



Human-centered artificial intelligence

An augmented workforce is your key to success

Executive Summary

If you're struggling to apply artificial intelligence to your business, take heart: You're not alone.

While there's no hotter topic at the intersection of business and technology than AI, Avanade research¹ shows that 88% of global business and IT decision-makers say they don't know how to use AI, and 79% say that internal resistance limits their implementation of it.

It doesn't have to be this way. Human-centered AI, which focuses on augmenting the workforce to improve customer and employee experiences, can contribute directly to achieving business goals.

This point of view discusses the ways your organization can take advantage of a human-centered AI approach, including redefining jobs and creating a digital ethics framework.

88%

of global executives believe companies incorporate AI because it's a hot topic, but they don't know how to use it.

¹ "Avanade Hot Topics Survey," QuickRead report, Wakefield Research, December 2017

The AI revolution is here

“In the new world, it is not the big fish which eats the small fish, it’s the fast fish which eats the slow fish.”² Major disruptions in the digital landscape come at an ever-quickening pace, from the PC revolution to the internet boom to the rise of mobile-first technologies. The latest, AI, is already here.

AI is evolving rapidly to exploit the market’s unprecedented processing power, economics of the cloud, vast amounts of data, commoditization of advanced analytics and faster network connectivity. As a result, AI is available more widely and cost-effectively than ever before – and you can count on its adoption accelerating.

AI isn’t a single technology, but a growing collection of advanced technologies that allow machines to sense, comprehend and act. Companies typically adopt AI in stages, which can include:

- **Robotic process automation (RPA)**, which a company may use to get started with AI. Organizations can gain experience and quick wins by capturing early data sets and automating high-volume, repetitive manual tasks and business processes, such as invoice processing and exception handling.

- **Intelligent automation (IA)**, which is a logical next step from RPA. IA enhances automated processes with humanizing forms of interaction that can include cognitive services like natural language processing, computer vision and text analytics.
- **Advanced analytics**, which leverages techniques to uncover insights, make predictions and use data in innovative ways.
- **Advanced AI**, which uses machine-learning technologies, including deep learning, to enhance the abilities of traditional workers. With deep learning, organizations can deliver new product capabilities and customer experiences. For example, we worked with an oil and gas client to show how a voice interface could be used in the field to report health and safety incidents and potentially predict future incidents.

² Klaus Schwab, founder and executive chairman, World Economic Forum

Case study

Can a robot make banking more personal?

Yes it can, if it’s “Pepper,” the 4-foot humanoid robot concierge at branches of Canada’s [ATB Financial](#) bank. Avanade and Softbank Robotics America teamed up with ATB to develop Pepper, which greets customers, recommends products and services, poses for selfies and even dances. Customers love Pepper; foot traffic is up at branches with the robot, and the bank wants to add more AI features to it.

Not just AI. *Human-centered AI*

Companies that seek to implement AI need to be aware of what Jeanne Ross, principal research scientist at the MIT Center for Information Systems Research, calls “the fundamental flaw in AI implementation.” According to Ross, “Companies that view smart machines purely as a cost-cutting opportunity are likely to insert them in all the wrong places and all the wrong ways.”³

That’s because many companies mistakenly view AI as a replacement for human workers. But AI shines when it augments human workers and enhances business outcomes. By taking on standard tasks, AI gives human workers more time to focus on complex work that requires human attention, such as difficult or sensitive interactions with customers. To take an example, AI can identify possible tumors on X-rays, enabling radiologists to more quickly focus on the suspect areas for verification and treatment recommendations.

Using AI in ways that make employees more successful or that boost customer satisfaction is what Avanade calls human-centered AI. It puts employees and customers first, ahead of the technology that supports them.

For example, with a typical AI approach, organizations may replace call center agents with a chatbot or digital agent to automate and streamline responses. But this can lead to less-than-ideal customer experiences.

With a human-centered approach, AI technologies are used to augment the call center agent to identify the right information and find and expedite answers, resulting in better customer experiences.

85%
of global executives say
companies must manage
both humans and machines
to successfully deploy AI.

³ “The Fundamental Flaw in AI implementation,” Jeanne Ross, MIT Sloan Management Review, July 14, 2017, <https://sloanreview.mit.edu/article/the-fundamental-flaw-in-ai-implementation/>

The many triggers for AI

The way a company approaches AI depends on what has spurred its interest. Since 88% of global business and IT executives surveyed by Avanade say they are unsure of how to apply AI,⁴ it's understandable that executives have lots of questions and approach AI from many directions.

Here are some of the key concerns we hear from clients as they explore how AI can work for them – along with answers we've helped them to achieve.

How will AI impact my company's bottom line?

A major North American bank saved \$1.8 million a year by using cognitive services to enhance automation in its back-office processes.

How can I use machine learning to gain new insight?

A consumer goods company found that machine learning helped it more accurately predict its marketing spend and future sales for specific brands.

Is there a way to better understand my customers' behaviors and reduce churn?

An insurance company's high-value customers were leaving for competitors. By using an analytics platform, the insurer reduced churn by 65% and posted an 80% upsell success rate on cross-product promotions.

Can AI improve customer or employee experiences?

A large software company's help desk received an overwhelming number of incident tickets that required manual responses. The company used intelligent automation to route tickets more accurately, reducing incident resolution time by 50%.

Case study

Investment firm gains the advantage with RPA

A UK firm built its business on a simple, compliance-friendly online tool for independent financial advisers, replacing the paper forms that had been standard in the industry. But as competition increased, the firm knew it was time for another approach. Avanade used Blue Prism robotic process automation to automate a key backend process, enabling the firm to respond to its clients faster and more reliably.

⁴ "Avanade Hot Topics Survey," QuickRead report, Wakefield Research, December 2017

What's holding back wider adoption?

With so many potential benefits from AI, it's not surprising that many companies have already implemented some form of it, according to Avanade research.⁵

These executives aren't taken in by the common misconception that AI-assisted business processes are inevitably impersonal ones; 60% say that AI will help their companies' efforts to build an emotional connection with customers.

So, what's holding back companies from adopting AI on a wider scale? As mentioned earlier, most have significant questions about how best to use it. And 85% say that companies will never be able to successfully deploy AI if their leadership can't effectively manage both humans and machines. They're right about that; ineffective culture and change management are the leading reasons for AI failures. In another Avanade survey of global IT decision-makers, 79% said that internal resistance to change limits their implementation of intelligent automation, a key component of AI.⁶

60%

of global executives say AI will help their companies' efforts to build an emotional connection with customers.

Case study

Company discovers 27% incremental product revenue opportunity

A billion-dollar global cleaning-products company uses AI and cloud transformation to predict health inspections at its customers' sites with 90% accuracy. Avanade helped the company create the solution, which uses Avanade Modern Analytics Platform and a host of Microsoft Azure big data, analytics and cognitive services. The company can now clean up: It discovered a 27% incremental product revenue opportunity.

⁵ Ibid

⁶ "Productivity plateau: What's holding you back?" Wakefield Research for Avanade, 2017, <https://www.avanade.com/en-us/thinking/research-and-insights/intelligent-automation>

An augmented workforce is your key to success

Long game, short plan

To succeed with AI you need a long-term strategy for its development and use. Companies that truly embrace AI will change how they operate. They will take into account their employees and redefine existing job roles and create new ones. This can't be done overnight. AI is a long game. Here's how to get started.

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Get your data – and skills – in order

Since AI is rooted in data, you need good, non-siloed data to ensure your success.

You can't skip the major step of getting your data in order and expect to go directly to AI and achieve great results. On the other hand, don't get sidetracked by a quest for 100% clean data – that's unrealistic, too. What you need is the ability to cut across your business silos, enabling a holistic view of your data, which is critical for AI. And you need to consider the ethical issues that can arise when it comes to data use (more on that in the next section).

We see six steps around data and preparation for AI:

1. Take stock of your data landscape.
2. Understand how that data relates to your business goals.
3. Focus on the data elements that matter the most to your top concerns.
4. Train algorithms to derive answers from your data.
5. Operationalize data insights for use throughout the company.
6. Reiterate this process to expand more AI technology to address more of your business needs.

These steps are detailed in the Avanade guide "[Harness the power of analytics and AI to predict what's next: A 6-step practical guide to get ready for AI.](#)"⁷

You also need to consider the skill sets of your designers and developers.

Companies need to review and likely rethink their design constructs because interacting via a screen or interactive voice response (IVR) system is different from using a conversational mode. You would not, for example, simply pour the interface of an IVR system into an intelligent home assistant. To make this work, your designers need new skills – and new ways to think.

⁷ "Harness the power of analytics and AI to predict what's next: A 6-step practical guide to get ready for AI," Avanade, March 2018, <https://www.avanade.com/-/media/asset/point-of-view/predict-whats-next-with-analytics-and-ai.pdf>

Case study

Insurer provides better customer experience with IA

A [multinational insurance company](#) wanted to help its support team cut the average time to customer resolution. Avanade created the solution, which uses Blue Prism RPA to pick up customer emails and pass them to Microsoft Azure Cognitive Services for natural language processing. Blue Prism takes the results, creates new cases in the support management tool and sends responses to customers. Human agents focus on complex issues and responses.

Pay attention to culture and ethics

You need to take into account culture and potential privacy and security issues.

A strategic approach to AI includes building consensus, often by identifying areas in the enterprise with the least “cultural noise” and starting with them. Keep in mind that culture and change management are key success factors for AI.

You should also create a digital ethics council (Avanade has one) or other structures to address potential bias in AI algorithms and privacy and security issues that may arise with AI. The council should explicitly address not just how to connect all the data, but *whether* to connect that data. Concerns – ethical, competitive, regulatory or otherwise – may call for excluding some data from the AI platform. Developing a digital ethics framework that defines parameters can help you address these concerns.⁸

AI may be a long game, but regarding it *only* as a long game isn’t enough. You don’t take your time with a revolution; the companies that were slow to adopt earlier technologies such as the internet, mobile and cloud lost out to faster-paced competitors.

It’s not too early to get answers to your questions about AI, to identify opportunities for its use in your company and to experiment to see what works – and what you can do to make it work better. Think of AI as a long game that needs a short plan. That short plan can include identifying potential quick wins, keeping pilots simple and educating employees as you go.

Avanade for AI: By the numbers

We work with clients to help them gain the full value of human-centered AI. Our expertise includes:



400 AI practitioners



300 cognitive service experts



4,200 business excellence and automation experts



6,000 automations to date for 350 clients



3,500 analytics professionals



550 analytics systems enterprise clients



1,000 data engineers

⁸ “AI drives critical need for a digital ethics framework,” Julia Jessen, Avanade Insights, Feb. 23, 2018, <https://www.avanade.com/en/blogs/avanade-insights/artificial-intelligence/ai-and-digital-ethics>

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Get smarter about AI

Want to learn what a human-centered approach to AI can do for your business and what you need to do to succeed?

Contact us at
www.avanade.com/ai.



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