

# What is intelligence without trust?

Innovation matters: insights on the latest disruptive technologies



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The EY logo, consisting of the letters 'EY' in a bold, white, sans-serif font, with a yellow diagonal bar above the 'Y'.

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## Why is AI different from other technologies in terms of trust?

AI will eventually transform many enterprises and industries. But its pace of development has been affected by a lack of trust. Today, without mature risk awareness and the right frameworks and controls, applications of AI have not evolved much beyond proofs of concept and isolated solutions.

Many EY clients are using AI in low-risk areas, often only for insights. If the technology is replacing human decision-making, it's doing so under human oversight. This is appropriate while AI autonomous decision-making is in its infancy, but use cases for AI are accelerating rapidly, and over time, AI will be responsible for making more decisions, and decisions with larger impacts.

Unlike other technologies, AI adapts on its own, learning through use, so the decisions it makes today may be different from those it makes tomorrow. It's important that those changes are continuously monitored to

validate that those decisions continue to be appropriate and high quality and reflect corporate values.

For instance, risk can be introduced when AI systems are trained using historical data. Consider how that applies to hiring decisions. Does the historical data account for biases that women and minorities have faced? Do the algorithms reproduce past mistakes even though governance processes were implemented to prevent them? Does the system prevent unfairness and comply with laws?

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**"AI can be a great tool to augment humans, but we must understand its limitations. The best answer from AI may still not be appropriate based on cultural and corporate values."**

Nigel Duffy, EY Global AI Leader | Global Innovation  
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## There's a lot of discussion about the ethics and risks associated with AI. What is the EY view?

AI's decisions must be aligned with corporate values, as well as broader ethical and social norms, yet humans' ethical standards are based on many things: our families, our cultures, our religions, our communities. And development teams are often mostly composed of men who are white or Asian, instead of reflecting our diverse world. Do their personal values reflect the specific corporate values we want applied in these situations?

But we also need to ask ourselves whether these systems are doing what we expect them to do. AI use is spreading, yet few organizations have mature capabilities to monitor performance. There are many examples of corporations that have gone bankrupt because of poorly managed automated decision-based systems; a company can torpedo itself in a day because of a runaway automated system.

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**"Trusted AI encompasses not only ethics and social responsibility but performance – trusting that it is doing what it needs to. In this well-defined context, AI has invaluable insights to share."**

Cathy Cobey, EY Global Trusted AI Advisory Leader  
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## What are the risks associated with a failed AI system?

The risks are legal, financial and reputational. Failed AI systems can involve breaching compliance with hiring laws and other regulations. In one case, a trading firm lost US\$440 million because of a software glitch – in just 45 minutes. In another, a faulty algorithm used by a major photo-sharing service tagged photos of animals in racially offensive ways.

Algorithms are fallible and can quickly be corrupted. When studying algorithms that identify what's in images, a research team discovered that, by changing just a few pixels in a photo, the system would think that a toy turtle was actually a gun.

These aren't arguments against using AI. But they are cautionary warnings of the importance of making sure AI is doing what was originally intended, with rigorous controls and processes.

## How should business leadership think about those risks? And what tools are available to mitigate or manage them?

As for any new technology, determine how to manage AI by drawing on existing governance and technology management practices and then thinking about what you must supplement, modify or augment. For example, maybe there's a need for more real-time monitoring, to gauge how AI is evolving and whether it is still operating within the expected boundaries.

Also, it's important to think about AI from a full-systems view rather than focusing on the individual components. Remember that one AI algorithm is usually not operating by itself but perhaps with robotics capabilities, Internet of Things sensors and other algorithms.

Additional risks can arise from this multitude of systems interrelating with one another.

Similarly, enterprises shouldn't take on third-party AI applications without fully understanding the risk profile that they bring and their limitations.

**"Enterprises must take the first step to manage risk by asking critical questions, such as, 'Where is AI deployed in my enterprise, and what controls are in place today?'"**

Cathy Cobey, EY Global Trusted AI Advisory Leader

## Why is trust in AI important, and how do we achieve it?

If we're going to rely on AI to make decisions and drive our cars, it requires trust. Without it, the technology won't be adopted, or it will require so much human oversight that it will negate the efficiencies and other benefits.

Creating a framework for using AI and managing the risk may sound complicated, but it is similar to the controls, policies and processes already used for humans. We're already evaluating human behavior against a set of norms, and as soon as people start to operate outside those norms – such as by letting bias cloud their judgment – then we react.

Companies should also understand the spectrum of risk, and match the control and governance procedures to a given risk. The risks of an AI technology are dependent upon how it's being used. For example, imaging software that's tagging personal photos has a much lower risk profile than imaging used to detect a pedestrian crossing the road.

Understanding the risk profile of the AI technology and its use case helps you determine the appropriate governance and control framework to overlay over that AI technology.

**"Like any world-changing technology, AI comes with risks. But there are well-defined ways to manage the potential downside while capitalizing on the tremendous upside."**

Nigel Duffy, EY Global AI Leader | Global Innovation

## When integrating AI, what are the steps that businesses should take to sustain trust?

Companies need to embed trust from the very beginning, centralized within the requirements, and not just as an afterthought or a concern to worry about down the road. Risk, compliance and governance functions, offering real and effective challenge and oversight of AI, will provide the foundation for truly transformational use cases for companies to exploit.

Leading practices include:

1. Determine how a decision can be made about the use cases that are acceptable or not acceptable for AI, including the use of an ethics board composed of professionals from a diverse set of disciplines
2. Conduct an inventory of where your enterprise is using AI, and perform a risk profile for good governance
3. Embed trust into the design from the very beginning as part of the AI system's requirements
4. Use the tools and techniques necessary for continuous monitoring
5. Bring in subject-matter professionals to provide services such as independent testing and validation of the AI algorithms

**"Don't overlook AI's potential as a risk management solution, too. For instance, it can be used to mitigate risks around cybersecurity and privacy, as well as human bias."**

Cathy Cobey, EY Global Trusted AI Advisory Leader



## What is EY doing around trust in AI?

EY has been using AI to *create* trust for a significant period of time. For example, in the Forensics services, [AI analysis is used to identify patterns and indicators of potential fraud or corrupt activity](#), proactively preventing and detecting abuses and providing ongoing monitoring.

EY teams have also been helping clients in the financial services sector, where regulators are taking a hard look at machine-learning algorithms and their decision criteria. The team built “challenger” models that can basically replicate the decision framework of the algorithm for testing. We took regulators through demos, and got them comfortable with this approach to testing and validating the models.

More broadly, EY teams have developed a framework for clients to use to build out AI around five core elements necessary to sustain trust. They're good areas of focus to keep in mind for any company ready to pursue or refine an AI strategy:

1. How well is AI performing and aligning with expectations?
2. How are biases identified and addressed?
3. To what degree is there transparency for end users?
4. How resilient is your AI strategy with regard to corruption and security?
5. How easily can the AI system's methods and decisions be understood, documented and validated?

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**“The EY organization doesn't just consult with clients on AI. We're using it in our operations, informing how we compete in the market.”**

Nigel Duffy, EY Global AI Leader | Global Innovation

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## About the authors



**Nigel Duffy**, EY Global AI Leader | Global Innovation [in](#)

*Passionate about artificial intelligence and machine learning. PhD in machine learning theory. Start-up founder. Patent holder.*

*AI transformation of the enterprise. Irish immigrant.*

Nigel is a technologist and entrepreneur serving as EY Global Artificial Intelligence (AI) Leader in Global Innovation. In this role, he is responsible for the application of AI throughout EY. As leader of the EY AI Lab, he is responsible for projects driving strategic transformation of how we operate, compete and provide services. He is also strengthening relationships with start-ups and academic communities worldwide.



**Cathy Cobey**, EY Global Trusted AI Advisory Leader [in](#)

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With 25 years of experience as a technology risk advisor, Cathy is the EY Global Trusted AI Advisory Leader and oversees a global team that works on the ethical and control implications of AI and autonomous systems. A Chartered Professional Accountant and Certified Information Systems Auditor, Cathy has assisted global organizations in conducting enterprise risk assessments used to ask better questions and address multidimensional technology issues.

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