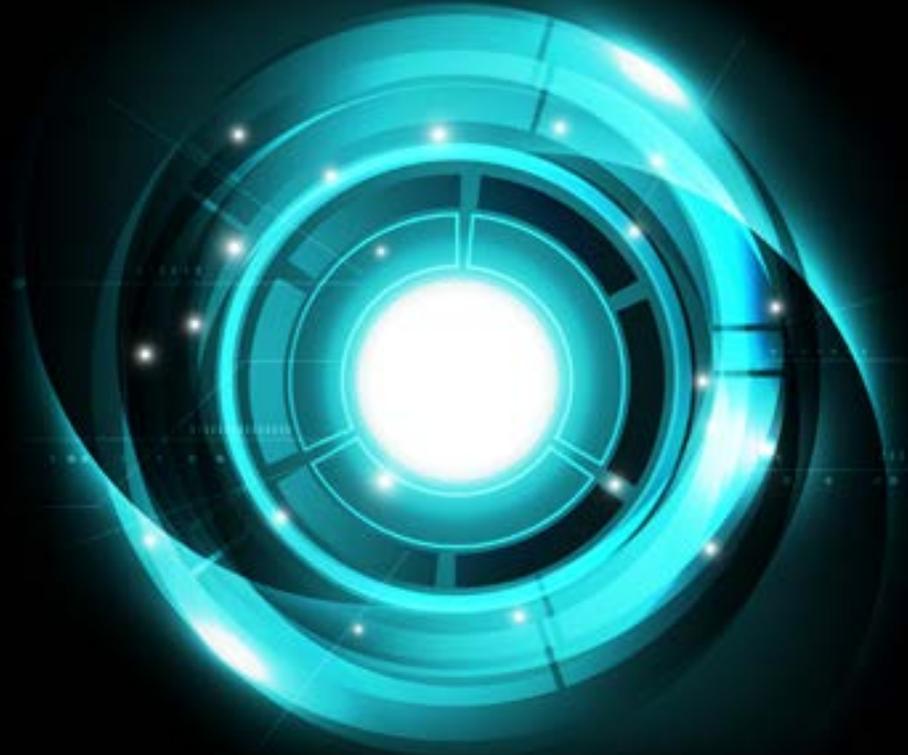


**Deloitte.**



## **The CLO strategist: Ethics and technology**

A framework for CLOs to lead in developing  
an ethical tech strategy

# Introduction

Many companies are technology companies at their core—even if they're not in the technology business. Retailers have mobile apps. Banks automate lending decisions. Manufacturers test product designs through virtual reality simulations.

As technology brings new and enhanced capabilities to the organization, executives find themselves having to answer new questions about right and wrong. This is the realm of ethical technology—a technology or its use is ethical when principled thinking has guided its technological design, delivery, and innovation.<sup>1</sup>

Until recently, concerns about the ethics of technology have often centered around data. With traditional data processing, concerns about the development, application, and management of data may be addressed via policy and industry regulation. But as technology becomes more advanced, the risks associated with it step up in complexity.

Consider the proliferation of AI-powered technology. AI applies adaptive predictive power and autonomous learning to extend the human capabilities of sensing, comprehending, acting, and learning. However, AI doesn't operate quite the same way as human intelligence. Even though an AI system can consider a high volume of inputs and run them through hundreds of processing steps, the decision(s) it generates may have little similarity to the judgment calls people make. Without adequate safeguards, an AI system may turn into a "black box," even to its developers.<sup>2</sup>

## AI risks typically break down along three dimensions:<sup>3</sup>



### **Bias risk**

Preserving disadvantages to certain groups or classes based on historically biased data sets



### **Accuracy risk**

Building models that don't accurately capture ongoing, real-world situations



### **Tampering risk**

Manipulating models to produce outputs that don't reflect the stated objective

Although each type of risk has legal implications for the organization, **the CLO needn't be a tech wizard in order to manage the associated legal risks.** What the CLO does need is a consistent approach to ethical decision-making that applies to all technology used in the organization. This way, organizations can

*"develop the foundational capability to make informed, thoughtful decisions about the design, development, implementation, and use of a wide range of emerging technologies—and . . . be ready to put these processes in place with each new innovation."*<sup>4</sup>

**Fairness**

+

**Reliability**

+

**Accountability**

=

**Strong ethical tech strategy**



Understand how technology is developed and used throughout the organization and, where applicable, how AI systems make decisions. Regularly search for biases in algorithms and data.



Verify that technology is used in ways that inspire trust and that algorithms produce the expected results for each new data set. Per FTC guidance, routinely test algorithms for discriminatory outcomes.<sup>5</sup> Implement clear processes for identifying problems and remediating them.



Align technology use and data policies with norms, laws, and business requirements. Assign ownership for technology outcomes.

Getting this formula right yields an ethical tech strategy that can:

- Protect and strengthen brand equity and trust.
- Boost revenue and reduce costs through more accurate decision-making.
- Reduce legal and remediation costs.
- Bolster diversity, equity, and inclusion initiatives.<sup>6</sup>
- Improve employee satisfaction and retention.<sup>7</sup>
- Mitigate cybersecurity and data privacy risks.<sup>8</sup>
- Support recruiting efforts.<sup>9</sup>
- Reinforce corporate social responsibility goals.<sup>10</sup>
- Align with purpose.<sup>11</sup>

This isn't a journey that the CLO must take alone. Although the CLO can foster a [culture of ethics and compliance in a largely virtual world](#), other leaders must bring their influence to bear in making ethical tech the organizational standard.<sup>12</sup>

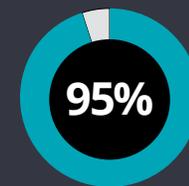
---

**To develop a strong ethical tech strategy that bolsters fairness, reliability, and accountability, consider the five self-reinforcing choices.**

---

For a deeper discussion of the five self-reinforcing choices, please see the first installment of this series, [The CLO strategist](#).<sup>13</sup>

Despite strong enthusiasm for AI efforts and automation, a 2021 Deloitte survey of 2,875 executives from 11 top economies reveals that:<sup>14</sup>



are concerned about ethical risks for their AI initiatives



agree that their organization is slowing adoption of AI technologies because of the emerging risks

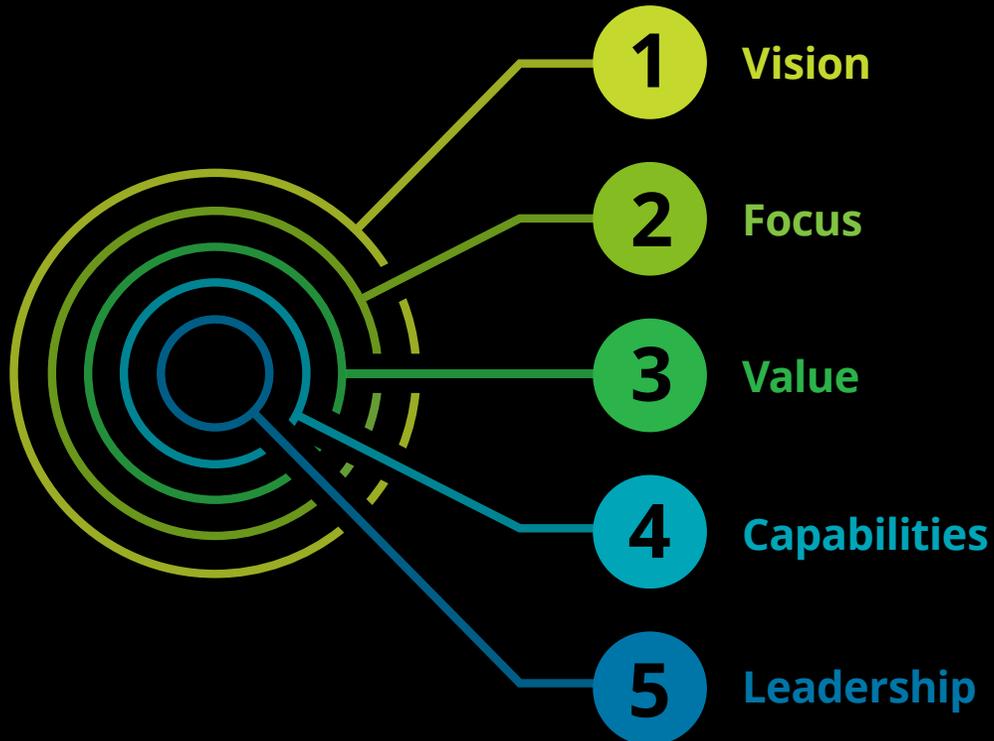


**4 in 10** say their organization is “fully prepared” to address potential AI risks

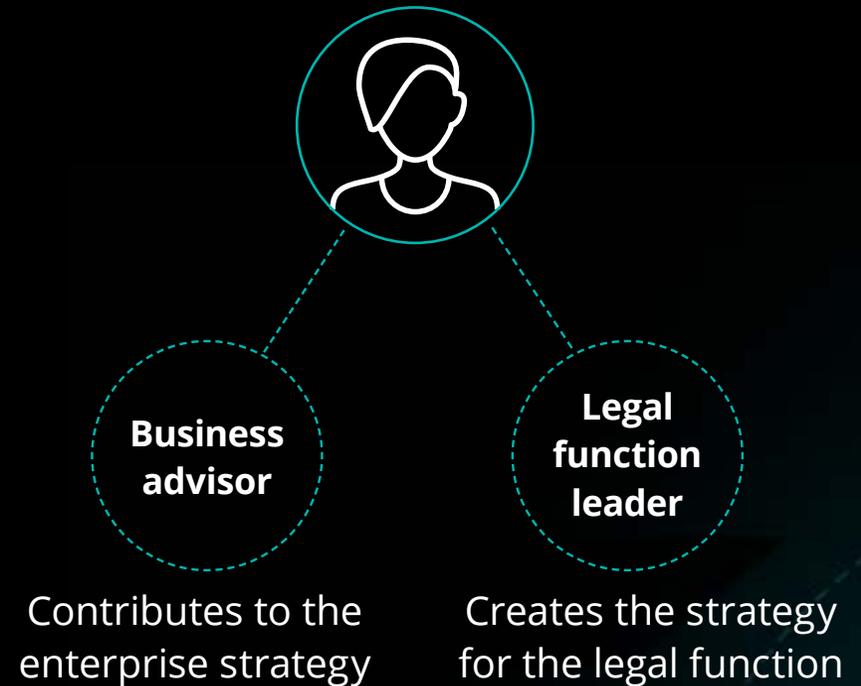
[Cybersecurity risk](#)<sup>15</sup> is a chief worry about AI (as it is about technology in general). But AI failures, misuse of personal data, and regulatory uncertainty are also top areas of concern.<sup>16</sup>

# The five self-reinforcing choices

Strategy can be viewed as the result of five self-reinforcing choices, which we've adapted from Lafley and Martin's seminal guide:<sup>17</sup>



As a strategist, the CLO wears two hats:



Let's look at ethical tech strategy through the lens of these five choices.

# 1

## Vision

Articulate a sense of purpose, define your aspirations, and describe what success looks like.



As a **business advisor**, the CLO needs to anticipate potential regulation on the appropriate uses of technology, advocate for the company as governments take up regulatory matters, and help the board and other executives navigate the regulatory landscape as it concerns the business. (Here again, it isn't necessary to be a tech wizard to understand how a tech-related regulation might affect the company.)

In addition, the CLO needs to develop an understanding of how technology is used in the organization and its effect on the business's legal exposure. One way to do this is by examining the impact of tech through three ethical lenses: individual, society, and culture.

*"Ethical tech decisions require an intimate understanding of the organization's culture and purpose."*

**Jonathan Weber**  
Assistant General Counsel – Engagements,  
Deloitte LLP

# 1

## Vision (cont.)

Articulate a sense of purpose, define your aspirations, and describe what success looks like.

### Ethical tech lenses

Ethical tech lenses allow exploration of technology's impacts by focusing on a specific point of view, considering different groups' perspectives, or examining how the impact of a technology can be significant and far-reaching. Ethical tech lenses can even help us identify ethical tech concerns that we might not have seen otherwise.

These ethical tech lenses may be grouped into **three categories**:



The “**individual**” lens focuses on the impact technology might have on individuals, and can bring to mind questions such as: “How can we best protect and respect the rights of those affected?” and “How can we treat all stakeholders fairly?”



The “**society**” lens looks at the impacts technology can have on groups and communities, and encourages us to ask questions such as: “How can we maximize total happiness and minimize total harm?” and “How can we create the conditions so that all members of a society can flourish?”



The “**culture**” lens, which is more context-sensitive, considers the impact of technology on personal behaviors and social norms, and leads to questions such as: “Will the technology encourage the behaviors that align with our and our clients' values?”

By using these lenses—**individual**, **society**, and **culture**—CLOs can feel more certain that they are thoroughly evaluating the impacts that technology may have.

Source: Deloitte<sup>18</sup>

# 1

## Vision (cont.)

Articulate a sense of purpose, define your aspirations, and describe what success looks like.



As the **legal function leader**, the CLO needs to understand technology's relevance to the legal function. This means knowing where risk might present itself in applications the legal department uses, as well as in applications used throughout the enterprise and those that third parties develop and use. It also means becoming familiar with the range of technology as well as specific legal issues that are relevant to the organization amid a fast-changing regulatory landscape.

# 1

## Vision (cont.)

Articulate a sense of purpose, define your aspirations, and describe what success looks like.

The first step is to take a comprehensive inventory of technology models, data, and algorithms in use. This involves collaborating with other business leaders in areas such as:



Product innovation



Supply chain management



Advertising



Inventory management



Customer service



Employee recruitment and training



Quality control



Occupational health and safety

From there, the CLO can determine where technology may be creating legal risk for the organization, then marshal a cross-functional effort to bridge ethics gaps through a framework of governance and regulatory compliance.

*“Lawyers are not going to solve this alone, neither will engineers, or any one group of people. Questions of ethical tech are human questions first, to address them we should acknowledge our commonality of purpose and then layer in our domain expertise.”*

**Jeff Ward**

**Associate Dean for Technology and Innovation;  
Clinical Professor of Law; Director, Duke Center  
on Law & Technology, Duke Law**

## 2

### Focus

Clearly define what you will and won't do.



As a **business advisor** and **legal function leader**, CLOs will want to consider an “ethical tech check” of each technology asset’s potential ethical concerns. Along the way, as the organization’s conscience, the CLO can help determine what the organization *should* do versus what it *can* do (e.g., read customers’ emails or access certain health information).

Consider some technology use cases that have now become common:

- Automated pricing and approval procedures
- Predictive analytics in awarding loans, insurance, and financial aid
- Natural language processing for regulatory compliance, tracking patient drug interactions, and analyzing contracts and reports
- Social sensing and sentiment analysis to detect events, gauge public opinion, and drive marketing investment decisions
- Algorithms to predict recidivism and flight risk, which affect sentencing and other outcomes

*“One of the shortcomings I have seen in the corporate approach to ethical tech is focusing on expertise over process. The process should assure broad stakeholder participation and be very deliberately designed to provide opportunities to challenge assumptions. It is important that everyone have a vocabulary to discuss ethical tech and the opportunity to speak up when a potential ethical tech concern is identified.”*

**Jeff Ward**  
**Associate Dean for Technology and Innovation; Clinical Professor of Law; Director, Duke Center on Law & Technology, Duke Law**

## 2

### Focus (cont.)

Clearly define what you will and won't do.

In any of these use cases, the risks to address may include:

- ⚠️ Unfair or discriminatory practices
- ⚠️ Faulty or inaccurate estimations
- ⚠️ Inexplicable or unexpected outcomes
- ⚠️ Operational disruption
- ⚠️ Cyberattacks or data breaches
- ⚠️ Appropriate consents for data usage

An ethical tech check can reveal priority risk areas by answering questions such as:

- ✅ Is the feedback mechanism used to train a model accurate and complete?
- ✅ Does the model incorporate accurate and complete response data?
- ✅ Are model outputs consistent with business logic and subject-matter specialist feedback?
- ✅ Have model outputs been tested using key performance indicators?

# 3

## Value

Identify the differentiated contributions that enable competitive advantage.



As both **business advisor** and **legal function leader**, the CLO can work with functional leaders on a testing and remediation program that tackles AI risks before they become problems that have legal, regulatory, reputational, and financial repercussions. With a program like this in place, the organization will likely be better positioned to navigate the changing public policy landscape.



To see how the program might work, let's return to the three dimensions of AI risk:



Bias risk



Accuracy risk



Tampering risk

### 3

## Value (cont.)

Identify the differentiated contributions that enable competitive advantage.



### Bias risk

#### Ways to test for it

- Determine whether there are attributes directly or indirectly related to protected classes within models that are used in human-oriented decision-making processes (e.g., provision of health care, fundraising, and employment).
- Identify specific fact patterns from data that may uncover bias, unintended logic, tampering, and other risks.
- Quantify bias using a metric that suits the model setting. For example:
  - Demographic distribution of training data should reflect the general population
  - The model's performance accuracy should be the same across all groups

#### Ways to remediate it

- ✓ Identify biases that turn up in training data and work to minimize them.
- ✓ Reduce prediction error and maximize parity among groups.
- ✓ Remediate model-generated bias by employing algorithms that challenge and manipulate model inferences to increase parity among groups.

# 3

## Value (cont.)

Identify the differentiated contributions that enable competitive advantage.



### Accuracy risk

#### Ways to test for it

- > Examine the model's logic to see whether it uses data from outside the training data set.
- > Identify any logical errors in the input data that could lead to incorrect calculation.
- > Identify deterioration in prediction quality over time due to:
  - Changes in the process that the model supports
  - Changes in the underlying assumptions of data-generation processes or evolving target variables
- > Understand how the model interprets input attributes to make inferences.

#### Ways to remediate it

- ✓ Develop programmatic routines to prevent the incorporation of leaked data.
- ✓ Assign higher weights to newer samples that are more reflective of current conditions.
- ✓ Iteratively train and update an initial model with new data.
- ✓ Establish controls to identify and alert for predictions that appear abnormal and out of line with business expectations.

# 3

## Value (cont.)

Identify the differentiated contributions that enable competitive advantage.



### Tampering risk

#### Ways to test for it

- Run statistical diagnostics to identify any features that could favor one given outcome over another.
- Independently re-perform model tuning procedures to assess whether internal model parameters have been optimized with respect to the proper response variable.
- Evaluate the extent to which model outputs align with expected outcomes and business understanding.
- Determine the extent to which employee financial incentives are aligned with outcomes (for example, providing an incentive to take a software shortcut to achieve regulatory compliance).

#### Ways to remediate it

- ✔ Compare the model risk management documentation with the actual model configuration.
- ✔ Identify anomalous features and data which might throw off the model.
- ✔ Establish end-to-end governance of code and model deployment.
- ✔ Implement impartial code review to identify anomalous or unexpected behavior.
- ✔ Make use of version control software that tracks edits made by each developer.
- ✔ Monitor code repositories for anomalous forks or improper merges.
- ✔ Monitor production-level code and AI models to identify any AI tampering issues from within the organization.

# 4

## Capabilities

Determine existing and in-demand assets and competencies, then identify investments, processes, and technologies to support them.

It's one thing to ask employees to think specifically about the unintended consequences of technology. It's quite another to give them the tools, training, and processes they need to identify and address ethical concerns. Without resources like these, employees may not recognize ethical dilemmas or know that they can—and should—speak up.



As a **business advisor** to the executive team, the CLO can help cultivate a mindset that embeds an ethical analysis into the development and application of technology. In the business advisor role, the CLO can also help the broader workforce understand:



How to recognize ethical dilemmas in the application of technology



What their roles and responsibilities are in addressing ethical tech issues



Where they can go for tools, training, and other institutional support

*“When identifying and solving for ethical tech concerns, two of the most important skills are creative imagination and empathy. These are human skills, and we can remind people that they’ve been using them their whole lives.”*

**Jeff Ward**

**Associate Dean for Technology and Innovation; Clinical Professor of Law; Director, Duke Center on Law & Technology, Duke Law**

# 4

## Capabilities (cont.)

Determine existing and in-demand assets and competencies, then identify investments, processes, and technologies to support them.

To inform discussion and critical analysis of ethical tech issues, consider the following decision-making process:

### Decision-making framework

The ethical technology decision-making framework includes a three-step decision-making process, a set of lenses, and leading practices to help organizations explore and mitigate the ethical impacts of technology disruptors. The framework has **three steps**:



**Discover:** How to spot ethical tech issues? What questions or individuals need to be considered?



**Discuss:** How to broaden perspectives to debate the intended and unintended impacts of the technology (using the three lenses)?



**Decide:** Considering all perspectives, which solution best addresses the concerns?

# 4

## Capabilities (cont.)

Determine existing and in-demand assets and competencies, then identify investments, processes, and technologies to support them.

For the software development function specifically, the CLO can work with IT and product development leaders to help teams:

- Weigh the unintended impacts of technology
- Know what to do when faced with particularly tricky or risky projects
- Drive consistency around processes and how issues of data use, privacy, and consent are handled



As the **legal function leader**, the CLO can set an expectation for practitioners to become conversationally competent in technology disruptors and their legal implications, including the potential ethical impacts. That provides the legal team with a common vocabulary for ethical tech dialogue among themselves and with their colleagues across the organization.

Legal teams should also be able to apply an ethical tech framework to identify possible ethics issues within the business units they serve and in the work they do every day. In some instances, individuals on the legal team may want or need to be more knowledgeable in certain tech applications, such as AI, for example.

# 4

## Capabilities (cont.)

Determine existing and in-demand assets and competencies, then identify investments, processes, and technologies to support them.

### A sampling of advanced technologies in use today

 **Image recognition** and object detection can classify images and identify locations of different objects in images.

 **Voice recognition** is a machine or program's ability to receive and interpret dictation or to understand and execute spoken commands.

 **Natural language generation**, or NLG, is a software process that transforms structured data into natural language.

 **Text analytics** uses natural language processing (NLP) to transform free, unstructured text into normalized, structured data for analysis.

 **Recommendation engines** can suggest products, services, and information to users based on analysis of data.

 **Automated decision management** is a computerized, information-based, decision-making system that analyzes behavioral data and prior decisions or outcomes.

 **Sentiment detection** systematically identifies, extracts, quantifies, and studies affective states and subjective information.

 **Pattern recognition**, or anomaly detection, is the automated recognition of patterns and regularities in data.

 **Biometrics** authentication or recognition uses a variety of algorithms to identify individuals based on physiological or behavioral characteristics.

Source: Deloitte<sup>20</sup>

# 5

## Leadership

Consider the culture, talent, training, and behaviors necessary to enable success.

According to research from MIT Sloan Management Review and Deloitte, committed leadership distinguishes companies that have embraced ethical tech from those that have not.<sup>21</sup> As someone schooled in judgment and ethical decision-making, the CLO is a logical choice to marshal leadership support. Although deep technical expertise isn't necessary, a certain amount of digital fluency can be useful as CLOs become more involved in technology decisions.

The CLO's leadership is also necessary because the past several years have seen numerous attempts to regulate specific AI technologies—think facial recognition and autonomous cars—as well as AI more broadly. In 2021 alone, general AI bills or resolutions were introduced in 17 states and enacted in Alabama, Colorado, Illinois, and Mississippi.<sup>22</sup> There is also movement toward uniform regulation at the federal and international levels,<sup>23</sup> either of which would be preferable to a patchwork of various state regulations.

In the interim, as AI technology-specific regulations begin to appear, companies could benefit from the leadership of their CLO in proactively developing a strong ethical tech strategy. US federal agencies, such as the Federal Trade Commission (FTC),<sup>24</sup> the National Artificial Intelligence Advisory Committee,<sup>25</sup> the Food and Drug Administration,<sup>26</sup> and the Department of Transportation,<sup>27</sup> have provided guidance. The FTC has warned that it will step in if companies fail to hold themselves accountable.<sup>28</sup>

Internationally, the EU has proposed the Artificial Intelligence Act (AIA), a comprehensive attempt to regulate AI. The proposal categorizes various AI systems in both digital services and physical products by the level of risk they present. It prohibits the use of AI for anything deemed an unacceptable risk and applies strict obligations to AI systems that present high risk.<sup>29</sup> Violations would be met with fines.<sup>30</sup> If enacted, the AIA would apply to any AI system used or providing outputs within the EU. As a result, similar to the General Data Protection Regulation (GDPR), its enactment will likely impact businesses around the world.

## 5

## Leadership (cont.)

Consider the culture, talent, training, and behaviors necessary to enable success.

### ⚠️ The technology is new, but the legal analysis is not

Lawyers often have the skills necessary to analyze AI risk—with or without a technology background. For a deeper discussion on ethical considerations specific to AI, please see [Deloitte's Trustworthy AI™ framework](#).<sup>31</sup>

The FTC's guidance on the use of AI focuses on three concepts familiar to the ethical practice of law: truth, fairness, and equity. The guiding principles might appear familiar to most:

- Start with the right foundation
- Watch out for discriminatory outcomes
- Embrace transparency and independence
- Don't exaggerate what your algorithm can do or whether it can deliver fair or unbiased results
- Tell the truth about how you use data

➤ Do more good than harm

➤ Hold yourself accountable<sup>32</sup>

The consequences of failing to uphold these principles may also be familiar to lawyers and could lead to liability under existing (and well-litigated) laws, including:

- The Fair Credit Reporting Act
- The Equal Credit Opportunity Act
- Title VII of the Civil Rights Act of 1964
- The Americans with Disabilities Act
- The Age Discrimination in Employment Act
- The Fair Housing Act
- The Genetic Information and Nondiscrimination Act
- Unfair and deceptive trade practices under the FTC Act<sup>33</sup>

# 5

## Leadership (cont.)

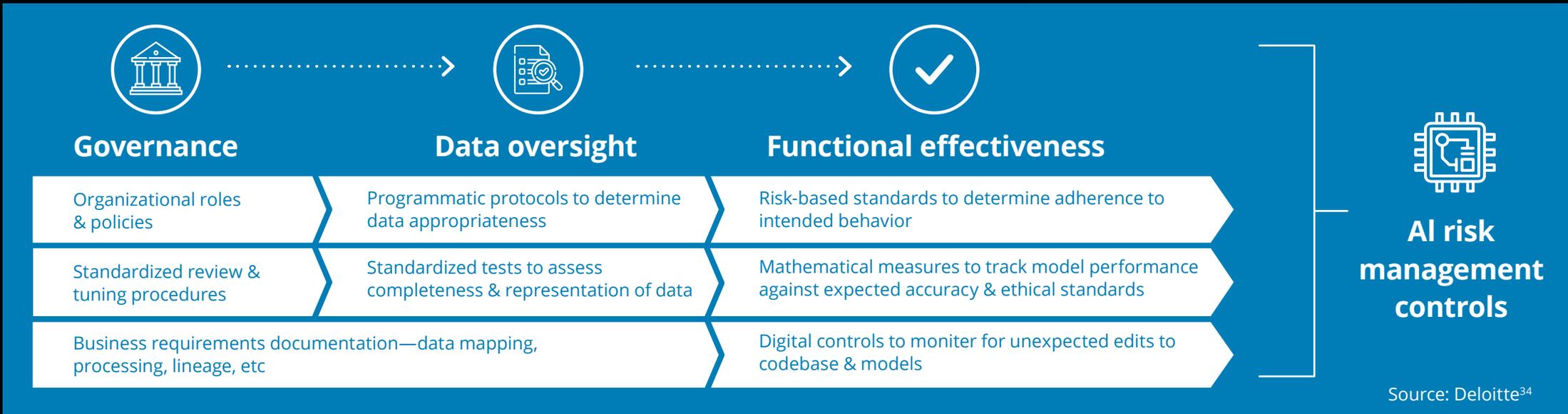
Consider the culture, talent, training, and behaviors necessary to enable success.



As a **business advisor**, CLOs—along with the rest of the senior leadership team—can shape the organization’s risk culture and serve as role models for exemplary behavior. They may regularly and consistently include ethical tech references and terminology in their communications, with an eye to highlighting ethical tech as a

legitimate area that deserves attention.

The CLO can bring the legal perspective to a controls framework that helps organizations address risk. For example, the following framework can help identify the risk of bias, inaccuracy, and tampering in AI models.



# 5

## Leadership (cont.)

Consider the culture, talent, training, and behaviors necessary to enable success.



As the **legal function leader**, the CLO can prepare their team to anticipate and mitigate risks from ethical tech issues. As part of this, the CLO can:

### Check that the legal team knows how to use the ethical tech framework

- > Schedule a workshop with your team to introduce and practice the ethical tech framework
- > Spend time at the beginning of the project or workstreams anticipating ethical tech risks, benefits, and mitigation techniques
- > Leverage the use case library to learn from similar dilemmas

### Invite all stakeholders to have a seat at the table

- > Gather representation for all stakeholders' interests on the team

- > Support an inclusive culture to allow for open debate and discussion
- > Evaluate the issue through all three lenses (individual, society, and culture)
- > Have a designated dissenter on the team
- > Know which external sources of diverse thinking you can leverage

### Hold regular check-ins on ethical tech risks

- > Make sure all stakeholders' interests are represented at the check-ins
- > Take time to think about how your technology solution may be misused and/or cause harm

- > Refer to the use case library to explore similar scenarios, challenges, and mitigation strategies

### Evaluate actions as workstreams end

- > See what went well and what could have gone better
- > Determine whether enough time was allocated for ethical tech debates
- > Identify practices to put in place to support better ethical tech decision-making

# 5

## Leadership (cont.)

Consider the culture, talent, training, and behaviors necessary to enable success.

### ! The trust connection

Ethical issues with technology can impact trust with stakeholders.

Trust is the foundation of a meaningful relationship between an organization and its stakeholders at both the individual and organizational levels. It's built through actions that demonstrate a high degree of:

Competence, which is foundational to trust and refers to the ability to execute, to follow through on your brand promise

Intent, which refers to the reason behind your actions, including fairness, transparency, and impact

One without the other doesn't build or rebuild trust. Both are needed to exhibit capability, reliability, transparency, and humanity.<sup>35</sup>

*"The question we should be asking is not 'can we' but 'should we.' We should ask: Is it best for our people, is it best for our brand, is it best for our clients and our clients' brands, is it best for society, does it align to our purpose?"*

**Jonathan Weber**  
Assistant General Counsel –  
Engagements, Deloitte LLP

# Putting strategy into action

## Operating environment



### Conduct a risk assessment

Identify and catalog models used across your organization, and assess the inherent risk exposure of each. Consider the potential impact of operational failures or bias, and evaluate how data is used in algorithms.



### Develop your technology risk strategy

Collaborate with stakeholders across departments that deploy, use, or are affected by technology to draft an organizationwide strategy to manage potential technical and operational risks.



### Define a review and remediation approach

Develop an approach for applying techniques to detect and mitigate potential model risks and to evaluate how a model is used. This approach can be used to review existing and new models.



### Plan a model risk monitoring program

Define procedures to proactively screen for algorithmic bias and ethical tech risk. Determine how often to execute these procedures for each group of models. Set key performance metrics to measure drift in the efficacy, fairness, and explainability of each model.



### Designate a review team

Form a team of technology risk reviewers, independent of the model development teams, to provide an assessment of model and ethical risks. This team can proactively review models for risk and investigate allegations of bias, tampering, and model malfunction.

Source: Adapted from Deloitte<sup>36</sup>

*“Talking about these issues academically is easy, but getting people to take the time to consider ethical tech issues in real-world circumstances requires a change management strategy that incentivizes the desired behavior.”*

**Jeff Ward**

**Associate Dean for Technology and Innovation; Clinical Professor of Law; Director, Duke Center on Law & Technology, Duke Law**

# Ethics for a new era in technology

Digital technology has become an inescapable presence in our lives as well as table stakes for competing in the market. But technology is developing faster than many organizations' ability to set up guardrails for it. Rather than try to define and codify every responsible practice, the CLO can give people in their organization a mental model to use for making ethical choices. A principled approach to technology can help mitigate risk and build a reputation for trust that can sustain the organization for the long term.

More in the CLO strategist series:

[\*The CLO strategist: A new kind of legal officer for modern business\*](#)

[\*The CLO strategist: Intellectual property\*](#)

[\*The CLO strategist: Cybersecurity\*](#)

# Authors

## **Lori Lorenzo**

Chief Legal Officer Program Research & Insights director  
Managing director | Deloitte Risk & Financial Advisory  
Deloitte Transactions and Business Analytics LLP  
[lorilorenzo@deloitte.com](mailto:lorilorenzo@deloitte.com)

## **Michael Weil**

Digital Forensic Technologies leader  
Managing director | Deloitte Risk & Financial Advisory  
Deloitte Financial Advisory Services LLP  
[miweil@deloitte.com](mailto:miweil@deloitte.com)

## **Bryan Foster**

Discovery | Legal Business Services  
Principal  
Deloitte Transactions and Business Analytics LLP  
[bfoster@deloitte.com](mailto:bfoster@deloitte.com)

## **Derek Snidauf**

AI, Cyber, and Cloud  
Principal  
Deloitte Transactions and Business Analytics LLP  
[dsnidauf@deloitte.com](mailto:dsnidauf@deloitte.com)

## **Erin Hess**

Chief Legal Officer Program Research & Insights manager  
Manager | Deloitte Risk & Financial Advisory  
Deloitte Transactions and Business Analytics LLP  
[erhess@deloitte.com](mailto:erhess@deloitte.com)

# Endnotes

1. Beena Ammanath, "[Visualizing trustworthy & ethical technology](#)," Deloitte, 2021.
2. R. Jesse McWaters, [Navigating uncharted waters: A roadmap to responsible innovation with AI in financial services](#), World Economic Forum and Deloitte, 2019.
3. Derek Snidauf et al., "Keeping AI accountable: Managing legal risk with Trustworthy AI," Deloitte Dbriefs webcast, November 9, 2021.
4. Beena Ammanath and Catherine Bannister, "[Trustworthy and ethical tech: The leadership challenge](#)," *Developing an ethical technology mindset*, MIT Sloan Management Review, Fall 2021, pp. 22–23.
5. Elisa Jillson, "[Aiming for truth, fairness, and equity in your company's use of AI](#)," US Federal Trade Commission (FTC), April 19, 2021.
6. Ammanath and Bannister, "[Trustworthy and ethical tech: The leadership challenge](#)."
7. Ibid.
8. Ibid.
9. Ibid.
10. Ibid.
11. Ibid.
12. Darlene Fiscus, "[Legal, IT leaders stand at crossroads of ethical tech](#)," *Risk & Compliance Journal of the Wall Street Journal*, October 25, 2021.
13. Lori Lorenzo, "[The CLO strategist: A new kind of legal officer for modern business](#)," Deloitte, 2021.
14. Beena Ammanath et al., [Becoming an AI-fueled organization: Deloitte's State of AI in the Enterprise](#), 4th Edition, Deloitte, 2021.
15. Lori Lorenzo et al., "[The CLO strategist: Cybersecurity](#)," Deloitte, 2022.
16. Ammanath et al., [Becoming an AI-fueled organization: Deloitte's State of AI in the Enterprise](#).
17. A.G. Lafley and Roger L. Martin, *Playing to win: How strategy really works* (Brighton, MA: Harvard Business Review Press, 2013).
18. Deloitte, "Ethical Tech Framework" handout, 2021.

# Endnotes (cont.)

19. Deloitte and Markkula Center for Applied Ethics, "Ethical Tech Framework" handout, 2021.
20. Snidauf et al., "Keeping AI accountable."
21. Ally MacDonald (ed.), *Developing an ethical technology mindset*, MIT Sloan Management Review, Fall 2021.
22. National Conference of State Legislatures (NCSL), "[Legislation related to artificial intelligence](#)," January 5, 2022.
23. Alex Engler, "[The EU and US are starting to align on AI regulation](#)," Brookings Institution, February 1, 2022.
24. Jillson, "[Aiming for truth, fairness, and equity in your company's use of AI.](#)"
25. National Artificial Intelligence Initiative Office (NAIIO), "[The National AI Advisory Committee \(NAIAC\)](#)," accessed March 2022.
26. US Food & Drug Administration (FDA), "[Good machine learning practice for medical device development: Guiding principles](#)," October 27, 2021.
27. US Department of Transportation (DOT), "[Automated Vehicles Comprehensive Plan](#)," January 11, 2021.
28. Jillson, "[Aiming for truth, fairness, and equity in your company's use of AI.](#)"
29. Future of Life Institute (FLI), "[The Artificial Intelligence Act](#)," accessed March 2022.
30. Mauritz Kop, "[EU Artificial Intelligence Act: The European approach to AI](#)," *Transatlantic Antitrust and IPR Developments*, October 1, 2021.
31. Deloitte, "[Trustworthy AI™](#)," accessed March 2022.
32. Jillson, "[Aiming for truth, fairness, and equity in your company's use of AI.](#)"
33. Catherine Zhu and Louis Lehot, "[United States: Artificial Intelligence Comparative Guide](#)," Mondaq, January 6, 2022.
34. Snidauf et al., "Keeping AI accountable."
35. Don Fancher et al., "[AI model bias can damage trust more than you may know. But it doesn't have to.](#)" Deloitte Insights, 2021.
36. Snidauf et al., "Keeping AI accountable."



This document contains general information only and Deloitte is not, by means of this document, rendering accounting, business, financial, investment, legal, tax, or other professional advice or services. This document is not a substitute for such professional advice or services, nor should it be used as a basis for any decision or action that may affect your business. Before making any decision or taking any action that may affect your business, you should consult a qualified professional advisor.

Deloitte shall not be responsible for any loss sustained by any person who relies on this document.

As used in this document, "Deloitte" means Deloitte Financial Advisory Services LLP, which provides forensic, dispute, and other consulting services, and its affiliate, Deloitte Transactions and Business Analytics LLP, which provides a wide range of advisory and analytics services. Deloitte Transactions and Business Analytics LLP is not a certified public accounting firm. Please see [www.deloitte.com/us/about](http://www.deloitte.com/us/about) for a detailed description of our legal structure. Certain services may not be available to attest clients under the rules and regulations of public accounting. Deloitte does not provide legal services and will not provide any legal advice or address any questions of law.