of twelve functions listed in the survey when compared to the cross-industry average (figure 1). The three exceptions are supply chain, human resources,

and marketing. And at 61%, the industry's use of AI in finance and accounting is second only to banking/financial services.

This extensive use of AI is paying off: **48% of high-tech executives say they are achieving very positive outcomes, compared with an average of 25%.** They are more likely to expect AI to generate revenue increases. And 48% also strongly agree that employees will be comfortable working with robots by the end of 2021 vs. a 26% average (figure 6). Yet at the same time, technology executives point to greater pushback against AI adoption, especially from entry-level workers (39% vs. a 19% average).

Comfort with robots

Will workers be comfortable working with robots by the end of 2021

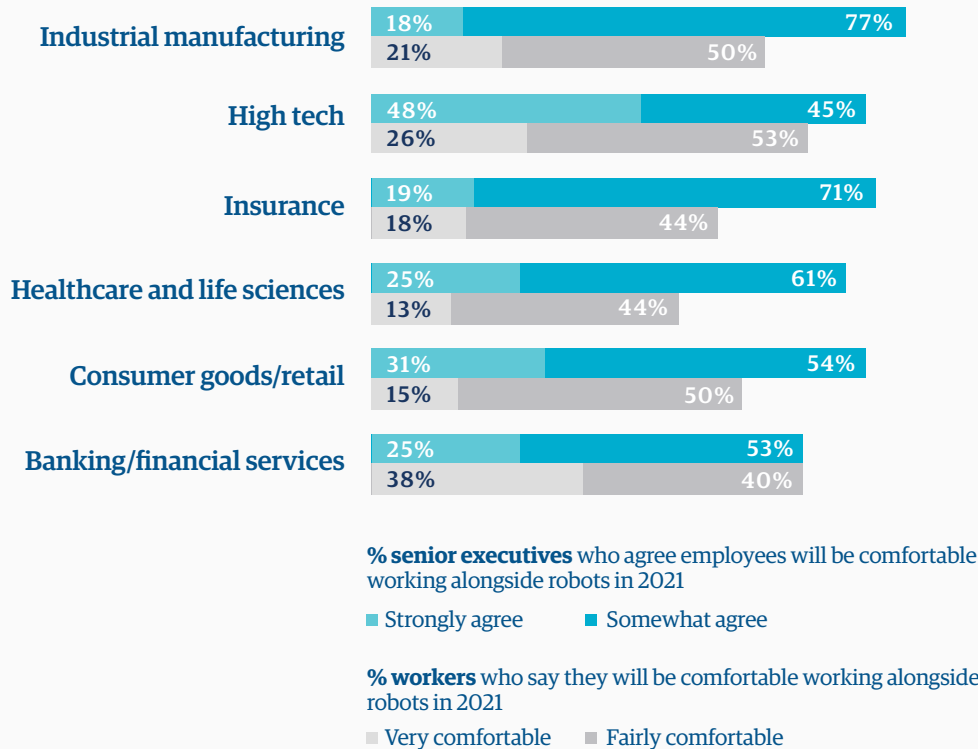


Figure 6

Insurance

High expectations that customers will prefer bots

In the insurance sector, executives are much more likely than their counterparts in other sectors to strongly agree that **AI is improving their ability to make more effective strategic business decisions** (75% vs. 52%). Moreover, 54% strongly agree that they can easily share data across all departments, second only to the high-tech sector.

Freeing up time for employees to focus on more important tasks is another key benefit where insurance stands out. Nearly half (46%) of executives

cite this as one of the three top benefits of AI, compared with an average of 28%.

Insurance also stands out for high expectations that customers will prefer bots over agents in 2021, with 71% of executives agreeing strongly, compared with an average of 45%. Improved customer experiences are a strategic lever that many insurers have invested in heavily. AI offers enhanced opportunities if they apply it correctly.

Industrial manufacturing

Ahead on technology but behind on impact

Already well recognized for their use of technology for production, industrial manufacturing companies are also relatively intensive users of computer vision (44% vs. an average of 35%), although less so than the high-tech sector (48%). They are also second only to the tech industry in their use of machine learning (41% vs. 38% across industries) and natural language processing (43% vs. 33%).

The sector has not, however, achieved strong outcomes from AI adoption relative to most others. Only 28% of senior executives strongly agree that

AI enables more effective business decisions, compared with an average of 52%. **The industry also lags behind other sectors by a wide margin in providing reskilling options**, with only 37% saying their company does so, compared to high tech (77%) and the cross-industry average (53%).

When it's well applied, manufacturing firms can reap significant rewards from AI, including improved product design, timely maintenance, supply chain operations, and worker safety.

Consumer goods and retail

AI for sales and predictive insights

Not surprisingly, the consumer goods/retail sector has applied AI to the sales function more than any other sector (32% vs. 17% for all industries), and customer service is second only to high tech (40% vs. 34%

overall). It is **tied with the technology sector as the biggest user of predictive analytics** (45% vs. 38% across industries), which reflects the sector's need to accurately predict supply and demand.

Banking and financial services

Big spend on AI but lower impact

The banking/financial services industry stands out as the top spender on AI technology. **Forty-two percent of senior executives in banking say their businesses invest \$10 million or more annually** on AI, compared to an average of 26% in all other industries. Even then, executives aren't sure they're spending enough: only 38% strongly agree that their organization allocates sufficient resources toward AI-related technologies, and only consumer goods/retail is lower.

But despite the big expenditure, banking/financial services is only average in achieving very positive outcomes from AI (26%) and ranks second-last behind industrial manufacturing in strong agreement that AI is improving the organization's ability to make more effective strategic business decisions.

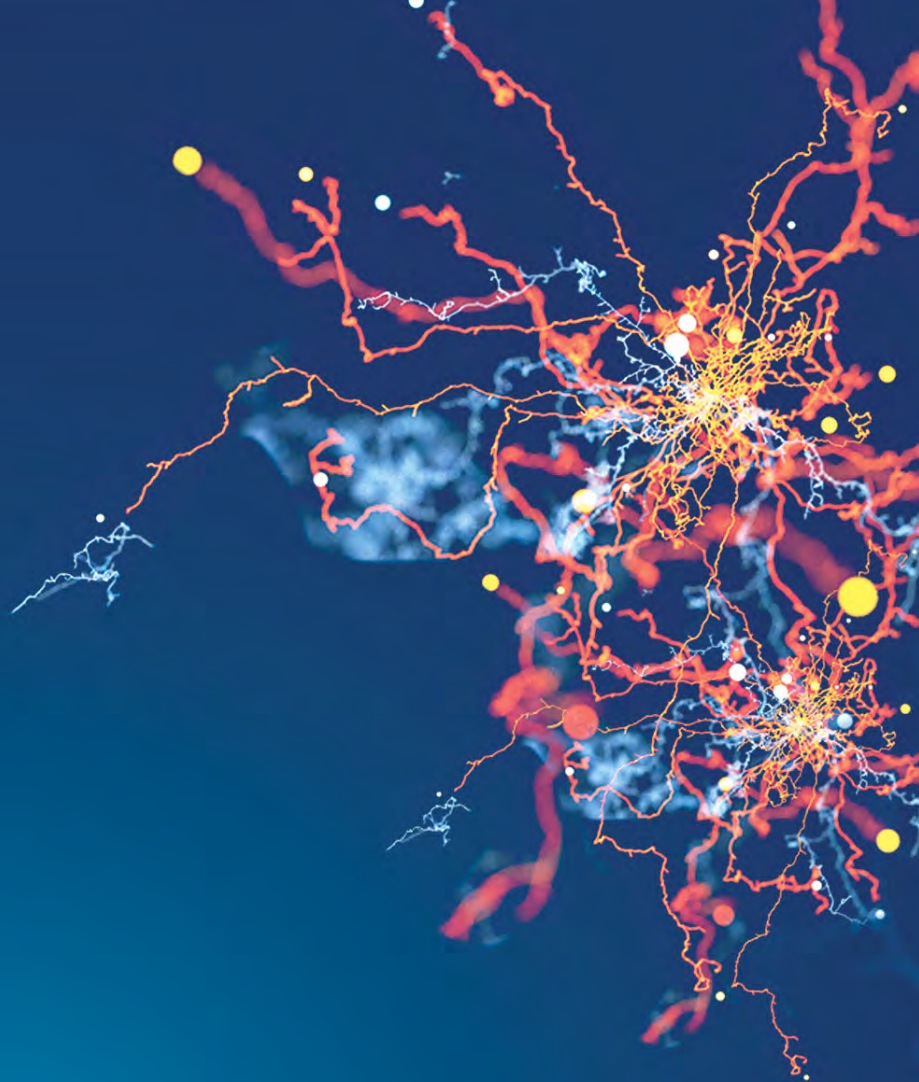
About the research

Genpact worked with Wakefield Research to conduct a study between November 20 and December 3, 2018. The survey of C-suite and senior executives included 500 executives in the United States, United Kingdom, Australia, and Japan, and was conducted via an email invitation and an online questionnaire. Respondents were from the financial services, healthcare, life sciences, high tech, consumer packaged goods, retail, and industrial manufacturing industries, and worked at companies with at least \$1 billion in annual revenue or at least \$50 billion in annual revenue for financial institutions.

Wakefield Research also used an email invitation and online survey to poll 4,000 adults in the United States, United Kingdom, Australia, and Japan, of which 2,103 were working at least eight hours a week.

In 2017, Genpact conducted similar research, working with research firm YouGov, to survey 5,179 people in the United States, United Kingdom, and Australia. Of the total survey population, 2,795 were employed at least eight hours per week. YouGov conducted the fieldwork online between August 15-30, 2017.

In a separate study conducted in June 2017, Genpact and Fortune Knowledge Group surveyed 300 global senior executives. Respondents were from the financial services, healthcare, life sciences, high tech, consumer packaged goods, retail, and industrial manufacturing industries, and worked at companies with at least \$1 billion in annual revenue or at least \$50 billion in annual revenue for financial institutions.



About Genpact

We drive digital-led innovation and digitally-enabled intelligent operations for our clients. Guided by the experience that comes from running thousands of processes for Fortune 500 companies.

We think with design. Dream in digital. Solve problems with data. Obsess over operations and sweat the small stuff. All 87,000 of us. From New York to New Delhi (and 20 countries in between), we have the end-to-end expertise to connect every dot. Reimagine every process. And renew your ways of working. Because we know that rethinking each step from start to finish will change your business for the better.

Wherever you want your business to go, we'll focus on getting you there. So you can focus on your big picture, big returns or next big thing. Whatever it is, we'll be there with you - putting data and digital to work to create bold, lasting results.

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