

What is artificial intelligence? Defining it in business — a CTO guide

In this guide, seven CTOs and AI experts provide their view on what is artificial intelligence; and how they define the technology in the context of business. As part of Information Age's Artificial Intelligence Month, we are providing three CTO guides over the coming weeks on artificial intelligence: what it is, the industries most impacted and implementation best practices.

In the dictionary, artificial intelligence is defined as the theory and development of computer systems able to perform tasks normally requiring human intelligence, such as visual perception, speech recognition, decision-making, and translation between languages.

This guide will focus on what is artificial intelligence, in the context of business, with insights from CTOs and AI experts.

The exploration of intelligent behaviour

[Harald Gölles](#), the CTO of omni:us, says that — broadly — “artificial intelligence (AI) is the exploration and development of intelligent behavior in machines”.

“Businesses can rely on dedicated AI solutions to take automation to the next level and solve complex practices that are often too complicated and costly to maintain.”

Just an algorithm

[Hari Mankude](#), CTO at Imanis Data, believes that at this point, [AI is just an algorithm](#).

“There's little ‘intelligence’ in terms of autonomous, experience-based decision-making. The science behind it is complex, but the real importance here is that businesses are beginning, after years of doubt, to trust AI (in this case, machine learning) to manage the enormous scale and granularity of big data that enterprise otherwise is really struggling to protect and analyze.”

“I think we're truly creating a wave of early adopters who have taken the plunge, and I think the decision-making behind that is interesting.”

The human brain and beyond

[Kalyan Kumar](#), Corporate Vice President, and CTO at HCL Technologies, explains that in simple terms, “AI leverages self-learning and healing systems that use multiple tools like data mining, pattern recognition, and natural language processing, and operates very similarly to the way a human brain functions.”

“With huge amounts of data being churned out of modern-day systems, it is impossible for human brains to consume all that data and make sense of it to enable further business decision making. This is where AI and machine learning come to the rescue, by doing what is impossible for a human being, like correlating, predicting, forecasting, and gathering knowledge at scale, to drive the business forward.”



Written by [Kalyan Kumar](#), CVP & CTO IT Services at [HCL Technologies](#)

Useful decisions

[Ed Bishop](#), co-founder and CTO at Tessian, suggests that artificial intelligence can be used to describe computer systems that are able to receive inputs and make relatively useful decisions based on those inputs.

“For example, AI could be used to identify features of a photo. As a result, insurance companies can use it to evaluate customer-submitted photos of car damage. Combined with the ability to store and process much larger volumes of data, AI allows businesses to extract significantly more value from the many forms of information related to their organization.”

A spectrum of technologies

[John Gikopoulos](#), Global Head for automation and AI at Infosys Consulting, says it is important to [define what artificial intelligence is](#) because the technology is becoming a bit of a buzzword.

“When we talk about AI, we’re talking about a spectrum of technologies ranging from advanced analytics and the ability to predict outcomes, to robotic process automation (RPA), through to natural language processing (NLP) and deep learning.”

“This is the “laboratory” definition of AI.”

“In the business context, it’s about how these technologies are brought together to help businesses drive value by solving complex organizational challenges in a smarter, faster, more efficient way. The question that any business must ask about their AI deployments is this: Is the technology helping us to make better-informed decisions? That, ultimately, is what AI means for business. The process automation, the ability to learn, the data crunching – these are all the functions rather than the goal of AI.”

“As with any major strategic undertaking, AI should have specific, measurable, achievable, realistic and time-bound objectives. If the combination of technologies described above can deliver these, then it’s a true AI system.”

AI: Part of everyday life and reliant on data

[Greg Hanson](#), CTO and VP at Informatica, believes that AI is now ubiquitous in our everyday lives.

“With the continuous advances in machine learning, AI is increasingly able to apply human decision-making capabilities to a plethora of tasks, including organizing, indexing and transforming large volumes of complex data.”

“AI is enabling businesses to transform in ways they could never have imagined. In recent years, there has been a widespread investment in analytics and predictive outcomes, but companies need to look deeper than just decisions and predictions. From a business perspective, AI can be used to harness and tackle data challenges, to ensure that it makes good quality decisions and provides solutions.”

“The success of AI engines is wholly reliant on the quality of data – you cannot just pump vast quantities in and expect a perfect outcome, because that will not happen. It sounds simple, yet businesses’ face many challenges here: combatting fragmentation of data, managing its immense volume and scale, and automating the benchmarking and correction of data to ensure it is high quality, to name a few.”

“Ultimately, a common data strategy that integrates AI into the quality and management of data in the backend is just as crucial as investing in AI to generate output in the first place. If businesses keep this front of mind when deploying AI projects, they are on the right track for success in digital transformation.”

A non-linear impact

[Paul Clarke](#), CTO at Ocado, says that AI, machine learning and robotics are going to have a very non-linear impact.

“That’s what makes this so different from maybe similar technological revolutions that you can point to in the past. The non-linear nature of how those technologies will impact us means that we have to respond in a very non-linear way too.”

“We need some big thinking here; big, joined-up holistic thinking that’s quite disruptive.”

“I think we need to force ourselves to think bigger than maybe we’re used to doing, and that’s true as individuals, it’s true as businesses and institutions and it’s true as governments.”