

# TECHNOLOGY LEADERSHIP IN THE BOARDROOM: Driving Trust and Value



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Blue Ribbon Commission Reports (BRCs) have been strengthening corporate governance for three decades. In recent years, Commissions have developed comprehensive guidance to significantly rethink or elevate topics such as board oversight of corporate culture, talent, and new disruptive risks. These reports helped set the standard for effective board practices in these areas and have been used by investors and policymakers.

BRCs play a key role in helping to empower directors and transform boards to be future ready.

# Technology Leadership in the Boardroom: Driving Trust and Value

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# 2024 Blue Ribbon Commission

With Primary Organization Affiliations and Selected Board Seats

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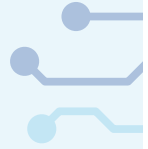
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# Letter from the Cochairs

**“We must navigate by the stars,  
not the light of every passing ship.”**

—Five-Star US General Omar Bradley

The launch of ChatGPT on November 30, 2022, felt like a Big Bang moment, threatening to disrupt every job, business, and even industry. In 2024, Generative AI, the technology powering tools like ChatGPT, is dominating corporate and policy agendas. The emergence of this technology was not a stand-alone event, but started a new chapter in a dramatic digital revolution, propelled by profound technological innovations introduced in the past few decades, including the development of microprocessors, software, and the Internet. This revolution is far from over, as new technology and data breakthroughs increasingly build on each other, ushering in novel and as yet unknown advancements. As one 2024 Blue Ribbon Commissioner said, *“Technology now changes everything, because it is in everything, including all of our products and services.”*<sup>1</sup>

What’s different today is the blistering pace of compound-ing, technology-driven changes that are rewriting the rules of the game—the deeply rooted underpinnings and protocols of building profitable enterprises. Joseph Schumpeter’s forces of creative destruction<sup>2</sup> are supercharged, offering immense opportunity not only for (shareholder) value creation but also for value migration from incumbents to new market entrants. Technology no longer serves as a mechanical tool (albeit critical) to reengineer and optimize our business operations, but now demands that businesses reinvent themselves to remain competitive.

At the same time, our growing dependency on technologies that now affect all realms of business and daily life has also raised expectations about their responsible use. We can no longer be naively optimistic about technology as the spearhead of business growth or even human progress. Companies now have a much greater responsibility to ensure that their technologies

are trustworthy. *“We are not just selling digital products, we are selling trust,”* one Commissioner emphasized.

This NACD Blue Ribbon Commission report is a response to this moment when companies must drive both value and trust through technology. And it does not fixate on Generative AI (the issue du jour) but offers a wider lens, looking at the opportunities and risks created by all transformative technologies and the governance required to steer companies toward long-term success in this era of exponential change.

**Although many of our boardrooms  
have become more risk averse  
because of almost chronic  
macro-level uncertainty, the biggest  
technology risk now is not taking one.**

The stakes are high for boards and leadership teams already fatigued by the burden of economic, political, and societal shocks received in recent years. Although many of our boardrooms have become more risk averse because of almost chronic macro-level uncertainty, the biggest technology risk now is not taking one. To place the right big bets on our futures, we must pressure test management’s bedrock assumptions about our customers, our competitors, our own competitive advantages and disadvantages, our technology prowess, and our ability to rapidly innovate.

And in doing so, boards will need to perform a difficult balancing act. In this environment, which puts a premium on orchestrating rapid technology transformations, they must fulfill a dual and seemingly conflicting mandate: to encourage management to move fast and be bold, and to act as a guardrail, exercising critical judgment to uphold corporate values and protect stakeholders’ interests.

<sup>1</sup> Note: The Commission’s meetings were held using a modified version of the Chatham House Rule, under which participants’ quotes (italicized) are not attributed to those individuals or their organizations.

<sup>2</sup> See [“Creative Destruction”](#) on Wikipedia for more information.

The task ahead will be daunting, but it will not demand a dramatic transformation of the workings of our boardrooms. Rather, we have to reground ourselves in the fundamentals of our enterprises and how we govern them:

- ▶ Ensure we focus more on the technology trend lines that are relevant to our business and industry rather than on the “shiny object” technology headlines.
- ▶ Build the right skill, proficiency, and curiosity levels in our boardrooms to enable us to confidently govern transformative technologies.
- ▶ Challenge deeply rooted beliefs in our own boardrooms and management teams about how our industry works and our business creates value through technology.
- ▶ Clarify the right roles, decision-making authorities, structures, and metrics for the board in their engagement on often dynamic and high-stakes technology matters.
- ▶ Partner effectively with management to enable more joint discovery (less “prove it to me first” and more “let’s try this together and see what we learn”) and assess whether our technology use is trustworthy.

This “back to fundamentals” approach, strengthened by learning together about the unknown, is within the grasp of every boardroom and can be easily woven into existing board practices and processes. At minimum, it will drive better questions and dialogue with management at a crucial time. And it will instill confidence within key stakeholders, including investors (who look for confirmation that boards can guide their companies through technological changes and drive long-term value creation) and customers (who seek to gain assurances that their data are their own and won’t be misused).

For boards who so far have been indifferent or unwilling to upend their companies’ status quo, we believe that

our guidance helps the courageous but non-technical-expert director to step forward confidently to champion technology governance to their board leader, CEO, and peer directors.

**This “back to fundamentals” approach, strengthened by learning together about the unknown, is within the grasp of every boardroom and can be easily woven into existing board practices and processes.**

Our report offers a practical blueprint for action and detailed recommendations, organized around the three core technology governance imperatives of (1) strengthening oversight, (2) deepening insight, and (3) developing foresight, accompanied by a comprehensive toolkit to support the adoption of our recommended actions.

We would like to thank the entire Commission for their extraordinary contributions to this important work. The collective wisdom and feedback of this group of prominent directors and experts who serve on the boards of more than 50 public companies, private enterprises, and nonprofit organizations was invaluable in ensuring both the relevance and practicality of our guidance.

This time calls for more technology and ultimately more strategic leadership from every director. It demands full-board engagement and commitment to continuous learning. We hope our work can prepare you and your boards to meet this pivotal moment and navigate your enterprises through the accelerating digital revolution.

Cheers to the future,

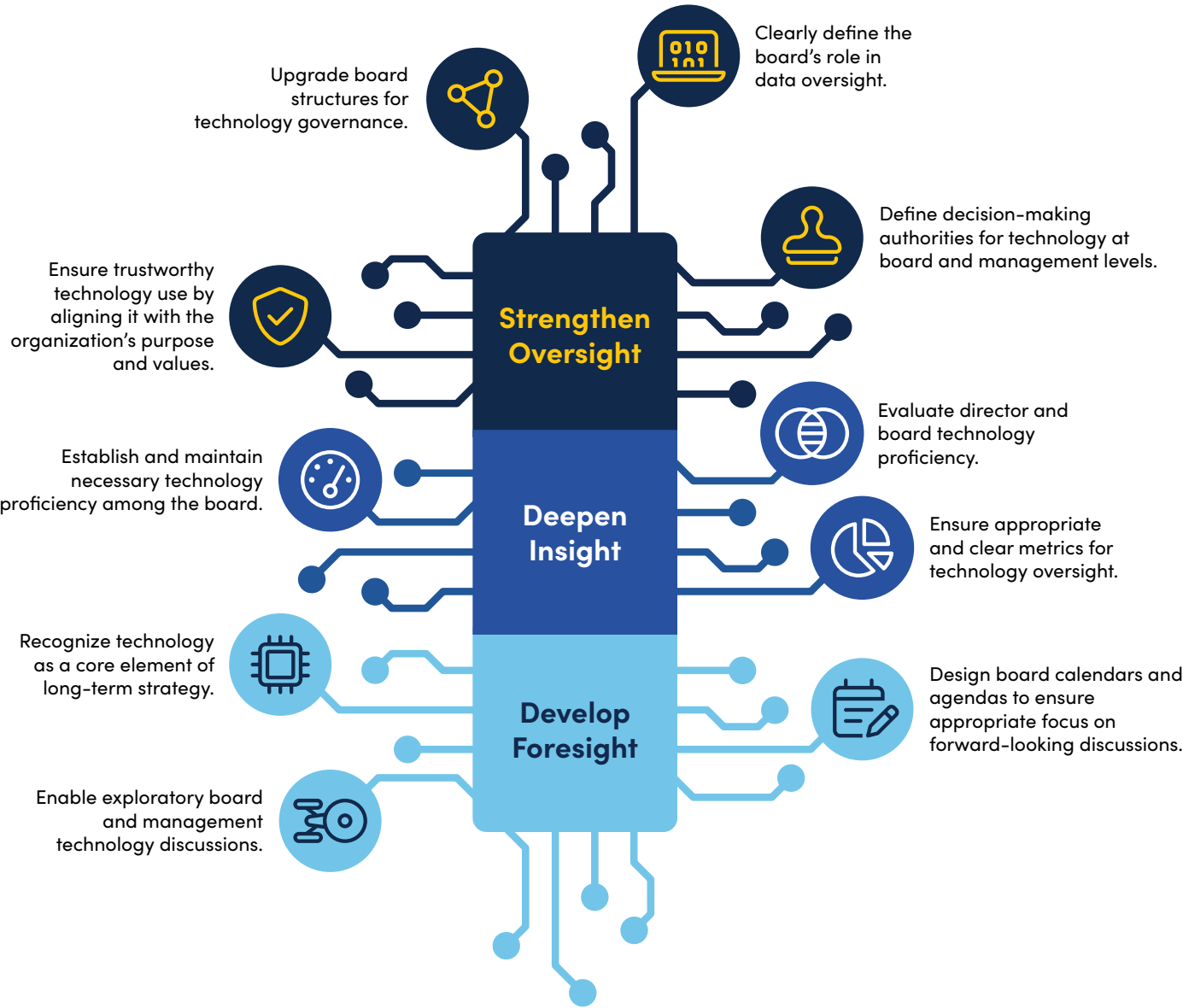


Nora Denzel and David Kenny

*This Blue Ribbon Commission report represents a consensus of the Commissioners’ viewpoints and reflects their support for its principal recommendations. We did not believe it necessary that each Commissioner agree with every word of the report. As a group, however, the Commissioners regard this report as a fair representation of their views on an important and timely subject.*

# Summary: Recommendations of the 2024 NACD Blue Ribbon Commission

## Ten Recommendations for Technology Leadership in the Boardroom





# The Case for Action

“There is something unique about this moment,” one Commissioner said at the outset of the discussions for the 2024 NACD Blue Ribbon Commission. A quarter of the way through the twenty-first century, corporate value enabled by technology and data has become central to economic growth. The World Economic Forum’s May 2024 *Chief Economists Outlook* notes, “Chief economists are unambiguous in expecting technological transformation, AI, and the green and energy transition to be growth drivers in high-income economies over the next five years.”<sup>3</sup>

The promise of technology and data may never have been greater. However, the speed of technological change has accelerated at such a pace that many enterprises across industries feel a loss of control: they are too slow to capitalize on new disruptive opportunities, fear the onslaught of new tech-first competitors,

and may be unaware and unprepared for the many new, sometimes devastating, technology-driven risks.

One specific technology stands out today: Generative AI (GenAI). McKinsey estimates that GenAI could produce between \$2.2 and \$4.4 trillion in economic value annually between 2023 and 2040, depending on the rate of adoption. GenAI’s potential value is a fraction of the \$11 trillion to \$17.7 trillion of economic value that all AI applications are expected to deliver.<sup>4</sup>

Meanwhile, varying forms of data fuel the immense potential of GenAI. Firms are feeding text, images, videos, spreadsheets, recordings of natural language, code, machine script, and other forms of information into GenAI tools to generate insights, create new content, streamline operational processes, and launch a myriad of other applications. Advancements in data processing and AI are allowing some companies to transform

<sup>3</sup> World Economic Forum, *Chief Economists Outlook* (May 2024), p. 6.

<sup>4</sup> See “The Economic Potential of Generative AI: The Next Productivity Frontier,” posted on mckinsey.com on June 14, 2023.

the underlying value of their business—for example, moving from a business model of consumer goods to a data-centric company that collects information via consumer goods sales.

But progress is not driven by GenAI alone. There are advances in areas like industrial robots, augmented and virtual reality, 5G telecommunications, low- and no-code software development, quantum computing, and biomimetics. The use of AI to detect cancers in patient scans is improving outcomes; advancements in material sciences, robotics, and data analysis are driving a new age of space exploration; and retailers and other industries are providing faster and better responses to consumers through chatbots. These and other technologies have the potential to converge into opportunities and disruptions across industries that have not been imagined yet. As one Commissioner noted, *“Across every industry, technologies will change the way we do business and the business we do.”*

The pace of change is likely to accelerate even more rapidly as technologies themselves—notably, GenAI—improve on their own. All of this is driving a fundamental question for corporate leaders and their boards: how do we stay relevant, resilient, and achieve long-term growth in this period of technological change and disruption?

Overall, Commission discussions point to six interrelated trends driving a new focus on technology governance:

1. **Confluence of advancements raises the stakes.** The intertwined nature of technology trends places industries at a crossroads where there will be breakaway winners, increasing the risk of irrelevance for those left behind. *“We need to get better at anticipating the first-, second-, and third-order effects created by this exponential change,”* one Commissioner said.



**2. Strategy timelines are compressed.**

*“There used to be a 10-year time frame for technology revolution, but now the pace of change is quite extraordinary,”* a Commissioner said. As strategic horizons become compressed by the speed of change, more frequent touch points between boards and management are needed to discuss whether the larger strategy needs to shift course.

**3. Competitive advantages are shifting.**

One Commissioner said, *“It used to be that technology was changing the rules of the game, but now, it’s hard to know what game we’re actually playing.”* Companies want to avoid becoming the next Blockbuster or Kodak—two companies infamous for doubling down on their operating models while their entire industries were being transformed by technology. As technology disrupts industry models and changes which assets provide the greatest competitive advantage, firms must be resilient and flexible enough to withstand and move with technology-induced shocks and risks.

**4. Innovations are outpacing board member experience.**

Directors and C-suite executives who entered the leadership ranks even five years ago may not fully grasp the technology-driven operating models that are creating value today. Yet the Commission pointed out that many board members and C-suite leaders struggle to realize that they need to enhance their own technology education and proficiency to successfully lead and oversee their firms in this new era.

**5. Focus on trusted technology and data use is growing.**

The boundaries of technology- and data-related risk have expanded with the creation of new technologies. Organizations developing safe technologies may still lack the “trust of use” they need to advance. Such developments are

undermining the effectiveness of traditional enterprise risk management (ERM) approaches. As one Commissioner put it, *“We need to apply all we know about governance and trusted decision-making to technology. But how do we do that?”*

**6. Patchwork of uneven regulation.** Data and technology regulations comprise rules and standards made by federal agency regulators, state legislatures, city governments, the US Congress, and the courts—and many of these regulations are incongruent with one another. Outside of the United States, international policymakers are issuing often overlapping digital services, data protection, cybersecurity, and data rules. Firms operating outside of the United States must follow requirements that can be more stringent than domestic policies or in conflict with the company’s values, and which may not prioritize innovation or democratic principles. This patchwork of regulations could create inertia or even paralysis about pursuing technology-driven innovation.

Together, these six trends underline that technology can no longer be viewed solely as an enabler of business operations or as a matter that can be governed at the board committee level alone. Now is the time for boards of directors to lean into the moment and be *“responsibly courageous,”* in the words of one Commissioner. In this environment, good corporate governance has a significant impact on whether and how new technologies will drive value creation and will be—or won’t be—accepted by organizations, economies, and societies.

## REPORT SCOPE AND FOCUS

The Commission agreed to limit the scope of this report to oversight of two areas: transformative technologies and data.

Commissioners emphasized that board effectiveness in technology oversight should be measured against the board's achievement of the following aims:

- ▶ Reducing technology-related risk
- ▶ Advising on and overseeing how the company captures value from technology and data
- ▶ Helping to build and maintain trust in the company's use of current and new technologies

Another critical driver of technology value and risk is data. While the technologies adopted by a firm

are the infrastructure, data can be viewed as the raw goods that can be used to generate value via increased efficiencies, new products, or improved services. This report looks at data through the scope of strategy, trust, and the potential to create or harm value. Because a deep body of knowledge already exists on board oversight of cyber risk, the topic will not be covered at length in this report.

The Commission also recognizes the importance of "back-office" technologies that are required to run business operations. It acknowledges that maintenance of and moving away from legacy technologies is a critical part of readiness for moving to newer technologies. There are many solutions available to manage and move forward from these technologies, so they do not receive significant attention in this report.



# The Call to Action

This report calls on boards to govern technologies with more definition, a more strategic focus, and more proactive engagement. It is vital that boards of directors strengthen their oversight, deepen their insight, and develop greater foresight. Commissioners identified critical barriers that boards will need to overcome to advance their governance of transformative technology:

- ▶ **Current board practices limit time to focus on strategic discussions on technology.** Boards tend to follow a standard committee and board meeting cadence with routinized agendas, or even evergreen quarterly meeting plans and agendas. For example, Commissioners noted that their boards would prefer more time on the agenda for technology strategy and foresight-related discussions, but the agenda is often driven by standing items or topics that are more relevant in the short term.

This report calls on boards to govern technologies with more definition, a more strategic focus, and more proactive engagement.

- ▶ **Board KPIs and initiative scorecards remain financially skewed with shorter-term horizons.** More than a third of boards reported inadequate metrics to demonstrate technology's value to enterprise performance.<sup>5</sup> This also suggests a lack of clear reporting on potential risks and opportunities.

<sup>5</sup> Figures represent data from privately held and publicly traded companies and can be found in the *2024 Private Company Board Practices and Oversight Survey* and the *2024 Public Company Board Practices and Oversight Survey*.

- ▶ **Boards' technology proficiency gaps undermine their ability to advise on strategy shifts and adoption of new technologies.** Technology and data developments have raised the importance of education and shared proficiency for leaders. However, board composition skews to former CEOs and business and financial leaders who have experience with earlier phases of technologies and enterprise ecosystems. They are also more familiar with the talent and operational challenges of previous generations of technology in business.

Boards are taking incremental steps to adapt their governance of technologies and data. For example, the use of board technology-specific committees among Russell 3000 boards grew from 5 percent to 7 percent from 2019 to 2024.<sup>6</sup> Further, boards are adding directors with technology skills at a greater rate, with 41.6 percent of boards in 2024 reporting the addition of a director with technology experience.<sup>7</sup>

But concerns about board and management preparedness remain. NACD survey findings suggest that not all directors are confident about management and board understanding of the impact of new technologies on growth strategy. In a recent survey, only 44 percent of directors rated their confidence level in management's understanding as very or extremely confident, 36 percent were only moderately confident, and 17 and 2 percent were slightly and not at all confident, respectively. Within the boardroom, the same survey shows that just 38 percent of respondents were very or extremely confident with their peers' understanding of how technology impacted the company's growth strategy.<sup>8</sup>

In the words of one Commissioner, *"We need to innovate upon ourselves."* From another Commissioner's perspective, that innovation should involve returning to the fundamentals of governance and business, resetting management's assumptions and establishing a *"first*

*principles"* approach, which requires the business to revisit bedrock assumptions about the impact of technology on the firm's strengths, the basis of competition, the ongoing viability of its business model, and the preferences and needs of its customers. This new era demands a different board posture:

- ▶ More intentional dialogue on strategic questions which management may not be able to answer
- ▶ Less rigidity in board operations—getting comfortable with agenda flexibility and better use of committee structures
- ▶ Less reliance on legacy processes, procedures, and ideas, and a greater commitment to expanding horizons and continuous learning
- ▶ Not only monitoring but also exercising good judgment, which involves a balancing act that encourages management to be bold and embrace groundbreaking innovation while acting as a guardrail on excessive risk-taking
- ▶ Less focus on traditional performance metrics, turning instead to best practices derived from "launch, learn, and adapt" experiences

<sup>6</sup> NACD, *2024 Inside the Public Company Boardroom* (Arlington, VA: NACD, 2024), p. 4.

<sup>7</sup> Figures represent data from privately held and publicly traded companies and can be found in the *2024 Private Company Board Practices and Oversight Survey* and the *2024 Public Company Board Practices and Oversight Survey*.

<sup>8</sup> Ibid.



The board must innovate its own governance to effectively and responsibly steward trustworthy technology use and value creation. Business today needs engaged, responsible, and courageous technology governance more than ever before, and boards must challenge themselves to provide that governance.



# Recommendations for Action

The Commission's recommendations focus on building technology governance capabilities and leadership across three key areas: oversight, insight, and foresight. Strengthening performance in these categories helps each director fulfill their fiduciary duty by supporting the firm's ability to stay competitive and advance long-term value creation. Some recommended actions will fit seamlessly within current board and committee responsibilities and tasks, while others will challenge board and committee leaders to revise and refine practices. A toolkit is included, beginning on [page 36](#), with boardroom tools for implementing the recommendations.

- ▶ **Strengthen Oversight:** Revise board processes, practices, and structures to oversee how technology will impact the way the company creates value. The board's work to strengthen oversight

reinforces its role as a thoughtful management advisor and authority.





- ▶ **Deepen Insight:** Gain a more robust understanding of complex new technologies and management's plans to take advantage of them. Deeper insight enables the board to have fuller, context-driven dialogues with management about technology opportunities and risks.
- ▶ **Develop Foresight:** Pressure test assumptions about beliefs, plans, and investments related to technology, and dedicate resources to forward-looking discussions. This practice allows the board to form a trusted partnership with management in their joint discovery of new technology opportunities and outcomes.



## Strengthen Oversight

**B**oards need to strengthen their oversight of the organization’s use of technology and data. This includes driving stronger alignment between the company’s purpose and values and its technology

strategy and growth plans, considering changes to the oversight structure, and clarifying critical decision-making roles for the board and management.

Strengthen Oversight			
			
<p>Ensure trustworthy technology use by aligning it with the organization’s purpose and values.</p>	<p>Upgrade board structures for technology governance.</p>	<p>Clearly define the board’s role in data oversight.</p>	<p>Define decision-making authorities for technology at board and management levels.</p>


**RECOMMENDATION 1: ENSURE TRUSTWORTHY TECHNOLOGY USE BY ALIGNING IT WITH THE ORGANIZATION’S PURPOSE AND VALUES.**

Boards and management teams need a single vision for how the organization uses technology to create long-term value. NACD’s 2022 *Future of the American Board* framework highlights that management and the board should develop a shared view about the

company’s unique purpose and that this purpose should inform decisions around strategy and risk.<sup>9</sup> The goal of operating value-creating technologies with purpose and integrity is trust, which can be won or lost through corporate decisions. Defining the firm’s relationship

<sup>9</sup> NACD, *The Future of the American Board* (Arlington, VA: NACD, 2022), p. 17.

to technology through the lens of its core values establishes parameters for acceptable use and provides the necessary reference point for boards to oversee technology in a complex regulatory environment.

### **Ensure stakeholder trust is part of technology decision-making**

Digital trust can be defined as “individuals’ expectation that digital technologies and services—and the organizations providing them—will protect all stakeholders’ interests and uphold societal expectations and values.”<sup>10</sup> Boards and management need to discuss trustworthy use of technology and data before making decisions to capitalize on new technologies. While the board’s primary obligations are to the company and shareholders, dispatching these responsibilities is critical to accounting for the interests of various stakeholders: customers, employees, the communities in which they operate, and others. As one Commissioner stated, *“We need more discussion on alignment [between strategy and technology] with values. It’s about what you can do, but also what you should do.”*

**For more on the board’s obligation to stakeholders, view the boardroom tool, “Questions to Assess the Role of the Board Regarding Technology,” page 38.**

Technology and data use can fundamentally shift the type of business, products, and services that an organization chooses to operate and sell. Such changes alter relationships with customers, supply chain players, partners, and other stakeholders. In context, the acceptable use—or the “social license” around the use—of technology between firms, vendors, suppliers, and customers is highly fluid and interconnected. There should be regular, candid dialogue between boards and management about shifting expectations, value creation, impacts on stakeholders, and entrance into new business lines and how they affect company decisions, strategies, and tactics. These regular conversations can allow management and boards to revisit decisions that might harm longer-term stability, trust, and value for stakeholders. As one Commissioner framed it, *“We must ensure that we make good decisions now and apply best practices for decision-making to ensure technology use is trusted in the future.”*

The board and its technology leadership (for example, a technology committee chair, the board chair, or other board leader) can work with the CEO, other key management (such as the ethics and compliance officer), and third-party experts to explore critical questions about the firm’s use of technology. This exercise would promote a common understanding of the board’s oversight role for technology trust and ethical matters.

### **Questions to guide alignment on trust and value**

Boards and management should explicitly discuss questions such as these:

- ▶ How do our values influence how we use or develop technology?
- ▶ Has the risk of damaging customer or public trust been incorporated into the enterprise risk management framework?
- ▶ What are the expectations of our customers, business partners, and key regulators for how we use technology and data?
- ▶ Have product development, review, and acquisition processes embedded trust into associated design, launch, update, and contract operations?
- ▶ Are trust-centered technology approaches and decisions being communicated transparently to investors, regulators, and other stakeholders?
- ▶ How will the company balance revenue growth and operational efficiency with its values?
- ▶ About which values-centered decisions must the board be informed? On which policies will the board either advise or decide?
- ▶ What information must the board receive from management to be able to execute its agreed governance role?

Aligning on these issues will enable boards and corporate leaders to effectively build their companies’ purpose and values into major business decisions about technology and data.

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<sup>10</sup> World Economic Forum, *Earning Digital Trust: Decision-Making for Trustworthy Technologies*, November 2022.



## RECOMMENDATION 2: UPGRADE BOARD STRUCTURES FOR TECHNOLOGY GOVERNANCE.

Boards should assess if their current oversight structure and practices effectively support robust governance of technologies at the necessary pace. Board responses to the COVID-19 pandemic led to more fluid governance, with boards meeting more frequently, adapting committee remits, and becoming comfortable with advising management more frequently on major decisions. This agility can be applied to technology oversight.

As defined in the 2022 *Future of the American Board* report, “board agility is the capacity of a board to attend to and address critical issues as they arise in a decisive, efficient, and well-informed manner, and to pivot from a course of action when it is apparent that change is necessary.”<sup>11</sup>

### Ensure effective committee delegation

The nominating and governance committee chair can lead a review of charters and responsibilities through the lens of technology governance. The goal is to ensure that technology-related matters are assigned either to committees or to the full board as appropriate.

As technology and data are now core drivers of business success across many domains (including strategy, risk, compliance, finance, brand, sales and service, human resources, and procurement), technology oversight must become a recurring, mandatory responsibility within each standing committee, where applicable. In specific instances, it may be necessary to redistribute expertise across committees or modify committee leadership, and associated management reporting may require rearrangement. The board also should consider whether and how the firm will disclose to investors and shareholders that it has taken actions to strengthen its technology oversight structure.

**For more on how to align the compensation committee’s work to the Commission’s recommendations, see the boardroom tool, “Technology Oversight and the Role of the Compensation Committee,” page 63, and “Incorporating the Commission’s 10 Recommendations into Your Compensation Committee Agenda,” page 69.**

The table below provides examples of how technology oversight responsibilities could be allocated among board committees.

### Illustrative Standing Committee Responsibilities for Technology Oversight\*

Committee	Responsibilities
<b>Compensation and Human Resources</b>	<ul style="list-style-type: none"> <li>▶ Reviewing enterprise-wide technology talent strategy</li> <li>▶ Reviewing incentives and technology strategy alignment for the C-suite</li> </ul>
<b>Audit</b>	<ul style="list-style-type: none"> <li>▶ Oversight of technology and data risk, governance, and internal controls</li> <li>▶ Oversight of risk management, including insurance (Risk oversight might be delegated to a risk committee.)</li> </ul>
<b>Nominating and Governance</b>	<ul style="list-style-type: none"> <li>▶ Setting an ongoing technology board-education agenda</li> <li>▶ Assessing board technology oversight practices</li> <li>▶ Defining behaviors and proficiency standards for technology oversight</li> <li>▶ Reviewing director succession and technology proficiency and fluency</li> <li>▶ Reviewing ethical use of technologies</li> </ul>

\* See also the boardroom tool, “Technology Oversight and the Role of the Compensation Committee,” page 63, for more insight into the compensation committee’s responsibilities.

<sup>11</sup> NACD, *The Future of the American Board* (Arlington, VA: NACD, 2022), p. 29.

## TECHNOLOGY COMMITTEE TYPES

Boards have a variety of potential committee options that might fit their firm's needs:

- ▶ A technology-focused board committee chartered with specific decisions and responsibilities
- ▶ A technology-specific board subcommittee of another standing board committee that can focus on and report up to the committee or full board on specific issues such as major technology investments, technology M&A considerations, monitoring technology compliance efforts, and major technology transformations
- ▶ A technology advisory board that advises the board and C-suite on emerging technologies and business processes

### Consider whether a dedicated technology committee, subcommittee, or advisory board is needed

The overall technology-driven strategy is and should always be a full-board responsibility, but from time to time the board may determine that a dedicated technology committee, subcommittee, or advisory board is appropriate. Such a decision should be informed by the firm's relationship to technology and strategic needs.

A dedicated technology-focused committee can be particularly useful when an organization is facing significant disruption or undertaking a major digital transformation. Companies across industries have established these committees, often in response to technology developments that are fundamentally impacting how the company can deliver value. In these instances, the boards determined that a dedicated technology

committee would provide the right forum to enable "technology deep dives" and management oversight.<sup>12</sup> In addition, the committee's creation clearly signals to investors, shareholders, and employees that the board is focused on technology transformation.

Using committees, subcommittees, or advisory boards in the earlier stages of a major technology-driven transformation can also bolster overall levels of board knowledge on complex technology matters. One Commissioner mentioned that the rest of the board routinely elected to sit in on the firm's technology committee meetings for ongoing education about the evolving technology landscape. Whether or not the board determines that it requires a new committee, it should regularly review which outside expertise should be brought in to educate the board and close any gaps in understanding that might exist.

**For more on deciding to create a technology committee, see the boardroom tool, "Technology Oversight Structures: Is a Technology Committee Right for Your Board?," page 41.**

Clear scope, roles, responsibilities, and authority for the committee should be outlined, recommended to the full board by the nominating and governance committee, and agreed upon by the full board. Commissioners stressed that the technology committee charter should include a responsibility for capturing external and forward-looking perspectives to help the firm stay ahead. As one Commissioner warned, *"If you don't explicitly plan to stay ahead, you will fall behind."*

**See the boardroom tools, "Sample Technology Committee Charter," page 46, and "Set Up for Success: Considerations When Developing a Technology Committee Charter," page 48, for more advice on new committee charters.**

<sup>12</sup> See also, "Boards Need a New Approach to Technology," Tarun Khanna, Mary C. Berkerle, and Nabil Y. Sakkab, Harvard Business Review, September–October 2024 issue.



### RECOMMENDATION 3: CLEARLY DEFINE THE BOARD'S ROLE IN DATA OVERSIGHT.

Boards need to understand the systems within their organization that use data and what is done to create value from the data. Management should define and communicate to the board the strategic value it intends to derive from the organization's data, sources of which could include such disparate text-based and numerical forms as reports from HR systems, customer transactions, "crown jewel" data, and others. The board can then consider what oversight structures must be in place over the current and potential value of the data.

Critical areas for oversight include ensuring the data is protected, tracking how the firm is ensuring trusted and ethical data use, and clearly understanding data risks and opportunities. *"Right now, the companies that are harnessing and securing their data are the ones that are winning in the market,"* one Commissioner said.

The National Institute of Standards in Technology defines data governance as follows:

"A set of processes that ensures that data assets are formally managed throughout the enterprise. A data governance model establishes authority and management and decision-making parameters related to the data produced or managed by the enterprise."<sup>13</sup>

Boards will not be involved in the operation of data governance programs. Rather, the board's role is to ensure that the data governance function is effective and managed appropriately. The board's oversight of data governance work should focus on four core goals:<sup>14</sup>

- ▶ **Alignment:** Assure that the use of data aligns with desired business outcomes and strategic objectives.
  - ▶ **Accountability:** Hold the chain of command established within the organization responsible for data decisions and the value created or lost as a result.
  - ▶ **Transparency and ethics:** Review that the firm is openly communicating and holding itself accountable to data practices that mirror its own ethics framework and values.
  - ▶ **Quality:** Review the standards set for data quality and whether the company is meeting them. Controls can and should be in place, and the board can review their success.
- Some specific actions that strengthen board oversight include these:
- ▶ Audit committee reviews internal audit's own data governance audit. Data audits happen over time and track controls, ethical use, and other facets of data use within an organization.
  - ▶ Review by full board or the audit committee of the risks associated with specific projects tied to data use—notably, breach and privacy risks associated with specific national, state, and local laws.
  - ▶ Review whether data is included in the firm's strategy and track progress of its use against specific, aligned outcomes.
  - ▶ Consider whether a new management role, such as the Chief Data Officer, should be added to the C-suite.
  - ▶ Request contract reviews to determine which business partners have access to data, and if those contracts need to be renegotiated to protect it.

<sup>13</sup> See the definition of "data governance" in the Glossary available at [csrc.nist.gov](https://csrc.nist.gov).

<sup>14</sup> For more on the board's role in data governance, see NACD's *Director Essentials: Data Governance and Oversight* (Arlington, VA: NACD, 2024).

- ▶ Ensure oversight of data governance and data use is clearly aligned to committee charters. **(For more on committee alignment, see Recommendation 2, page 18.)**

Data-related matters are likely to be reported to the board already through the scope of security and privacy, and boards can and should think of this process as an on-ramp to deeper data governance oversight.

The board can request management to broaden the aperture of reporting to move beyond traditional risk reporting and include opportunities around data, review of its use, and discussion of its ownership.

**For detailed questions boards can ask to ensure strong data governance across a range of data matters, see the boardroom tool, “Board Oversight of Data Management and Governance: Key Focus Areas and Questions for Directors,” page 51.**



## RECOMMENDATION 4: DEFINE DECISION-MAKING AUTHORITIES FOR TECHNOLOGY AT BOARD AND MANAGEMENT LEVELS.

It is important to define and respect the roles of the board and management in governing transformative technology and data. Research suggests that few boards have assigned clearly defined roles to themselves that ensure technology oversight.<sup>15</sup> Management is responsible for executing the technology plan and the strategy it supports, while the board needs to be informed by management on critical decisions and matters that require approval.

Ahead of reviewing decision-making authorities, boards can request that management explicitly state what technologies are used to create value, why they are used, what risks exist, and if they themselves understand the technology and why it was adopted. Boards should be ready to focus on technology decisions that materially impact a variety of stakeholders within and outside the firm. From there, the board should determine what decisions it might need to be involved in and which can remain with management.

Below are key steps boards can take in partnership with management to clarify the distinct technology-related roles and responsibilities of the board.

### Redefine thresholds for board and management technology decisions

Guidelines or thresholds for board review of technology decisions may have to be modified to strengthen board oversight. Up for review are actions that require board approval, and which issues the board must be notified of, as well as the form or cadence of reporting by management. A key driver for review is that dollar thresholds for board approval may no longer be sufficient for complex technology and data governance matters.

For example, pilot applications of new technologies are often at a dollar amount that falls well under the review threshold set by boards. Strategic, operational, reputational, and legal considerations—many of which may be qualitative in nature—may need to be more heavily weighted than purely financial or quantitative criteria.

**For more on reviewing decision mandates, see the boardroom tool, “Opportunities for Board Engagement in Technology Oversight,” page 55.**

Examples of thresholds and review criteria that may be reconsidered for stronger oversight of technology include these:

- ▶ Dollar amounts or percentage of revenue tied to innovation and investment that trigger board involvement
- ▶ Accepted risk levels for data or technology use
- ▶ The strategic road map and timing of a company’s digital transformation
- ▶ Shifts in use of technology and data that may impact the trust relationship with customers, employees, and other stakeholders
- ▶ Impact on customers and business processes
- ▶ New competitive threats and how to respond to them
- ▶ New business models and value creation opportunities

<sup>15</sup> According to NACD’s 2024 Board Practices and Oversight survey, only 12 percent of respondents claimed to have assigned clearly defined roles to the board to ensure technology oversight within the past 12 months. Data reflects responses from both the [Public Company](#) and [Private Company](#) surveys.



## Deepen Insight

**B**oards need to be equipped with sufficient insight to guide their companies through an increasingly complex technology environment. Gaining insight into the workings of technologies with significant relevance to business is far from easy. It demands commitment from every director and the board to learn

and raise their proficiency levels, and it requires that the board receive relevant and digestible information from management. The following recommendations focus on actions boards can take to accelerate their technology proficiency and establish the right board-level metrics in partnership with management.

### Deepen Insight



Establish and maintain necessary technology proficiency among the board.



Evaluate director and board technology proficiency.



Ensure appropriate and clear metrics for technology oversight.



## RECOMMENDATION 5: ESTABLISH AND MAINTAIN NECESSARY TECHNOLOGY PROFICIENCY AMONG THE BOARD.

Boards should define and agree on what technology proficiency means in the context of the business, and how proficiency and continuous education will be attained collectively and by individual directors. Directors have noted that inadequate technology proficiency is a critical barrier to effective board technology and data governance.<sup>16</sup> *“There’s got to be a minimum standard of technology proficiency for all directors,”* one Commissioner noted.

### How to define technology proficiency

There is no single definition of director technology proficiency. Board-level technology proficiency will vary, as each business has a unique remit and mix of technologies in use. However, as one Commissioner noted, *“Technology proficiency is not dictated by experience with any one technology, but by proven experience and capabilities to understand and build and create value with technology.”*

Additional attributes to consider in building technology proficiency at the board-level include these:

- ▶ The ability to enable and not impede progress by the management team
- ▶ Sufficient fluency to ask questions about second-, third-, and fourth-order implications around technology strategy and risk
- ▶ Continuously learning about technologies
- ▶ Leaning into curiosity about the projects and innovations that will drive short- and long-term value at the firm
- ▶ Being attuned to the changes in industry associated with technology evolution, including shifts in workforce requirements and attitudes and new processes

**For a detailed road map on defining technology proficiency, see the boardroom tool, “Director Technology Proficiency Evaluation,” page 58.**

### Develop and sustain an effective learning plan

Boards must develop a collective and continuous learning strategy that equally builds proficiency across the board and C-suite, and then the board should hold itself—and future board members—accountable to it. Establishing and maintaining proficiency together allows boards and management teams to create a consistent level of understanding and a common vocabulary. The board chair or lead director can collaborate with the nominating and governance chair to make sure that the right learning approach and priorities are in place.

Each firm and board’s learning needs will be unique, but there are several shared attributes for an effective learning program.

- ▶ Focus on technology trend lines affecting the company’s industry as opposed to every new technology “shiny object.” Identification of the trends that are materially impacting both the growth and risk profile of the business and sector is the starting point of a learning plan.
- ▶ Define the specific, strategy-relevant technologies that the board needs to be conversant in, and build and maintain the board’s learning plan against those requirements. As emerging technologies threaten disruption, reevaluate and supplement the plan accordingly.
- ▶ Set the framework and context for individual directors’ commitment and approach to building technology fluency and proficiency.

<sup>16</sup> Figures represent data from privately held and publicly traded companies and can be found in the *2024 Private Company Board Practices and Oversight Survey* and the *2024 Public Company Board Practices and Oversight Survey*.

- ▶ Allow for varying director needs. For example, directors who are not active executives in other organizations may benefit from refreshing their knowledge on core technology functions (like e-commerce and technology infrastructure). Onboarding programs for new directors should include a detailed overview of the firm’s technology capabilities, ambitions, and operations.
- ▶ Include programming that uses a range of formats and resources. For example, one Commissioner’s board sets up a series of bimonthly emerging technology webinars for directors—outside of board meetings with nonmandatory attendance—to allow directors to develop a common basis of knowledge in key technologies.
- ▶ Build a common technology language for the board and management. This can be achieved through joint external technology trainings or internally delivered sessions, and co-attendance of training can help executives understand the specific barriers to understanding and questions that their board members might pose to them.

An effective learning plan can include resources from the following:

- ▶ Third-party subject-matter experts who are vetted to ensure current knowledge
- ▶ A technology advisory board of experts to inform and educate the board on emerging, strategically important trends
- ▶ Management and other internal subject-matter expert presentations being included into board agendas
- ▶ Self-directed technology- and data-related research
- ▶ Accredited outside events and conferences that meet standards set by the education program

## MOST PROMISING TECHNOLOGIES TO WATCH

The White House identified a set of most exciting technologies to watch and boards and directors can use this list to guide their own education plans.

- ▶ Advanced Computing
- ▶ Networked Sensing
- ▶ Generative AI
- ▶ Biotechnologies
- ▶ Clean Energy
- ▶ Information Security Technologies
- ▶ Autonomous Systems and Robotics
- ▶ Human-Machine Interfaces
- ▶ Directed Energy
- ▶ Semiconductors and Microelectronics
- ▶ Space Technologies
- ▶ Quantum Computing and Technologies
- ▶ Advanced Engineering and Production

Source: 2024 Critical and Emerging Technologies List Update

While it is important for directors to be up to speed on current technologies, it is equally important that they focus their learning on emerging technologies tailored to the industry, stage, or type of company that is relevant to the board. As one Commissioner noted, “Board education should bridge the current to the future.” One approach is bringing external advisors into the boardroom to discuss the emerging technology landscape affecting the organization’s industry. Nearly a quarter of directors report that they leveraged either an external advisor or recruited a director with technology and innovation expertise to the board to help maintain proficiency.<sup>17</sup>

<sup>17</sup> Figures represent data from privately held and publicly traded companies and can be found in the *2024 Private Company Board Practices and Oversight Survey* and the *2024 Public Company Board Practices and Oversight Survey*.



## RECOMMENDATION 6: EVALUATE DIRECTOR AND BOARD TECHNOLOGY PROFICIENCY.

Recruitment and evaluation processes should focus on individual directors' and collective boards' engagement in continuous learning about the technologies that create value or risk within their enterprises. *"Technology change is never ending,"* one Commissioner said. *"As a result, directors' commitment to learning and change must be never ending."* Director, committee, and board assessments should incorporate the board's definition of technology proficiency, and new director recruitment should consider these standards and fill critical skills gaps in the board's composition.

### **Revise current evaluation processes to include technology proficiency**

Technology proficiency should be built into the board's individual director and overall evaluation processes. Evaluations of current and incoming directors can be reviewed against expected behaviors and skills that are built around depth of knowledge, engagement, curiosity, and other factors in step with the firm's strategy. The nominating and governance committee typically leads and maintains this evaluation process.

Many Commissioners noted the value of 360 assessments to help evaluate board knowledge and areas of improvement based on desired skill sets. One Commissioner said that their board *"[has] a third party do the 360 assessment every other year,"* and that this Commissioner's board rotates the external providers performing the assessments to prevent bias.

**For a detailed guide on how to incorporate technology into assessments, see the boardroom tool, "Assessing Technology Governance Behaviors," page 61.**

### **Ensure the board recruitment process considers the necessary level of technology proficiency of new director candidates**

As part of its refreshment and assessment policy, the board should define the baseline technology proficiency and experience required from potential new director candidates. Just as every director is expected to understand how to read a balance sheet and other key financial reports, they should now also possess technology proficiency relative to the firm's needs. Depending on the skills and behaviors the organization needs to fulfill its technology and data ambitions, new directors should be recruited with these skill sets and behaviors to fill in gaps where needed.

The board should have a dynamic talent strategy to ensure it has diversity and depth of relevant knowledge and experience in technology. An ongoing review of the board's talent mix will ensure an effective board composition while reinforcing a culture of self-reflection about technology blind spots. One Commissioner explained that their board uses a skill matrix to assess technical proficiency of the board, its peers, and for refreshment purposes, and noted that the tool is also valuable for succession planning.

## RECRUITING FOR SPECIFIC EXPERTISE

Organizations cannot rely on a designated director to serve as the “technology expert” to educate the board on an ad hoc basis. In fact, that may create risks if boards start to rely on the expertise of one individual to fulfill its governance duties on technology matters and unduly burdens that director. As one Commissioner observed, “Getting someone from Silicon Valley is not a solution to increasing board technology fluency.” Before recruiting to fill a gap in the board’s understanding of technology, consider asking the following questions excerpted and adapted from the NACD–ISA *Director’s Handbook on Cyber-Risk Oversight*:<sup>18</sup>

- ▶ How are we defining technology expertise? Consider the firm’s needs and strategy and align accordingly.
- ▶ By hiring a director with specific expertise, is the board deferring to one individual a responsibility that the full board should undertake? Might it be more appropriate for the full board to increase their understanding of technology?
- ▶ How does having a single technology expert on the board mesh with the cross-functional technology practices and structures that are becoming increasingly common?
- ▶ Does placing a technology expert on the board set a precedent for assigning seats to other specialized oversight areas?

<sup>18</sup> For more information, see the *Director’s Handbook on Cyber-Risk Oversight* (Arlington, VA: NACD, 2023).



## RECOMMENDATION 7: ENSURE APPROPRIATE AND CLEAR METRICS FOR TECHNOLOGY OVERSIGHT.

Boards and management should partner to review and refine what critical technology information is being provided in board materials. In a recent survey, more than a third of directors reported they receive inadequate metrics to assess the impact of technology on enterprise performance.<sup>19</sup> No two firms' people, processes, or technologies will execute the same strategy—and all will choose to move at varying speeds based on their strategic needs. Metrics should be aligned with the unique strategic requirements of the firm.

### Refine reporting on technology strategy

Boards need greater visibility from management about the organizations' overall technology readiness and impact. However, management reports must be thoughtfully designed to enable insights into the progress on work without excess granularity. Types of reporting include these, among others:

- ▶ Progress metrics tied to time-bound goals (e.g., critical decision milestones, time to launch, etc.)
- ▶ Financial metrics (e.g., onetime costs, ongoing costs, budget burn rate, etc.)
- ▶ Reviews of current capabilities (changes to technology adoptions, technology road map progress, etc.)
- ▶ Reports on the durability of existing "legacy" tech systems (e.g., uptime, error reports, technology debt, etc.)
- ▶ Insight into data cleanliness and usability (e.g., volume of mapped data, data anomalies, validity, accessibility, etc.)

Boards should expect transparency from management into the following areas:

- ▶ Opportunities and risks associated with adoption, use, and retirement of technologies
- ▶ Investments made on technology adoption and returns measured in an appropriate format for the stage of the project
- ▶ How technology and data are being used within the company to drive value and links to the organization's key performance indicators
- ▶ Understanding which individuals are ultimately responsible for technologies and data
- ▶ Whether the use of technologies and data is measurably trustworthy and aligned to the company's values
- ▶ Whether its technologies and data are secured in alignment with law and regulation, and resilient enough to protect the company's, shareholders', and stakeholders' long-term interests
- ▶ How technical debt is being addressed to allow for future innovation and technology adoption<sup>20</sup>

Depending on the organization's technology oversight structure, this information might be reported into one or more appropriate board committees and reviewed by the full board against the firm's progress in executing its strategy. **(For more on technology oversight across the board's committees, see Recommendation 2, page 18.)**

<sup>19</sup> Figures represent data from privately held and publicly traded companies and can be found in the *2024 Private Company Board Practices and Oversight Survey* and the *2024 Public Company Board Practices and Oversight Survey*.

<sup>20</sup> Gartner defines technical debt as follows: "Technical debt is accrued work that is 'owed' to an IT system, and it is a normal and unavoidable side effect of software engineering. Teams 'borrow' against quality by making sacrifices, taking short cuts, or using workarounds to meet delivery deadlines." For a fuller definition, visit <https://www.gartner.com/en/information-technology/glossary/technical-debt>.

The board should also consider who is presenting the information. If the board is hearing reporting on technology matters only from the CIO, CTO, or other technology executives, this may be an indicator that the CEO and other members of the C-suite are not fully embracing technology as a strategic, enterprise-wide matter. Metrics should also support the information tied to technology incentives for executive compensation.

**For more on tying outcomes to incentives, see the boardroom tool, “Technology Oversight and the Role of the Compensation Committee,” page 63.**

### **Prioritize outcome-centered metrics reporting to enable technology innovation**

Boards should ensure they are provided with leading indicators to gauge early progress and outcomes of technology-driven innovation. Defining the metrics and dashboard for product pilots or exploratory innovations can set the tone for the initiative—either nurturing or quashing an innovative culture. Commissioners cautioned that innovation metrics that are not customized to the firm’s unique situation, or setting the wrong metrics, such as specific return-on-investment metrics for pilot initiatives, can hinder progress for fledgling high-potential business lines.

As firms pilot new technologies with strategic significance, their board should consider the following types of reporting from management. This information should provide insights to ensure innovation processes are well-managed, consistent, and progressing, and are in alignment with the company’s values—all while allowing the experiment to move ahead.

- ▶ **Hypotheses for value.** Ahead of taking on new projects, the board should work with management to identify the technology use case and value, and how the value will be captured by the organization. For example, consider mining data on emerging customer patterns to identify potential new service offerings. Will the technology that is to be adopted change market share? Will it be disruptive? It is important, however, to remember that hypotheses frequently fail. Boards should expect management to learn from the experiment and move forward.

- ▶ **Progress against milestones.** What has been achieved against the strategic innovation goal that was set for this innovation project? What setbacks have occurred, and how has the timeline adjusted as a result?
- ▶ **Investment.** How much of the allotted budget for the project has been spent, and what returns are projected to come against it? Are these returns considered flat, minimal, significant, or exponential in value? Has our investment outweighed projected returns? If so, what steps, if any, can be made to correct course? *“Great R&D teams show experimentation milestones along the way to see if they need to continue and get more funding,”* one Commissioner noted.
- ▶ **New and emerging opportunities.** What new business lines or opportunities has the team uncovered? How are other firms in our space, and outside of it, using this technology in ways that could shape our strategy for it? Boards should consider that some nascent technologies might not have immediate impact on current business models but could be hugely disruptive in the future. Consider how innovating ahead of the curve could help the company position itself for success.

Boards and management should continuously return to these metrics and question if they are providing the information they need to spark insights and improve oversight and decision-making.



## Develop Foresight

In an environment of rapid technological change, boards need to adopt an explorer's mindset, becoming curious and asking the right questions at the right times to help management test assumptions and, if needed, chart a new course. Boards need to partner with management to jointly discover the possibilities of over-the-horizon technologies. This report defines foresight as the ability to see around corners, understand which

nascent technologies could challenge existing strategies, consider alternatives, and work with management to plan new investments. Recommendations to develop foresight include a robust process to integrate technology considerations into strategy development, the use of exploratory discussions as tools to consider different scenarios and developments, and effective board calendar and agenda management.

### Develop Foresight



Recognize technology as a core element of long-term strategy.



Enable exploratory board and management technology discussions.



Design board calendars and agendas to ensure appropriate focus on forward-looking discussions.



## RECOMMENDATION 8: RECOGNIZE TECHNOLOGY AS A CORE ELEMENT OF LONG-TERM STRATEGY.

Boards must explicitly recognize technology as a core component of their firms' long-term strategy. In effect, much of the board's oversight of technology is now often equivalent to board engagement on strategy. But traditional strategy-setting is disrupted by shrinking horizons and shifting competitive advantages. Boards need to be sure that management is continually assessing the efficacy of current technologies in creating value for the company. This includes the means to identify potential new and disruptive technologies and ensure the organization can innovate and adapt to rapid change in the business environment. By doing so, boards can provide permission for continuous evolution.

To assess the integration of technology into strategy, boards can take the following steps.

### **Continuously monitor emerging technologies and their implications**

The Commission emphasized the importance of setting aside time to focus on emerging technologies—both learning about them and having intentional “blue sky” conversations about impacts on firm strategy, products, and service lines. **(For more on blue-sky conversations, see Recommendation 9, page 33.)** These discussions should happen more than once a year.

### **Regularly review emerging competitors, including if and how they change the nature of the firm's business**

When boards review management's strategy and assumptions against technology changes, they need also to consider how competitors are exploiting those technologies and if they are keeping up with or exceeding the value and pace of the competition. Indicators that might lead to a change in strategy include a competitor's leading-edge use of a new technology to improve products and services, use of an emerging technology to improve customer service, or a competitor breaking into a new line of business based on proprietary data.

### **Frequently review management's technology- and data-driven assumptions underlying strategy**

A critical challenge to strategy oversight in the age of technology disruption is that everything is moving all at once, and at a speed far greater than board meetings can keep up with. As such, boards need to carve out time to review and interrogate strategy and underlying assumptions at a cadence that matches the speed of disruptions in the company. For example:

- ▶ Examine how management is developing a strategic outlook that scans the horizon for new innovations and systematically links these back to business strategy.
- ▶ Review management's outlook, consider alternatives, and pressure test assumptions about the use and expected value of new technologies and different scenarios, while applying insights the board have drawn from their knowledge, experience, and work on other boards.
- ▶ Applying scenario planning and other forecasting tools allows management and the board to collaboratively explore potential risks and opportunities over multiple scenarios and time horizons. *“You must be good at strategy, and it must accommodate different technology curves. This makes assumption building and testing even more critical,”* one Commissioner noted.

**For more on pressure testing management's assumptions, see the boardroom tool, “20 Questions for Management: The Company's Technology and Data Future,” page 71.**

## Determine new ways to win through technology and data

Emerging technologies and new and evolving data present possible areas in which to compete, but not every field of play will fit each company's strategy or purpose. A key element is to review if the firm can make inroads into new areas by prioritizing investments in new technologies, sunseting technologies or business lines that may be dragging on the business, and determining the trade-offs required to enter the playing field and win. Several Commissioners emphasized that not taking any technology risk was a risk itself. While the continual pace of technology innovation can represent a threat to traditional operating strategies, boards must become more comfortable with innovation being critical to strategy. As one Commissioner said, *"Innovation is the ability to see change as an opportunity—not a threat."*

## Establish multiple, horizon-based visions on technology to protect future innovation

Commissioners observed that *"Big companies tend to quash early projects before they mature. We never let the young things be nurtured . . . and as soon as a crisis occurred it caused the company to cut funding and experimentation focused on longer-term horizons."* It is important to consider multiple time horizons, such as immediate term (the next quarter), short term (the next year), and longer term (three to five years). Boards should recognize the importance of maintaining investments across multiple time horizons and establish policies that protect these investments. For example, one Commissioner suggested that trade-offs only be made within common horizons instead of across horizons. Without this protection, companies will be tempted to prematurely cut off funding for projects in a longer-term horizon that could be the base of the company's future innovation and competitive edge.

Along with this, well designed executive incentives are critical to driving long-term success around technology strategies. Thoughtfully designed incentive plans that include technology behaviors set accountability for management to achieve both short- and longer-term innovation and value creation. By building in value drivers tied to technology into incentive plans, boards can

observe the leadership skills and attributes required to create long-term value.

## Review whether the business is prepared to take on new, transformative technology initiatives—and whether it has the right talent to reach the goal

Big strategic plays require investment, leadership, time, and persistence. Before signing off on a significant strategic shift, boards should work closely with management to determine if the firm has the right people, process, technologies, and funds available to meet defined outcomes over a reasonable period. One Commissioner shared that a strategic bet to transform from one company type and strategy to another required the reevaluation of management, board leadership, IT-function talent, and technology debt before the board even signed off on the process.

Technology progress requires high-caliber talent in the C-suite and throughout the organization, and acquiring and retaining the right people can be challenging. The board should review that it has the right management talent in the C-suite to shape the right technology strategy for the firm. The board should ensure that management is identifying and nurturing rising executive talent. Management should also review what retraining, reskilling, and upskilling is planned for the broader workforce to prepare to execute new technology strategies.

**For more on metrics that are essential to incentivizing long-term outcomes driven by technology innovation, see the boardroom tool "Incorporating the Commission's 10 Recommendations into Your Compensation Committee Agenda," page 69.**



## RECOMMENDATION 9: ENABLE EXPLORATORY BOARD AND MANAGEMENT TECHNOLOGY DISCUSSIONS.

Commissioners noted the importance of a board culture that allows both directors and management to ask candid and forward-looking questions about technology. It is important to create a culture where management and the board are allowed to note that, “*We don’t know,*” especially around technology evolutions. The Commission recommends that boards ensure a working environment where questioning is expected, and long-held beliefs are challenged.

The Commission identified recommendations that can help boards build their capacity and comfort to have open dialogue about the future of technology and how it fits into the firm’s strategy.

### Set the culture for penalty-free discussions

The board chair, CEO, and other board leaders play important roles in setting a “penalty-free culture” for questions about technology and management’s strategic technology assumptions and planning. The leaders should also be mindful of creating an environment where the board and management can pull back from assumptions and challenge concepts that have been long held as “truths.” As one Commissioner stressed, the board meeting is not the place for “gotcha” moments or to unduly test management.

The board chair, lead director, and/or CEO can work together to ensure a dialogue that captures insights from the full board that might otherwise be unvoiced.<sup>21</sup>

### Plan “blue sky” conversations

Whether a board chooses a pre-meeting dinner or a strategic off-site meeting for the time and venue, so-called “blue sky” conversations are meant to explore “what-if” scenarios about strategy. Foundational rules for this exercise typically include ignoring current limitations. Particularly within the context of

technology-related strategy, it might also be helpful for the board to host a guest speaker about a relevant technology and then have a facilitated set of questions to guide the board and managers through “what-if” discussions. The goal is to imagine a new future, move to a phase of questioning why it might be possible—and why not—and eventually decide if the idea could be incorporated into longer-term strategic plans.

### Permit early experiments

Boards should expect their management teams to experiment with new technologies, engage with members of the technology or innovation ecosystem, and present lessons learned to the board about potential opportunities or risks. Boards should be open to unanticipated findings and potentially counterintuitive recommendations from management. As one Commissioner noted, the board’s approach to these topics and the focus of discussions with management are vital to setting the “permission” and guardrails to explore new technology strategies.

**For more questions to explore management’s understanding of the future, see the boardroom tool, “20 Questions for Management: The Company’s Technology and Data Future,” page 71.**

<sup>21</sup> Directors seeking further guidance on culture can consult the 2023 Report of the Blue Ribbon Commission on *Culture as the Foundation: Building a High-Performance Board*.



## RECOMMENDATION 10:

### DESIGN BOARD CALENDARS AND AGENDAS TO ENSURE APPROPRIATE FOCUS ON FORWARD-LOOKING DISCUSSIONS.

Boards must revisit how they set their annual board calendars and meeting agendas to allow for robust discussions and decisions about technology. Commissioners observed that current agendas are too crowded and focused on backward-looking discussions with little time for forward-looking conversations about technology and strategy. One Commissioner stated that the *“biggest challenge is carving out the appropriate bandwidth and time and space to have the right conversations.”* The Commission identified ways in which the board could create this additional space while continuing to fulfill their overall expanding board responsibilities.

#### **Establish a new agenda approach for the annual board calendar**

Boards should continuously recalibrate the agenda and time commitment expectations for the agenda year and allocate time for technology and innovation strategy, risk, and oversight discussions. For example, using last year’s agenda and calendar as a framework, one board color-coded agenda items to understand how much time is dedicated to hindsight and foresight, and what the percentage looks like for both. This data allowed them to recalibrate the overall approach to the annual board agenda setting process. Other boards embed conversations about technology strategy throughout the year, as well as at strategy off-site meetings. In this way, the board avoids a significant time gap between strategy reviews and annual plans.

The board can work with the corporate secretary to review what changes can be made to the board calendar within the confines of listing and regulatory standards, among other requirements.

**For more, review the boardroom tool, “Navigating Disruption: Prioritizing Technology on the Board’s Agenda,” page 74.**

#### **Refine individual meeting agendas**

Board leaders should work to design meeting agendas that reserve sufficient space and time for technology discussion and oversight. Board and committee chairs can drive real change through rigorous agenda setting and assessment of critical and necessary information flows and decisions. This will ensure movement away from procedural, check-the-box compliance conversations and toward discussion and outcomes on critical technology issues. One approach is “zero-based board agenda setting.” This strategy asks the board, if we had to throw out our typical meeting agenda model and create a new one, what would it look like? The zero-based approach allows directors to identify where technology and data discussions belong in the board agenda to enable meaningful conversations.

Boards can also explore willingness to host more ad hoc meetings between formally scheduled meetings to address governance matters when they arise. The same goes for interactions with management as needed.



# Conclusion

This is an exciting and critical moment. Technology offers new opportunities and risks for all enterprises—and is creating winners and losers at greater speed. Boards can advance their governance of technology not through a fundamental reset, but a reset of their fundamentals, including existing practices, structures, and processes. The 2024 Blue Ribbon Commission urges boards to apply the recommended

actions in this report, no matter the maturity level, to make a difference through stronger technology governance. It urges directors to become relentless “learn-it-all.” Through a measured approach to strengthen oversight, deepen insight, and develop foresight, boards help their companies become technology leaders, not laggards, who steadfastly drive trust and value.



# Toolkit for Action

The 2024 Blue Ribbon Commission report is accompanied by questions to ask and other supporting materials that help boards adopt the Commission's recommendations. The toolkit, prepared in collaboration with the Commission, NACD partners—KPMG, Pearl Meyer, Sidley Austin LLP, and Russell Reynolds Associates—and NACD content staff, is geared to meet directors' needs for actionable and practical guidance they can apply in their boardrooms.

## For the Full Board

- TOOL 1** Questions to Assess the Role of the Board Regarding Technology
- TOOL 2** Technology Oversight Structures: Is a Technology Committee Right for Your Board?
- TOOL 3** Sample Technology Committee Charter
- TOOL 4** Set Up for Success: Considerations When Developing a Technology Committee Charter
- TOOL 5** Board Oversight of Data Management and Governance: Key Focus Areas and Questions for Directors
- TOOL 6** Opportunities for Board Engagement in Technology Oversight

## For Individual Directors

- TOOL 7** Director Technology Proficiency Evaluation
- TOOL 8** Assessing Technology Governance Behaviors





## For Board Leaders

- TOOL 9** Technology Oversight and the Role of the Compensation Committee
- TOOL 10** Incorporating the Commission's 10 Recommendations into Your Compensation Committee Agenda
- TOOL 11** 20 Questions for Management: The Company's Technology and Data Future
- TOOL 12** Navigating Disruption: Prioritizing Technology on the Board's Agenda




# Tool and Recommendation Alignment Table

The tables below index applicable tools alongside their associated recommendations.



## Strengthen Oversight

Commission Recommendations	Associated Tools
 Ensure trustworthy technology use by aligning it with the organization's purpose and values.	<b>TOOL 1</b> Questions to Assess the Role of the Board Regarding Technology
 Upgrade board structures for technology governance.	<b>TOOL 2</b> Technology Oversight Structures: Is a Technology Committee Right for Your Board?
	<b>TOOL 3</b> Sample Technology Committee Charter
	<b>TOOL 4</b> Set Up for Success: Considerations When Developing a Technology Committee Charter
 Clearly define the board's role in data oversight.	<b>TOOL 5</b> Board Oversight of Data Management and Governance: Key Focus Areas and Questions for Directors
 Define decision-making authorities for technology at board and management levels.	<b>TOOL 6</b> Opportunities for Board Engagement in Technology Oversight

## Deepen Insight

Commission Recommendations	Associated Tools
 Establish and maintain necessary technology proficiency among the board.	<b>TOOL 7</b> Director Technology Proficiency Evaluation
 Evaluate director and board technology proficiency.	<b>TOOL 8</b> Assessing Technology Governance Behaviors
 Ensure appropriate and clear metrics for technology oversight.	<b>TOOL 9</b> Technology Oversight and the Role of the Compensation Committee

## Develop Foresight

Commission Recommendations	Associated Tools
 Recognize technology as a core element of long-term strategy.	<b>TOOL 10</b> Incorporating the Commission's 10 Recommendations into Your Compensation Committee Agenda
 Enable exploratory board and management technology discussions.	<b>TOOL 11</b> 20 Questions for Management: The Company's Technology and Data Future
 Design board calendars and agendas to ensure appropriate focus on forward-looking discussions.	<b>TOOL 12</b> Navigating Disruption: Prioritizing Technology on the Board's Agenda

TOOL  
1

# Questions to Assess the Role of the Board Regarding Technology

Sidley Austin LLP

*Sidley Austin LLP provides this information for educational purposes only. It should not be construed or relied upon as legal advice. Given the complexities of law, regulation, and practice in this area and the variety of company-specific factors that need to be considered, guidance from this tool, "Questions to Assess the Role of the Board Regarding Technology," should be tailored by an attorney experienced in this area of law for the specific corporation based on applicable law, regulation, and listing rules as well as factors such as relevant technologies used by the company, organizational structure, and lines of business.*

**How to use this tool:** This tool offers boards and directors questions that align the important fiduciary responsibilities of directors to the technology oversight context. Boards and directors can reference this tool to determine if they are appropriately fulfilling their role as fiduciaries of the company when overseeing technology matters.

The board has the legal responsibility for directing corporate affairs in the best interests of the company and its shareholders. This requires, among other things, that the board provide oversight of the authority it has delegated to the CEO and other officers to manage the company on a day-to-day basis. This includes, but is not limited to, oversight of strategy, performance, compliance, and enterprise risk management.

As fiduciaries, directors are required to attend to the important issues facing the corporation and assure themselves that management is appropriately attentive and that appropriate information, reporting, and internal control systems are in place.<sup>22</sup> The board's oversight obligations extend to the company's development and use of technologies, which present opportunities for competitive advantage and innovation while presenting potential for disruption and changes to the company's risk profile.

Board oversight is key to ensuring that technology is used responsibly and in alignment with the company's strategic objectives and values. This requires that board members understand how technology is used in the company and what potential opportunities and risks it presents. Directors should apply the same prudent fiduciary mindset and attention to technology matters, including related internal controls, policies, and information systems, that they apply to other matters of strategy, management performance, compliance, and risk. Directors should be attuned to the questions on four key areas outlined below.

## Understand the relevant technology as a matter of corporate strategy and risk.

- ▶ How might the technology disrupt or change the company's industry and business?

<sup>22</sup> See *In re Caremark International Derivative Litigation*, 698 A.2d 959 (Del.Ch. 1996); *Stone v. Ritter*, 911 A.2d 362, 370 (Del. 2006); and related cases.

- ▶ How is the technology used by the company and its competitors?
- ▶ What strategic opportunities does the technology present (or could in the future present) to enhance corporate and shareholder value which have not yet been captured?
- ▶ What advantages can be gained by incorporating the technology into the company's products, services, or operations? For example, how might the technology support innovation, reduce risk, or otherwise improve efficiency and reduce costs?
- ▶ What are the associated operational, financial, compliance, and reputational risks related to the company's development and use of the technology, including but not limited to risks associated with misuse and unintended consequences?
- ▶ What investments will be needed to utilize the technology in terms of financial and human capital and over what time frame?
- ▶ Does the company have the expertise and resources to pursue a strategy with respect to the technology in a responsible way?
- ▶ Does our enterprise risk management program and our oversight of it sufficiently include the risks of technology? Do we adequately track and measure these risks?

**Consider the impact of the emerging technology on employees, customers, other key stakeholders, and the environment in which the company operates.**

- ▶ How might the technology affect employees by aiding in their work (or making them redundant)?
- ▶ Are employees being trained to use technology in a manner that leverages

their skills and mitigates related risks, with effective policies in place to encourage appropriate employee use in line with the degree of risk? (This is especially important in highly regulated or otherwise high-risk contexts.)

- ▶ What accountability structures help ensure that teams and individuals are given appropriate direction and that they are incentivized, empowered, responsible, and trained both to support their performance and to map, measure, and manage technology-related risks?
- ▶ How are customers and suppliers likely to use the technology, and what are the implications for the company's own operations and shareholder-value-enhancing opportunities?
- ▶ How might the technology enhance customer experiences and/or improve supply chain dynamics?
- ▶ What is the expected impact on the company's energy and water use or other environmental impacts?
- ▶ Is the company's hypothetical or actual use of the technology likely to have other societal or reputational impacts?

**Oversee the company's technology-related enterprise risk management and compliance with legal and ethical obligations.**

- ▶ Does the technology present any mission-critical compliance, safety, security, or trust risks related to the company's use of it, and, if so, are these risks specifically mapped to a board committee for more frequent and in-depth attention (as reflected in the committee charter, agenda, and minutes)?
- ▶ Has management put in place appropriate policies, processes, procedures, and practices related to mapping, measuring, managing, and mitigating technology-related risks, including but not limited to

risks related to intellectual property, privacy, and cybersecurity?

- ▶ Has management developed and implemented effective information systems and internal controls to ensure compliance with law, regulation, corporate policies, and ethics?
- ▶ Has management accurately communicated with consumers, investors, and other stakeholders about the nature and functioning of its technology offerings, as well as their risks?

committee receive timely updates on technology-related matters (including associated opportunities and risks)?

- ▶ Is the board or appropriate board committee regularly updated about rapidly emerging legislative and regulatory developments that relate to the technology?

### **Attend to the board's capacity to provide appropriate oversight of technology-related matters.**

- ▶ Do board and/or relevant board committee agendas provide for appropriate focus on technology-related matters?
- ▶ Does the board and/or relevant board committee have appropriate access to information, advice, and expertise (whether through its own composition or otherwise) on technology-related matters to be able to understand strategic opportunities and risks and consider related controls?
- ▶ Are technology-related risks mapped to a board committee for more frequent and in-depth attention (as reflected in the committee charter, agenda, and minutes)?
- ▶ Does the board or appropriate board committee regularly review the company's policies and procedures related to technology-related compliance and other risks?
- ▶ Has the board or appropriate board committee established clear reporting lines and metrics for measuring performance with respect to technology-related initiatives?
- ▶ Does the board or appropriate board

TOOL  
2

# Technology Oversight Structures: Is a Technology Committee Right for Your Board?

NACD

**How to use this tool:** This tool provides information about fiduciary board committees and technology advisory boards. Boards considering establishing a technology committee or technology advisory board can use this tool to understand the key features, important differences, benefits, and issues to consider about each structure.

## THE GROWTH OF BOARD TECHNOLOGY COMMITTEES

The 2024 report of the NACD Blue Ribbon Commission, *Technology Leadership in the Boardroom: Driving Trust and Value*, noted that technology committees can provide space for discussing important technology items in greater depth not afforded in a standard full-board meeting. There are several approaches boards can consider for bridging the gap, including fiduciary board technology committees and technology advisory boards.

Boards should ask themselves a range of questions when determining if an advisory committee or a board technology committee is right for their company and if the board and management teams are prepared to establish and sustain it. But as one Commissioner stated, *“Whatever you choose, it should be what drives the board to that strategy discussion. Oftentimes, technology is the Trojan horse to strategy discussion, and committees can help with that.”*

However, even if a board creates a technology committee, technology oversight in some capacity must remain a full-board agenda item to ensure the board fulfills its fiduciary role with respect to oversight of strategy, risk, compliance, and long-term value creation.

## QUESTIONS TO CONSIDER

- ▶ Does our current committee structure provide adequate capacity and capability for effective oversight of all relevant technology matters?
- ▶ Does our board currently have the necessary composition to staff a dedicated technology committee?
- ▶ What scope should we assign to a technology committee? For example, should it focus on innovation, science and R&D, product, cybersecurity and resiliency of operations, on all of these, or some of these?
- ▶ Would the board’s technology-oversight needs be better solved by a committee or additional expertise, either through supplementary education or new, tech-savvy directors?
- ▶ Who from management will report to this committee, and what information would be most helpful to the committee in fulfilling its oversight mandate and responsibilities?
- ▶ Can the management team effectively support and engage with an additional board committee?

Boards should assess the specific implications and requirements of each committee alongside the company's particular technology-oversight needs. Below is an outline of two common committee options to help directors evaluate whether a committee would advance their board's technology oversight.

## TECHNOLOGY ADVISORY BOARD

**Overview:** Advisory boards can be a useful resource to help execute technology oversight when boards need targeted expertise or a broader knowledge base than is present on the current board. There are no legal requirements for establishing an advisory board, and their structure, processes, composition, and formal documentation varies widely in scope and specifications.

This flexibility helps explain why technology advisory boards have been adopted across a range of industries, including energy, software and technology, and medicine to help in overseeing topics that include product development, research and development, and major digital transformation initiatives.

## KEY FEATURES

**Purpose:** Advisory boards offer organizations regular access to individuals with specialized expertise that is aligned to the specific technology needs of the company, such as product development, research and development, science, or innovation.

**Structure and Reporting:** Advisory boards can advise management, the board, or both. The advisory board's bylaws or charter should clarify who the advisory board will report to and how they will engage with management and the company's board of directors.

Advisory boards typically meet between one and six times per year but can meet as necessary depending on the issue or topic on which the committee is advising.

**Composition:** A technology advisory board can range in size from two members to as many as 25 (in some

cases), and typically consists of a panel of experts who provide strategic advice on technical matters, innovations, product development, or research and development. Like a fiduciary board, an advisory board should have a diversity of experiences and knowledge, and boards can look to a variety of professional backgrounds to compose the committee. Common backgrounds include technology company leaders, chief information or technology officers, chief digital or product officers, senior research and development leads, technology investors, and technology company founders or start-up scaling executives.<sup>23</sup>

**Responsibility and Authority:** Unlike a fiduciary board, advisory boards do not have legal decision-making authority, and they are not bound by governance or fiduciary responsibilities. Again, this lack of meaningful governance or decision-making authority reinforces their purpose as a purely advisory body focused on the specific technology needs of the company.

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<sup>23</sup> Tristan Jervis, Tuck Rickards, James Roome, and Nicolas Schwartz, "Next Generation Advisory Boards: A Trending Solution for Bridging the Tech Talent Gap," posted on russellreynolds.com on November 20, 2023.

## BENEFITS

Technology advisory boards can help fiduciary boards execute technology oversight by bringing in new perspectives, complementing the board's expertise and skills. Through access to leading technology executives and practitioners, the board and management team have a valuable resource to support their thinking on critical technology matters. Similarly, if the board has a gap in its technology fluency or education, an advisory board can help fill this gap. It can also signal to stakeholders that the board and management team are focused on critical technology issues.

Advisory boards can make membership changes more quickly than fiduciary board committees, and this flexibility can help boards more quickly adapt to the company's technology strategy needs and the speed of technology development. This also means advisory boards can similarly be quickly disbanded when the board deems them no longer necessary.

## ISSUES TO CONSIDER

Technology advisory boards require time and attention, and recruiting the right members, holding regular meetings, and evaluating the board recommendations require considerable resources. Boards and management teams that lack the necessary commitment or who do not intend to seriously consider the advisory board's recommendations should avoid establishing a technology advisory board. In such circumstances, companies may find it more appropriate to hire consultants to meet their needs.

The board and management team should ensure they are aligned on the proposed benefits, purpose, and scope of a technology advisory board. Advisory boards should avoid encroachment into management territory and should maintain a strict focus on their intended focus area. An advisory board in conflict with management that veers outside the scope of its advisory lane is unlikely to deliver the desired value to the board's oversight of technology. A lack of commitment by members can similarly erode its value. Some or all members of an advisory board may not meet the expectations that were set for preparedness, engagement, and expertise when they were initially added. Both parties should clearly lay out their expectations to avoid potential misunderstandings.

## FIDUCIARY BOARD TECHNOLOGY COMMITTEES

**Overview:** Technology committees can allow the board to engage in deeper, more complex discussions on technology trends and their implications for the business and its long-term strategy. They also provide the board with the greater space necessary to fulfill its fiduciary responsibilities related to technology oversight. (See [“Questions to Assess the Role of the Board Regarding Technology,” p. 38.](#))

## KEY FEATURES

**Purpose:** Boards should define the committee's scope and purpose and core oversight responsibilities. These should be defined in consideration of the responsibilities of other standing committees and the full board. The specifics of where the technology committee will direct its oversight and attention toward will be defined in the technology committee charter's purpose statement. (See [“Sample Technology Committee Charter,” p. 46.](#)) A review of board technology committee charters shows that purposes can include oversight of digital technology, technology risk, technology innovation, impacts on customers, technology operations, and technology investment.

**Structure and Reporting:** The committee will likely be structured similarly to other standing committees, and the same considerations and decisions must be made relating to matters such as meeting cadence, access to management, and the committee's relationship and reporting processes to the full board.

Ultimately, the committee should be structured to fulfill and align with the board's and company's specific technology oversight needs. As the committee identifies important technology matters, the committee should be expected to escalate important matters to the full board for further discussion to maintain appropriate full-board technology oversight.

**Composition:** A decision to form a technology committee implies that directors with the requisite qualifications are available to fulfill its oversight mandate. Technology committees are often composed of three to four members. Oftentimes, committee charters will set a minimum of two or three members to allow for additional members if necessary to fulfill the committee's oversight responsibilities. Boards should determine the necessary committee membership criteria. Common considerations focus on independence, skill sets, and expertise.

- ▶ **Independence:** Technology committees will often be composed exclusively of nonexecutive directors or directors who qualify as independent and can provide appropriate and beneficial independent oversight.<sup>24</sup>
- ▶ **Skills and Expertise:** Directors with technology governance-related expertise should be part of the composition of the committee. The committee should not, however, be composed exclusively of designated "technology experts" and should include directors with strategy and risk expertise to ensure technology oversight remains at the appropriate level for board oversight.

## RESPONSIBILITY AND AUTHORITY

The committee's responsibilities should be related to and derived from the committee's purpose and the needs of the board. As part of the annual committee-charter review, responsibilities and duties may change to keep the committee fit for purpose.

The technology committee will have specific authorities. These will often include the authority to retain or terminate external consultants or independent counsel, call meetings when necessary, and delegate authority to a subcommittee so that it can fulfill its oversight responsibilities.

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<sup>24</sup> NACD, *Director FAQ: Special Committees* (Arlington, VA: NACD, 2021), p. 1.

## BENEFITS

Over the past five years, boards have increasingly established technology committees. NACD data show that across the Russell 3000, companies' use of technology committees is steadily rising, with 7 percent of companies establishing this type of committee in 2023 versus 5 percent in 2019.<sup>25</sup> As this is becoming a more common committee on boards, road maps and best practices are also available to help boards more easily navigate this process of establishing a technology committee.<sup>26</sup>

Many commissioners also cited the benefit of additional time to focus on technology, disruptive technologies, and new innovations on the horizon in a more holistic, forward focused, and strategic manner.

## ISSUES TO CONSIDER

Important technology discussions can become siloed within the committee. Given technology's deep integration into corporate strategy and operations, the board must be informed about critical elements of the organization's technology and risk profile. Similarly, the board can rely too heavily on the committee to make decisions that should be at the board level. If board leadership observes that critical information is not being communicated to the full board, action should be taken to make sure that strong reporting and information-sharing processes are in place and enforced.

Another potential pitfall is inadequate composition. This can include establishing a technology committee and composing it only with technologists, or, alternatively, establishing the committee prematurely before the board has the correct composition and adequate technology and strategic skills to sustain it. Technology committees should possess a balance of technology skills and expertise alongside strong strategic, operating, and risk backgrounds. This helps ensure the committee remains focused on fulfilling the mandate of the committee and its fiduciary responsibilities of overseeing risk and value creation for the company.

## QUESTIONS TO CONSIDER WHEN EVALUATING COMMITTEE TYPES

- ▶ How significant is technology to our business and our industry?
- ▶ Are we able to have productive, technology-related strategy discussions with our board?
- ▶ Are our peers outpacing us in technology and innovation?
- ▶ Do our peers have technology committees on their boards or technology advisory boards?
- ▶ Do we have enough time allocated to discussing technology as part of our current board agenda?
- ▶ Do we have a sufficient number of board members who are up to date on current technology trends?
- ▶ How educated or experienced is our board in technology areas that are important to our business?
- ▶ Would technology leaders in the organization benefit from more frequent interactions with outside technology advisors or mentors?
- ▶ Does the board need a more robust discussion on capital allocation for new technology projects?
- ▶ Is the company benchmarking well in cybersecurity assessments?

<sup>25</sup> NACD, *Inside the Public Company Boardroom* (Arlington, VA: NACD, 2024), p. 4.

<sup>26</sup> Ryan McManus, "Future-Focused Governance: The Acceleration of Science, Technology, and Innovation Committees," *Directorship* magazine, posted on nacdonline.org on November 1, 2023.

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[NAME OF COMPANY]

## TECHNOLOGY COMMITTEE CHARTER

As Adopted by the Board of Directors, Effective [\_\_\_\_\_]

### I. PURPOSE

The Technology Committee (the "Committee") is appointed by the Board of Directors (the "Board") of [name of company] (the "Company") to assist the Board in fulfilling its oversight responsibilities with respect to significant technological aspects of the Company's businesses and operations. The Committee's primary duties and responsibilities are to provide advice and oversight with respect to the Company's use of [specify] technology, including related matters of strategy and risk such as new product development and acquisition opportunities, research and development and manufacturing programs, and technology-related risk identification and management.

### II. COMPOSITION AND MEETINGS

The Committee shall be composed of two or more members of the Board (each a "Director"), as determined and appointed by the Board. The Board shall designate one member of the Committee to act as Chair of the Committee. The Committee Chair shall set the agenda for, and preside at, meetings of the Committee. If the Committee Chair is not present at any meeting of the Committee, the members of the Committee who are present may designate a Chair by majority vote.

The Committee shall meet at least three times a year, or as often as circumstances dictate. The Committee shall meet privately in executive session without members of management present in its discretion to discuss any matters that the Committee believes should be discussed. The Committee may request that Company officers and employees who are not members of the Committee participate in Committee meetings and may invite experts and advisors to participate as well.

### III. AUTHORITY AND DELEGATION

The Committee has direct access to relevant Company information and personnel, and authority to retain, at the Company's expense, advisors it deems necessary in the performance of its duties and has the sole authority to approve fees and other retention terms of such advisors. The Committee has the authority to conduct any investigation appropriate to fulfilling its responsibilities.

The Committee may designate one or more subcommittees, each subcommittee to consist of one or more members of the Committee. Any such subcommittee, to the extent provided in the resolutions of the Committee and to the extent not limited by applicable law or listing standard, shall have and may exercise all the powers and authority of the Committee, provided that such subcommittee shall be subject to the terms of this Charter. Each subcommittee shall keep regular minutes of its meetings and report the same to the Committee or the Board when required.

### IV. RESPONSIBILITIES AND DUTIES

Among its specific duties and responsibilities, the Committee shall:

1. Review and make recommendations regarding the Company's overall technology and data strategy, and the effectiveness of its research, development and manufacturing programs.
2. Review and evaluate the Company's policies and procedures relating to technology, security, data management, and related matters.
3. Evaluate and understand technology and data security, threats and risks affecting the Company and understand the Company's internal controls and vulnerabilities and plans for threats.
4. Serve as a resource and provide oversight, as needed, regarding scientific and technological aspects of new product development.
5. Assist the Board in identifying and understanding new and emerging science and technology issues, trends, opportunities, and threats that may impact the Company's overall business strategy.
6. Review the science and technology aspects of significant business developments and acquisition opportunities.
7. Perform an annual assessment of the Committee's performance.
8. Review and reassess the adequacy of the Committee's Charter at least annually and recommend to the Board for approval any amendment or modification of the Charter at any time in accordance with applicable law and regulations.
9. Perform any other activities consistent with this Charter, the Company's certificate of incorporation, by-laws, and governing law, as the Committee or the Board deems necessary or appropriate.
10. Maintain minutes of meetings and periodically report to the Board on significant results of the foregoing activities.

TOOL  
4

# Set Up for Success: Considerations When Developing a Technology Committee Charter

NACD

**How to use this tool:** Boards can use this tool as a reference guide that outlines the key components of a technology committee charter and the associated items boards should consider when establishing a technology committee. It provides contextual information and data to help boards establishing a technology committee and navigating the process of writing the committee's charter.

Board technology committees are becoming more common. NACD survey data reveal that across the Russell 3000, 7 percent of boards, 194 in total, have a technology committee, which represents an increase of 41 since 2019.<sup>27</sup> Spencer Stuart's *2024 United States Board Index* further reveals that across the S&P 500, 15 percent of company boards now have science and technology committees compared to only 9 percent of companies over the same time period.<sup>28</sup> Further, a dedicated board technology committee can be an effective approach to overseeing technologies' growing importance to the company's operations, strategy, and risk. NACD's 2024 Board Practices and Oversight survey data show that more than three-quarters (76%) of boards with a stand-alone technology committee said it was either "very effective" (52%) or "extremely effective" (24%) at improving their board's governance of technology issues.<sup>29</sup>

A review of board technology committee charters shows that focus and scope of these committees can vary widely, ranging from technology risk to science, technology, and innovation. It is important to remember that while the charter contains the following necessary

foundational elements, the specific technology oversight requirements should be scoped to the company's unique technology environment, risk profile, and strategic needs. The sample annotated charter below provides a helpful overview, with examples from multiple company technology committee charters to help in developing a board's technology committee charter.

## COMMITTEE FOCUS

Boards will need to determine the overall committee focus, which will help define the scope and responsibilities of the committee. The "right" focus for each board is contextual to the organization and the board. Working together with the management team, the board can consider whether to direct the focus toward technology and innovation or if a cybersecurity and risk-management focus is more appropriate. The name of the committee can also send an important signal to stakeholders about how technology is positioned in the organization. A review of committee names and focus areas shows that committees are commonly paired with

<sup>27</sup> NACD, *2024 Inside the Public Company Boardroom* (Arlington, VA: NACD, 2024), see p. 4 and p. 20.

<sup>28</sup> Spencer Stuart, *2023 US Spencer Stuart Board Index* (2023), p. 35.

<sup>29</sup> Figures represent data from privately held and publicly traded companies and can be found in the *2024 Private Company Board Practices and Oversight Survey* and the *2024 Public Company Board Practices and Oversight Survey*.

technology-adjacent terms such as strategy, risk, operations, innovation, science, or research & development. Examples include:

- ▶ Technology Committee
- ▶ Technology & Science Committee
- ▶ Technology, Science & Innovation Committee
- ▶ Technology & Cybersecurity Committee
- ▶ Technology & Strategy Committee
- ▶ Technology & Operations Committee

## COMMITTEE PURPOSE

Each committee charter requires a purpose statement that outlines the reason for creating the committee while also articulating the scope of the committee's oversight of technology in broad terms as seen in the example below. Technology committee purpose statements will typically outline the specific aspects of technology the committee will focus on, stating that the committee will both "advise" and "oversee" topics such as digital technology, technology risk, technology innovation, technology operations, or technology investment.

An excerpt from a public financial services institution shows how the board outlines the committee's focus on operations, strategy, and resiliency which are critical aspects to oversee based on its sector.

### FINANCIAL SERVICES COMPANY OPERATIONS AND TECHNOLOGY COMMITTEE: PURPOSE<sup>30</sup>

The Committee is appointed by the Board of Directors to assist the Board in its oversight of (i) the Company's operations and technology, including operations and technology strategy and significant investments in support of such strategy and (ii) operational risk, including information technology, information security, fraud, third-party oversight, business disruption and resilience and cybersecurity risks.

## MEMBERSHIP AND COMPOSITION

The charter will indicate committee size, how members and the committee chair are selected, independence requirements, term lengths or limits if any, and committee size.

- ▶ **Size:** Technology committees are often composed of two, three, or four members. Oftentimes, charters will set a minimum at two members to allow for additional members if necessary to fulfill the committee's oversight responsibilities.
- ▶ **Appointment:** Boards will need to determine the operations for appointing members and selecting the chair. Often the nominating and governance committee will recommend members and a chair to serve on the committee based on their skills and expertise with the full board then ratifying the selections. Also, the board often retains authority to either appoint or remove committee members at any time to account for future vacancies or committee membership needs.
- ▶ **Membership Criteria:** Technology committees will often be composed exclusively of nonexecutive directors who qualify as independent and have the relevant background and expertise to oversee technology. While technology expertise is an important ingredient for success the committee should also include directors with strategy and risk expertise to ensure technology oversight remains at the appropriate level for board oversight.

<sup>30</sup> The excerpt is from the [Morgan Stanley Operations and Technology Committee Charter](#). This purpose statement shows how the committee can be focused on multiple areas of technology oversight, including strategy and operations.

## AUTHORITY

The charter should clearly indicate the scope of the committee's authorities, including its decision-making authority and the authority the committee requires to fulfill the responsibilities the board has delegated to it. Common authorities the charter may outline can include retention or termination of external consultants or independent counsel, calling meetings when necessary, and delegating authority to a sub-committee.

## RESPONSIBILITIES AND DUTIES

This section of the charter should clearly articulate the responsibilities the committee is required to fulfill. As with all board committees, the duties and responsibilities outlined in this section must be performed by the committee. The specific duties and responsibilities to be completed should derive from the purpose statement of the committee and be related to the overall technology oversight needs of the board. Common responsibilities include reviewing technology strategy, evaluating new technology innovations under consideration by the company, reviewing company technology risks, and reviewing technology investments.

The excerpt of an electronics manufacturing services company's technology committee duties and responsibilities (see text box) shows how its strategic focus on science, technology, and innovation are outlined through the specific oversight duties the board assigns the committee.

## OPERATIONS AND PROCEDURES

The charter should outline how the committee will operate and the resources, personnel, and information available to the committee in exercising its oversight responsibilities. Similar to standing committees on the board, the technology committee should likewise submit to regular charter review and evaluations in order to remain fit for purpose for the board's technology oversight needs.

While each committee will be different, common items to include in this section include:

- ▶ Meeting cadence
- ▶ Access to management
- ▶ Access to internal and external expertise
- ▶ Relationship to the full board
- ▶ Meeting minutes and reporting to the board
- ▶ Performance and charter review

### ELECTRONICS MANUFACTURING SERVICES COMPANY TECHNOLOGY COMMITTEE: DUTIES AND RESPONSIBILITIES<sup>31</sup>

On behalf of the Board, the Committee shall, among its duties and responsibilities:

1. To oversee the company's technology and innovation strategy and approach, including its impact on the Company's performance, growth and competitive position.
2. Subject area focus will be on the technologies that will impact and enhance the company's current and future core business capabilities.
3. To assist the Board in its oversight of the company's investments in science, technology and digital initiatives, including through corporate development and other business development activities.
4. To review science and technology trends that could significantly affect the company and the industries in which it operates. Trend sources include but are not limited to: industry and market experts, conferences and trade shows; customers and supplier interactions and relations; leading institutions, accelerators and incubators; and company engineering and business development teams.

<sup>31</sup> This excerpt is from the [Nortech Systems Science and Technology Committee Charter](#). This excerpt shows how a focus on innovation, science, and technology by the committee can be outlined in specific responsibilities.

# Board Oversight of Data Management and Governance: Key Focus Areas and Questions for Directors

KPMG

**How to use this tool:** Use the questions below to assist the board/committee in understanding management's program for data governance and management and associated risks. This tool can be used when considering management's proposed data governance program and any proposed changes, including those that respond to changes in the regulatory landscape.

Effectively overseeing management's data governance program requires that directors first understand how the program operates. Data can be a valuable corporate asset, but its value depends upon its quality, integrity, and reliability. At the same time, weak data management poses material risks related to privacy, cybersecurity, compliance with law, and reputation. A strong data-governance program can help maximize the value of data while mitigating risks.

Overall, directors need to understand the company's data-related risks (magnitude) and benefits, who is in charge, how information will flow up to the board, and downside scenarios.

## KEY FOCUS AREAS AND QUESTIONS FOR DIRECTORS

### The Data

- ▶ Does management have a robust data governance framework that makes clear what data is being collected, as well as how and where it is stored, managed, used, and deleted? Who makes these decisions?
- ▶ How is access to data assets determined, recognizing that more sensitive assets require more restrictive access? Are there clearly

defined and auditable rules regarding data access, including rules addressing who can see which data and under what circumstances?

- ▶ How does management determine, approve, document, and monitor data use cases? Does the company engage in related risk assessments?
- ▶ Does management's data governance program distinguish among assets that are owned, managed on behalf of others, or purchased/used and clarify the rights and responsibilities associated with each category?
- ▶ Has management mapped where all data assets reside, the genesis of the data, and any related limitations on use? When is this mapping updated? Is this process manual or automatic?
- ▶ Does management evaluate which data is most valuable, and calibrate controls accordingly?
- ▶ How is management addressing data quality, integrity, reliability, and security?
- ▶ How does management protect data and ensure compliance with applicable laws and regulations (including those related to data privacy and intellectual property)?

- ▶ Is the company collecting or retaining data it doesn't need, or in a form it doesn't need?

## Values and Ethics

- ▶ Does the company's data governance framework take into account its values and purpose (as well as applicable laws and regulations)?
- ▶ How do we manage the tension between how the company can legally use customer data and customer expectations regarding how the data is used?
- ▶ What use cases does the company consider off-limits, based upon its values and purpose, and are these clearly reflected in the data governance framework?
- ▶ Does management discuss the most critical dilemmas regarding the use of data, analytics, or technology innovations with the board? What type of proposed use of data, analytics, or new technology innovations might require review by the board to ensure alignment with the company's values and purpose?

## Structure of the Data Governance Program

- ▶ How is the data governance program structured from an operational point of view—for example, has management created a data governance council, and is the program centralized or federated? Who has overall responsibility, and who does that individual report to? Who has specific responsibility for data, recognizing that this may not be a chief data officer (or that officer's equivalent)?
- ▶ Does management have the people, skills, training, technology, and other resources to effectively manage data?
- ▶ How is the data management program funded (e.g., project based, cost recovery), or is the company committed to funding

a data office in the same manner that it would fund any other corporate function (e.g., finance, HR)? Is there a sustainable funding mechanism for the program?

## Culture of Data Governance Throughout Workforces

- ▶ How will management ensure adoption and compliance with data governance practices and policies throughout the company (i.e., a culture of strong data governance)?
- ▶ Is there sponsorship and alignment on the data governance program from the top down, and do communications create clarity on strategy, directives, and priorities of the data governance program?

## Internal Audit

- ▶ Does internal audit review the data governance program to identify risks and assess compliance with processes and procedures (such as those concerning archiving and retention) as well as laws and regulations?
- ▶ Is internal audit examining the design and operation of internal controls relating to data?

## Third Party Assessment

- ▶ Should the data governance program be reviewed by a third party?

## Alignment with Strategy

- ▶ Does the data governance program support the company's strategy?
- ▶ Which of the company's strategic goals are dependent upon data?
- ▶ Is there alignment across the C-suite on the company's data governance priorities?

## Value Creation

- ▶ How will the company measure value creation and the success of the program (e.g., cost reduction, technology simplification, new revenue, data-driven decision support, support of regulatory compliance, competitive advantage, speed to market, operational excellence) since it may be difficult to demonstrate quantifiable value, at least at first?
- ▶ In the face of a value trade-off, such as technology convenience and security, how are priorities and potentially competing values balanced and resolved?

## Third-Party Access

- ▶ Which third parties have access to company data—and do they have controls in place to manage the data in accordance with our policies?
- ▶ What third-party technologies are embedded within our own technologies and products? How do we keep track of potential vulnerabilities from third-party components?
- ▶ Does data received from third parties comply with agreements between those parties and the company—and who is verifying compliance?
- ▶ Is our business dependent on any third-party data sources or any third-party technology?
- ▶ What is the process to perform due diligence on third parties before sharing data assets or connecting IT systems?
- ▶ Is there an ongoing risk assessment and oversight program for third parties that access company data or IT systems?
- ▶ Do we limit the ability of third parties to use company data for value creation?

## Board Structure

- ▶ How does the board—through its committee structure—assign and coordinate oversight responsibility for management's data governance framework, policies, and processes?
- ▶ Are the responsibilities of the full board versus its committees clearly defined?

## Reporting to the Board

- ▶ How frequently will the chief data officer (or other designated officer) report to the committee(s) and the full board, and is there an understanding of the level and amount of information the committee(s) will receive, including KPIs and other metrics?
- ▶ Do reports keep the committee(s) and board up to date on the changing regulatory landscape and the impact of changes in law and regulation on the company (e.g., additional restrictions on use of data, emerging regulatory trends)? Who is responsible for tracking laws and regulations applicable to the data governance program?
- ▶ Are there escalation protocols for when and how the relevant committee(s) or board are notified of issues involving the data program?

## New Technologies

- ▶ What steps is management taking with respect to its data program to prepare for utilizing new technologies (e.g., AI, Generative AI, and subsequent technologies)?
- ▶ Are the building and maturity of capabilities under the data governance framework evolving—and will they continue to evolve—to meet the challenges of new technologies?
- ▶ Are we prepared for new regulatory regimes emerging to address new technologies and digital economies?

## WHAT TO WATCH FOR AND LISTEN FOR IN CONVERSATIONS WITH MANAGEMENT ABOUT DATA GOVERNANCE

- ▶ How does the data strategy align with enterprise objectives?
- ▶ Does the business case supporting the data strategy and related initiatives reflect the same type of rigor and standards as any other corporate project?
- ▶ Has management briefed the board on the range of data risks (including security, privacy, and regulatory), both known and anticipated, associated with the company's use of data? How are those risks being proactively or retrospectively addressed from people, process, and technology perspectives? How and when does management update its risk assessment?
- ▶ Does the board, through its committees, have visibility into management of the range of data risks? Is the board apprised of these issues?
- ▶ Ethical situations involving data or analytics, including "close" data ethics questions
- ▶ The quality and governance of data used to prepare external regulatory reports
- ▶ Do updates include KPIs and other metrics that demonstrate measurable progress?
- ▶ If there are impediments to achieving strategic objectives, can the board help remove those barriers?

# Opportunities for Board Engagement in Technology Oversight

NACD

**How to use this tool:** This tool helps boards determine where they should engage to provide insight, guidance, and/or board approval as it relates to technology and technology-related investments.

New technology and data capabilities bring numerous benefits to an organization and its value chain. However, the uncertainty surrounding many new technologies can blur the line between the board and management and tempt directors to overstep the boundary between managing and governing. The board should engage with management on the evolving technology landscape, including on the topics below, and ensure there are defined and distinct roles and decision-making authorities for the board and management.

## Technology and Data Investments

- ▶ **Approval thresholds:** The board and management may find it necessary to revise current dollar amount thresholds that require the board's approval regarding technology and data-related investments.
- ▶ **Data management:** The board should ensure management is transparent to the board and other stakeholders about data use and that management engages with the board when considering changing or adapting new uses of data.
- ▶ **Technology innovation:** The board should be sure there are distinct uses and reasons behind technology and innovations tied to a benefit to the organization, and that those distinct uses and reasons align with the company's ethics.

## Third/Outside-Party Involvement

- ▶ **Strategic partners:** The board should ensure that management vets the partners the organization is interested in pursuing for data and technology-related purposes, including sharing and partnerships.
- ▶ **M&A and joint ventures:** Technology and data should be a specific component of the due diligence process for M&A and joint ventures, which the board should be aware of and keep in mind when approving these decisions.

## Governance Structure and Composition

- ▶ **Recruitment of a technology expert:** The board should decide whether it is necessary to recruit a technology expert as a director or advisor, including what technology experience they should possess, as well as when and how outside technology experts may be leveraged to supplement the board's expertise and continuing education.
- ▶ **Committee structure:** The board should determine whether a technology committee is needed to aid in fulfilling technology-related goals. This decision should be made by the board and made with an intentional purpose.

- ▶ **Agenda:** It is necessary for the board to carve out appropriate time and space to discuss technology and have the right conversations that are both purposeful and effective.
- ▶ **Identifying gaps:** The board should be able to identify proficiency gaps across the board and management and recognize opportunities to fill those gaps.

### Board/Management Relationship

- ▶ **CTO/CIO/CISO/CPO:** The board should determine how to best position the C-suite to take board advice and regularly communicate with the executives that help drive technology and data strategy and risk management, including the CTO/CIO or the main contact overseeing technology within the management team, the CISO or main contact overseeing cybersecurity and information security risk, and the chief privacy officer or main contact overseeing data and privacy risk. In some instances, the board may also consider interviewing and approving candidates for these roles.
- ▶ **CEO and C-suite:** The board should frequently evaluate whether the CEO and C-suite are fit for the technology-related goals that the organization is pursuing. Where appropriate, the board should set and review technology-related performance targets for the CEO and other key technology-focused members of the C-suite that relate to the long-term compensation plan.
- ▶ **Ability to challenge:** The board's directors have fiduciary responsibility to challenge management teams to be forward-looking with respect to technology being the focus. This includes challenging innovation methodologies and ensuring management is championing and investing in experimentation with current and emerging technologies.

### Culture

- ▶ **Asking questions:** As a board member, you must ask the right questions at the right time. This requires that board members have a baseline understanding of technology issues, as well as a comfort in engaging with management on technology and data matters that they do not fully understand.
- ▶ **Balance of constructive and critical oversight:** The board should be able to challenge management's technology-related strategic and implementation plans, including with respect to the management of technology risk without crushing innovative spirit. Establishing a culture that is both constructive and challenging (but not overly critical) is key to finding the right balance between innovation and manageable risk.

### Establish Trust

- ▶ **Protect privacy:** The board should understand privacy and data management as a necessity. It is important that the organization know how to protect stakeholder data, and that the board knows when to push back on decisions that may jeopardize trust in the brand, undermine established privacy expectations, violate privacy rights, create legal risk, and potentially lead to loss of data or even disgorgement of valuable intellectual property.
- ▶ **Identify technology vulnerabilities:** The board should recognize that new technologies and advanced data-driven tools create the potential for value creation; they likewise introduce novel vulnerabilities and potentially harmful uses. The board should be able to aid management in recognizing the vulnerabilities associated with using and developing new and emerging technologies.

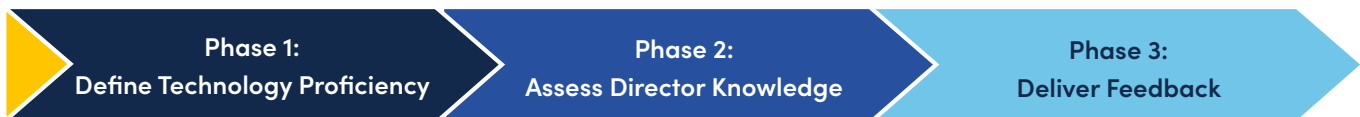
- ▶ **Building trust with management:** The board should ask questions that help management understand their work from an outside lens. In doing so, the board will play a key role in helping management objectively assess the company's technology-related decisions while serving as a trusted sounding board. Further, the board should set clear expectations about the information and data it needs for effective technology oversight. It is important that the board can engage in a dialogue with management about the information it receives, including the data about technology and data investments, in order to implement effective oversight.
- ▶ **Shareholder communication:** The board should review and provide input on disclosure language as it relates to technology-related risks, use, plans, and strategy.

# Director Technology Proficiency Evaluation

Russell Reynolds Associates

**How to use this tool:** With this resource, boards can better understand the technology capabilities and knowledge of its directors. This model will aid in defining technology proficiency criteria bands, assessing the directors' level of knowledge, and delivering feedback.

## TECHNOLOGY PROFICIENCY EVALUATION PROCESS



### PHASE 1: DEFINE

#### Structure the Proficiency Assessment

Determine who will lead the technology proficiency assessment and how the feedback will be delivered.

- ▶ The nominating/governance committee is typically responsible for ongoing director education programs, as well as work related to assessing director skills and qualifications. This committee is the most likely “home” for ongoing director proficiency assessments. The nominating/governance committee chair may play a role in delivering feedback to individual directors or in coordination with the board chair.
- ▶ An externally-led approach can bring further objectivity and credibility. It may also be easily incorporated into other assessments within a broader scope of routine board and/or director evaluation processes.

- ▶ A snapshot of the whole board’s proficiency in technology (as well as other relevant skills) can be captured in a matrix-style graphic. This information can be shared more broadly with the full board to demonstrate and level-set on its capabilities and where it will prioritize education in the future.
- ▶ Plan to incorporate and deliver individualized proficiency feedback to directors as part of their (confidential) annual review/feedback process.

#### Define the Technology-Proficiency Criteria

Develop distinct tiers of proficiency, defining the expectations of knowledge and capabilities for each band.

- ▶ In collaboration with the lead technology executive (within the senior management team), identify the appropriate level of technology readiness in order for the

board to have working knowledge that allows for strategic contributions, basic literacy/fluency, and sufficient oversight of technology.

- ▶ These baseline criteria should then be further iterated to higher and lower tiers, creating three or four distinct bands to classify the level of knowledge a director might have. For example, typical bands might be categorized as “Limited Technology Knowledge,” “Basic Technology Fluency,” “Technology Proficient/Savvy,” and “Leading Technology Expert.”
- ▶ For each distinct category, develop a set of recommendations, suggested trainings, and ongoing education sources/materials which can support, elevate, and maintain the director’s technology proficiency.
- ▶ Categorizing the level of proficiency for each director can simplify and streamline the feedback process with clear and consistent feedback appropriately tailored for that level of existing knowledge and experience.

## PHASE 2: ASSESS

### Assess Directors’ Knowledge and Proficiency

The nominating/governance committee chair, in collaboration with the lead technology executive who helped develop the criteria, should conduct a desktop review of each director’s professional background, career experiences, and subject-matter expertise. This exercise should yield a clear view of where each director has “major” vs “minor” skills and knowledge, as well as where they initially land within the technology-proficiency categories.

As part of the separate, individual-director feedback process (which should be conducted via an interview-led approach), incorporate specific question(s) on each director’s technology knowledge. For example, “How does director X contribute to discussions on the business’s technology strategy and oversight?” “Does director X understand the business’s technology well enough to meaningfully engage and ask questions on this topic?”

The results of this qualitative peer feedback, which are pertinent to technology proficiency *only*, should be extracted, summarized, and sent to the nominating/governance committee chair (if another leader, such as the board chair, conducted the individual director feedback interviews). This data will then be considered and factored into the final determination of proficiency for each director. An externally led approach or use of a third party can be highly advantageous in this instance, as they can more efficiently streamline this assessment into the overall board/director evaluation process.

## PHASE 3: DELIVER

### Deliver Feedback on Technology Proficiency to Directors

The nominating/governance committee should finalize its determination and assessment of technology proficiency for each director based on the criteria categories. This final assessment should be incorporated into the annual director performance review and feedback process. This will likely require coordination between the nominating/governance committee and the board chair, who is most likely designated to deliver individual director feedback. The feedback can include a short summary that identifies the director’s designated proficiency level/category. Each category will have predetermined, standardized recommendations assigned to it that can be delivered and recommended to the director. For example, a director who is assessed to have “Limited Technology Knowledge” may see recommendations to take certain basic education sessions on technology fundamentals, while a director who is assessed to be “Technology Proficient/Savvy” may be guided toward more nuanced internal materials for ongoing review.

## Sample Technology Proficiency Criteria Categories

Limited Technology Knowledge	Basic Technology Fluency	Technology Proficient/Savvy	Leading Technology Expert
<ul style="list-style-type: none"> <li>▶ Does not participate in board discussions related to technology matters</li> <li>▶ Unfamiliar with the high-level technology vulnerabilities, solutions, and potential applications that will impact the business</li> <li>▶ Has limited understanding of basic technology literacy, emerging technologies, and trends</li> </ul>	<ul style="list-style-type: none"> <li>▶ Does not have an expertise, but is sufficiently familiar with technology vocabulary and issues facing the business</li> <li>▶ Is comfortable participating in technology discussions at a high level and can still engage, ask questions, offer a point of view on technology challenges and opportunities</li> </ul>	<ul style="list-style-type: none"> <li>▶ Brings broad-based understanding of technology trends, applications, and opportunities, though not necessarily for this industry</li> <li>▶ Has strong understanding of digital technology, including data analytics, IT, and cybersecurity</li> <li>▶ Easily connects the dots on how technology is translated into strategic decision-making at the board level</li> </ul>	<ul style="list-style-type: none"> <li>▶ Recent/current leadership experience sitting in technology-facing or technology oversight role</li> <li>▶ Has successfully led technology transformation throughout enterprise</li> <li>▶ Influential on shaping technology outcomes, trends, capabilities and has clear view on technology/innovation applications in this industry</li> </ul>

# Assessing Technology Governance Behaviors

Russell Reynolds Associates

**How to use this tool:** With this resource, boards can assess current or prospective directors against the foundational, differentiating, and emerging technology governance behaviors required to be effective board members.

This model draws on proprietary Russell Reynolds Associates research and data about highly effective directors and boards and has been enhanced to incorporate what behaviors are pertinent to the success of the organization’s technology goals. The tool may be used at various stages to establish behavioral criteria during the recruitment, onboarding, and individual performance-review cycles.

## IMPORTANCE OF TECHNOLOGY GOVERNANCE BEHAVIORS

High-performing directors require both foundational and differentiating behaviors and—increasingly—behaviors that support strategic decision-making and governance related to differentiating technology, associated risks, and investments.

Foundational Behaviors	Differentiating Behaviors	Emerging Technology Governance Behaviors
<b>Prepared and engaged:</b> Comes prepared, is fully present at meetings, and seeks to add value	<b>Courage:</b> Possesses the courage to do the right thing for the right reasons	<b>Curiosity:</b> Possesses a curious mindset that helps the board leverage new technology trends and capability, with a desire to learn, contribute, and engage.
<b>Current and open:</b> Stays abreast of industry and company developments; is open to new ideas, processes, and ways to solve problems	<b>Challenges with purpose:</b> Is willing to constructively challenge management, as appropriate	<b>Dynamic thinking:</b> Grasps the potential of new and existing technologies with prudence and discernment around assessing fit for their specific business and strategies. Helps advance the thinking of the board in making strategic decisions related to technology investments and capabilities.
<b>Builds trust and respect:</b> Is able to build and earn the trust and respect of fellow directors	<b>Questions appropriately:</b> Asks the right questions	<b>Real-time contributor:</b> By staying engaged and actively contributing in real-time, supports agile decision-making and capitalizes on technological opportunities before they become outdated or less impactful.
<b>External-stakeholder savvy:</b> Understands external stakeholder perspectives as well as how to think about maximizing shareholder returns	<b>Independent thinking:</b> Possesses independent perspective and avoids “groupthink”	<b>New thinking:</b> Sees the use of technology through the eyes of others, including millennials and Gen Zs, bringing new perspective(s) to the boardroom.
	<b>Business judgment:</b> Demonstrates sound business judgment	<b>Learning agility:</b> Ability to quickly learn, adapt, and apply new concepts. Actively helps the board gain a deeper understanding of complex technology along with effective analysis of risks and opportunities. Proactively invests the time to not just be aware of new technologies but to educate oneself sufficiently to engage in strategic conversations.

## SCORECARD: BOARD DIRECTORS

Based on the foundational, differentiating, and emerging technology governance behaviors that are defined as role-critical, boards can apply a measurement approach to gain a rich and data-based understanding of directors relative to the behaviors required to be effective board members.

Scorecard														
Foundational Behaviors				Differentiating Behaviors					Emerging Technology Governance Behaviors					Total
Prepared and engaged	Current and open	Builds trust and respect	External-stakeholder savvy	Courage	Challenges with purpose	Questions appropriately	Independent thought	Business judgment	Curiosity	Dynamic thinking	Real-time contributor	New thinking	Learning agility	
Director 1														
Director 2														
Director 3														
Director 4														
Director 5														
Director 6														
Director 7														
Director 8														
Director 9														
Director 10														

**Rankings:** 5 = Distinctive; 4 = Strong; 3 = Good; 2 = Average; 1 = Area for development

# Technology Oversight and the Role of the Compensation Committee

Pearl Meyer

**How to use this tool:** Compensation committee members can use this tool as a resource for integrating technology governance into the committee's core functions, including: understanding technology value in financial metrics and value creation and links to incentive design, incentivizing leadership and talent, and future proofing the company's succession planning.

It's easy to see how the compensation and human capital committee of any given board could believe technology and data are central to their company's future, and at the same time, judge that it's too early for this shift to impact its core committee responsibilities. As a surprising amount of the compensation committee's work still looks back, not forward, committee members may feel insulated from the coming impacts of disruptive technology and new innovations.

For example, financial measures by their nature must reflect what has already happened, and CEO succession planning—even when proactive—likely considers existing required characteristics and experiences, rather than what will be needed in a future leader. However, forward-looking compensation committees need to consider how to integrate proficiency in technology into their core committee oversight responsibilities of executive compensation design and succession planning.

One way to begin infusing technology into the fabric of the organization includes an *automatic* consideration of it within each of the core responsibilities of the compensation committee. Below are three practical guides for integrating technology into the committee's work:

- ▶ Identifying your organization's technology value drivers that can serve as goals within executive compensation incentive plans

- ▶ Developing incentive plans with goals that align to technology and data strategy
- ▶ Infusing ongoing succession planning with an eye to future-state leadership needs

## IDENTIFYING YOUR TECHNOLOGY AND DATA VALUE DRIVERS

Understanding value drivers is an important component for identifying specific goals that can be leveraged in incentive plans that align the organization's focus and behaviors around its technology strategy. Value drivers also help the board understand the skills and attributes required in leadership to continue delivering value from technology.

Complicating this task are the hundreds of potential technology factors a compensation committee could consider linking to executive goals and incentives.

To help compensation committee members evaluate these factors and effectively pinpoint areas that can drive value and serve as goals in executive incentive plans, we recommend a value-driver analysis.<sup>32</sup> Each company could start by approaching technology and data through the lens of its business model and culture,

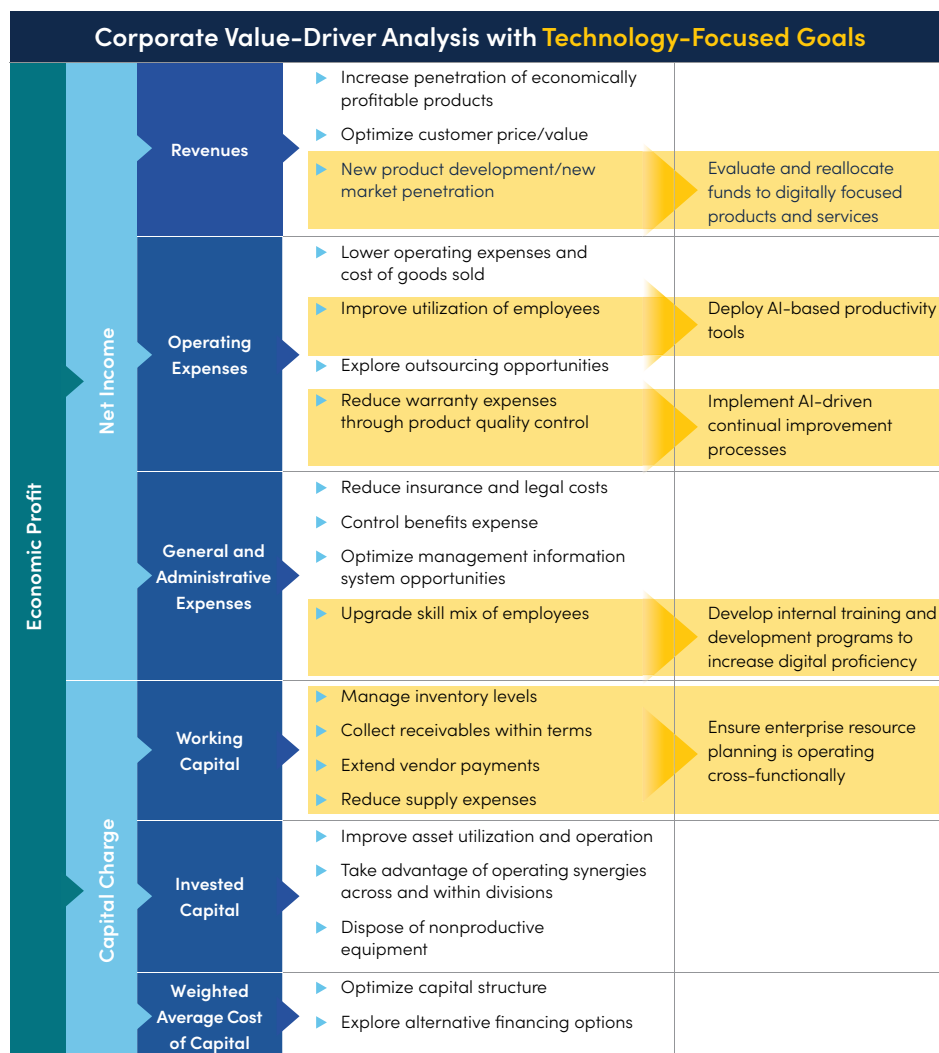
<sup>32</sup> As a leader in executive compensation, Pearl Meyer began looking at the rising interest in ESG in executive compensation plans almost a decade ago. Despite some escalating concerns today, this approach to determining where and how ESG may fit within a compensation plan can serve as a real-world example of how to effectively pinpoint technology-related areas that can drive value and serve as goals.

evaluating which technology factors are clearly linked to the business strategy, and further narrowing the set based on which have the most impact in the near term and which might drive long-term value creation. This narrowed list can then be the basis for crafting goals which are included in executive compensation and incentive plans.

## VALUE-DRIVER ANALYSIS AND LINKS TO COMPENSATION: KEY CONSIDERATIONS

Building on past best practices, companies can consider the following to identify specific technology and data value drivers:

- ▶ Balance the leading and lagging metrics that matter when choosing financial performance metrics. This can be done by using the same methodology used to determine the nonfinancial metrics linked to technology and data.
- ▶ Design your pay programs to align with your value drivers and clearly outline to plan participants how they can get from point A to point B.
- ▶ Finally, don't underestimate the role compensation can play in communicating priorities. Including incentives based on technology and data in your compensation plan signals its importance and can spur the process of embedding it into the business and the culture.



## INCLUDING TECHNOLOGY IMPACTS IN INCENTIVE PLAN GOALS AND METRICS

As technology and data capabilities become key drivers of value, they will change both *what* some companies do and *how* all companies operate. As this shift takes place, compensation committees will need to change

the way they set goals to appropriately focus attention on new and promising technology value drivers. To begin, it may change the goals themselves. For example, in recognition of its critical role in the technology ecosystem and the launch of a new security initiative, Microsoft (MSFT) recently changed its executive compensation plan so that it holds executives responsible for cybersecurity.<sup>33</sup>

### Implementing Technology-Based Incentive Metrics

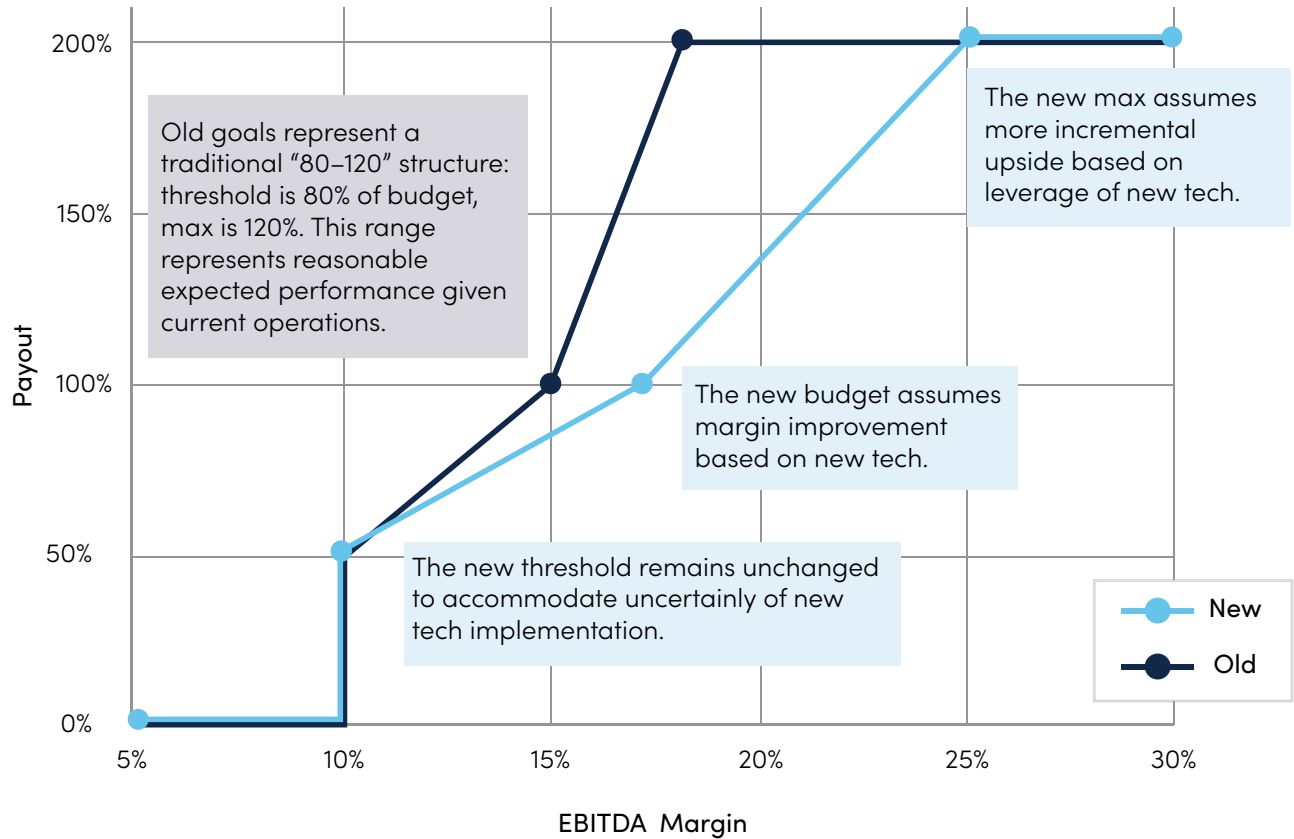
Design Element	Considerations	Examples
<b>Should metrics be quantitative or qualitative?</b>	<p>Implementing quantitative metrics requires sufficient information to be able to set expected level(s) of performance, which can be challenging with new metrics/processes.</p> <p>On the other hand, qualitative metrics can be viewed by participants as too vague and by investors as insufficiently rigorous.</p>	<p>Quantitative metrics could be financial (e.g., cost savings, revenue growth) or operational (e.g., decreased production errors).</p> <p>Qualitative metrics tend to be more directional (e.g., “successful” software implementation, “improvement” in employee productivity).</p>
<b>Should metrics be intentionally temporary?</b>	<p>When companies go through operational transformation, a temporary focus on required process changes can reinforce new behaviors until the organization’s “muscle memory” is developed.</p>	<p>A metric like employee training could be included until the desired adoption rate is achieved (e.g., 95% of employees have completed training programs), then dropped.</p> <p>Alternatively, the 95 percent adoption rate could be implemented as a onetime “milestone” incentive metric to be paid upon achievement.</p>
<b>Should metrics be corporate-wide, departmental, or individual?</b>	<p>Establishing corporate-wide metrics can send a strong signal about the organization’s priorities. However, departmental and/or individual goals can provide more direct line-of-sight for participants.</p>	<p>A corporate-wide goal might be a certain percent improvement in revenue-per-employee.</p> <p>Departmental/individual goals would be more targeted (e.g., implementation of a training program for the HR department, or successful rollout of AI software for the IT department).</p>

<sup>33</sup> Trevor Laurence Jockims, “A Microsoft under attack from government and tech rivals after ‘preventable’ hack ties executive pay to cyberthreats,” posted on cnbc.com on May 22, 2024.

Another, perhaps less obvious, shift could be much larger deltas in goal ranges (e.g., the incremental difference between threshold, target, and maximum performance goals) for existing incentive metrics. The uncertainties of technology implementation may require additional downside leeway for threshold goals.

Likewise, there may be an exponential upside to a goal enabled by technology that isn't feasible today. For example, in the illustration below, a company with an EBITDA Margin metric might extend the performance range to accommodate the anticipated impact—and uncertainty—of technology enhancements to operations.

## IMPACT OF TECHNOLOGY ON GOAL-SETTING



## FRAMEWORK FOR FUTURE-PROOFING YOUR LEADERSHIP AND SUCCESSION PLANNING

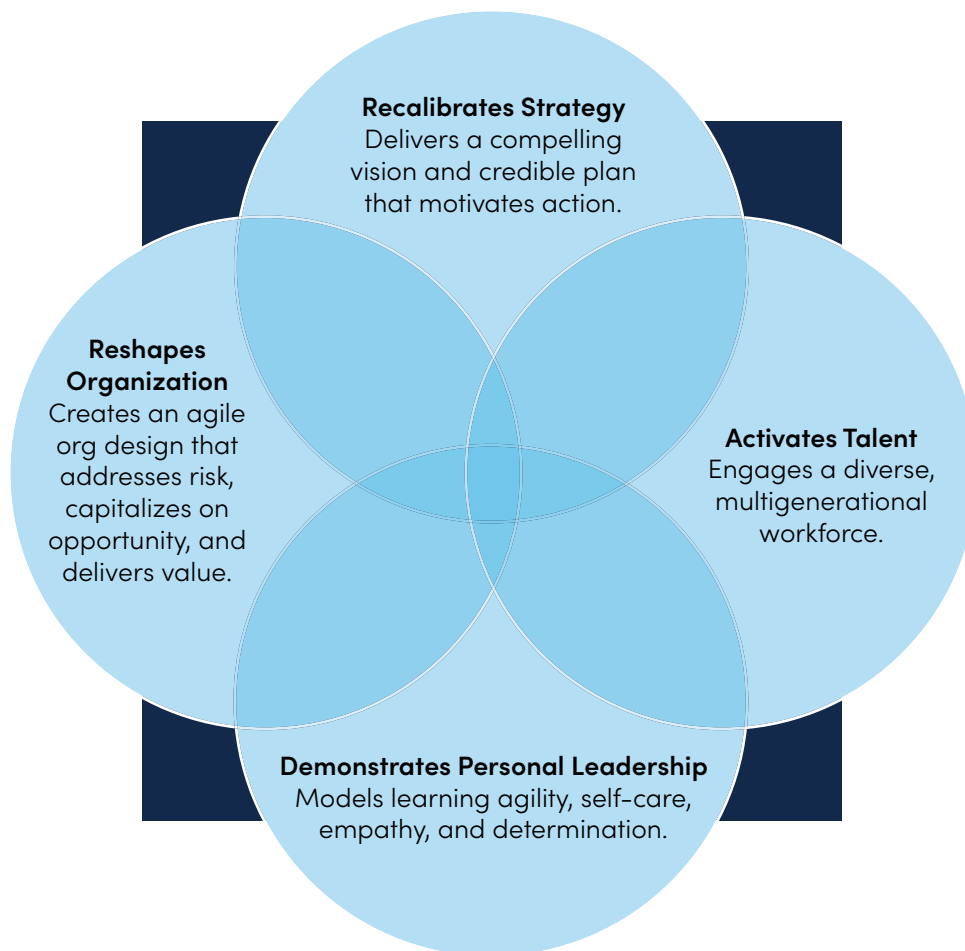
For the most diligent and effective human capital and compensation committees, succession planning is a priority, and in the best cases, it is an ongoing exercise—one that continually refines the identified skills and experiences needed in the organization’s future CEO.

New innovations and the speed of technology change now make exceptional leadership, the ability to plan for the unexpected, and the courage to act swiftly and

decisively prerequisites for executive and board success. And the value of an open approach to continuous learning, particularly in emerging technologies, cannot be underestimated.

There are two particularly important areas in a future-proof, technology-centered leadership model: emerging strategic and organizational attributes. Compensation and human capital committees, as well as nominating and governance committees, can incorporate these characteristics into their current CEO performance evaluations and skills matrices for future CEOs.

### FUTURE-PROOF LEADERSHIP ATTRIBUTES



**Resilient strategic attributes result in an ability to steer the organization with purpose through heightened and protracted uncertainty.**

<b>Attributes</b>	<b>Examples</b>
<b>Purpose-Driven</b>	Focuses on strategies and road maps in a way that supports the organization's purpose and is reinforced by its culture
<b>Agile and Opportunistic</b>	Pivots with grit and persistence to manage today while deciphering and leveraging opportunities for tomorrow amid uncertainty
<b>Courageous</b>	Cultivates candor, encourages rich dialogue, decides with conviction, builds alignment, and acts swiftly

**Resilient organizational attributes result in agile designs that address risk while capitalizing on opportunity and delivering value.**

<b>Attributes</b>	<b>Examples</b>
<b>Inspires Innovation</b>	Creates policies, decision-making processes, and talent priorities that empower employees to innovate, solve problems, and respond swiftly to external realities
<b>Transformative</b>	Develops a culture that brings ongoing value by readily adopting emerging technologies and a digitization in products, services, and customer experience
<b>Works within an agile operating model</b>	Aligns leadership, clarifies incentives, defines efficient management processes, and establishes systems and resources that will enable the organization to adapt and respond amid challenges

**TOOL  
10**

# Incorporating the Commission’s 10 Recommendations into Your Compensation Committee Agenda

Pearl Meyer

**How to use this tool:** Compensation committee members and leaders can reference this tool as a starting point for effectively integrating the Commission’s recommendations into its operations. This tool offers opportunities for compensation and human capital committees to implement measurable changes in response to the report’s 10 recommendations for the board.

## 10 BLUE RIBBON COMMISSION RECOMMENDATIONS

Commission Recommendations	Strategies to integrate the 10 recommendations into compensation and human capital committee governance
<b>Innovate Oversight</b>	
<p><b>Ensure trustworthy technology use by aligning it with the organization’s purpose and values.</b></p>	<ul style="list-style-type: none"> <li>▶ Examine the annual compensation risk assessment to determine if incentive plans, especially with respect to technology, may inadvertently drive undesirable behaviors inconsistent with the organization’s values.</li> <li>▶ As part of the responsibility to human capital, ensure technology advancements (particularly AI) have appropriate and adequate human oversight.</li> </ul>
<p><b>Upgrade board structures for technology governance.</b></p>	<ul style="list-style-type: none"> <li>▶ Incorporate the expanded responsibility for technology governance as appropriate to the compensation and human capital committee charter.</li> <li>▶ Include digital expertise in the human capital risk assessment.</li> <li>▶ Establish areas of intersection and common concern among compensation and other committees for ongoing technology risk and opportunity exploration.</li> <li>▶ Include established levels of technology proficiency in board, committee, and director assessments.</li> <li>▶ Ensure board compensation aligns with the need for technology-proficient directors.</li> </ul>
<p><b>Clearly define the board’s role in data oversight.</b></p>	<ul style="list-style-type: none"> <li>▶ Maintain line of sight into how the leadership team is allocating data management responsibility, including data protection.</li> </ul>

## 10 BLUE RIBBON COMMISSION RECOMMENDATIONS

### Innovate Oversight *(continued)*

<b>Define decision-making authorities for technology at board and management levels.</b>	<ul style="list-style-type: none"> <li>▶ Leverage short- and long-term incentive plans to establish clear expectations for management’s achievement of strategic, technology-based milestones.</li> </ul>
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### Deepen Insight

<b>Establish and maintain necessary technology proficiency among the board.</b>	<ul style="list-style-type: none"> <li>▶ Adjust required talent attributes to include continuous learning and agility, followed by technology and digital acumen.</li> <li>▶ Identify a plan for addressing gaps in experience.</li> <li>▶ Ensure director compensation structures encourage—and do not stifle—board refreshment and the potential recruitment of directors with complementary technology proficiency.</li> </ul>
<b>Evaluate director and board technology proficiency.</b>	<ul style="list-style-type: none"> <li>▶ Move from board assessment to individual director assessment, with an expectation that the assessment process specifically references a learning mindset and ongoing director and technology-specific education.</li> <li>▶ Include the ability to grow and change as a result of assessments and recommendations.</li> </ul>
<b>Ensure appropriate and clear metrics for technology oversight.</b>	<ul style="list-style-type: none"> <li>▶ Deploy value-driver analyses to highlight technology-focused opportunities within existing, strategically aligned compensation design.</li> </ul>

### Develop Foresight

<b>Recognize technology as a core element of long-term strategy.</b>	<ul style="list-style-type: none"> <li>▶ For organizations that are not technology pure plays, structure compensation to ensure there isn’t technology pursuit and adoption for its own sake. Rather, it’s used as a tool that allows for growth and the optimal execution of the core lines of business.</li> <li>▶ From the human capital perspective, focus on ongoing, multilevel succession planning to build a continual pipeline, emphasizing technology talent as part of the process.</li> </ul>
<b>Enable exploratory board and management technology discussions.</b>	<ul style="list-style-type: none"> <li>▶ Take advantage of the sophisticated modeling of compensation and succession plans that technology enables to engage in robust conversations about potential outcomes, both risks and opportunities.</li> <li>▶ Encourage a leadership mindset and culture that broadly considers technology within and across functions, not just IT.</li> </ul>
<b>Design board calendars and agendas to ensure appropriate focus on forward-looking discussions.</b>	<ul style="list-style-type: none"> <li>▶ Evolve the compensation and human capital committee calendar to account for annual reviews of leadership and pipeline development with a focus on building technology proficiency.</li> <li>▶ Reallocate a portion of the time spent on look-back reporting, structuring the agenda to focus on driving compensation and leadership strategies inclusive of technology.</li> </ul>

# 20 Questions for Management: The Company's Technology and Data Future

NACD

**How to use this tool:** Directors can use this tool to help facilitate a robust and dynamic conversation about technology and data oversight with management to assist them in navigating the future of the business.

Boards and management teams face a critical challenge: how to craft and iterate the corporate strategy in the face of rapidly changing technology that has the potential to make existing business models obsolete, open the firm to cybersecurity challenges, shift competitive advantages, derail growth, or provide a transformative opportunity for the organization.

It is vital that boards and management have robust and incisive technology and data strategy discussions that focus on opportunities, risks, and overall direction. Given the shrinking timelines around technology and data strategies, regular touchpoints between management and the board are needed. Done well, these discussions create an opportunity for management and the board to pressure test assumptions underlying strategy and hone a clearer vision for the organization. In reality, for most organizations, there is limited pure "strategy" discussion between the directors and the management team.

According to a 2024 NACD survey, over 90 percent of respondents felt the board and management are either somewhat aligned or strongly aligned on the direction of the company's technology strategy.<sup>34</sup> While this suggests most boards and management teams are united on this common technology-related challenge, almost one-third (29%) of survey respondents also cited unclear connections between technology and value creation,

a critical component of alignment, as the second-largest barrier to effective oversight of technology. To address this and other barriers, it is important that boards have the tools to maintain alignment and preserve technology's position on the board agenda. If boards are to better serve their organizations in navigating to the future, it is critical to improve strategy discussions and empower the board and management to prepare for what's around the corner and what's happening now.

## GETTING TO AN EFFECTIVE STRATEGY DISCUSSION

Getting to a better strategy discussion involves making changes to the timing, structure, and content of the discussion. In terms of timing, the directors must be involved earlier in the typical strategy-setting process so that their role is not simply to approve decisions but to support a robust and dynamic discussion.

Perhaps the most important role the board can play in strategy discussions is in the questions they put to the executive team about the future of the business, its operating environment, and the team's assumptions about the future. An effective dialogue allows the board and management to challenge assumptions and test different scenarios.

<sup>34</sup> Figures represent data from privately held and publicly traded companies and can be found in the *2024 Private Company Board Practices and Oversight Survey* and the *2024 Public Company Board Practices and Oversight Survey*.

# BOARD QUESTIONS ON THE TECHNOLOGY AND DATA DIRECTION OF THE COMPANY



## The Technology and Data Environment

1. What are the implications of the technology megatrends—including big data, cloud computing, Generative AI, digital services, interoperability, etc.—and their interrelations for our business over the next two, five, and 10 years?
2. Given the megatrends, what do we have to do to maintain our competitive position?
3. How will our organization's purpose evolve over the next year and over the next five years?
4. How might our license to operate be jeopardized or enabled in a rapidly changing technology and data landscape?



## Technology Assumptions and Risks Underlying the Strategy

5. What are the key assumptions around the technology underlying our strategy and business model, and what plausible risks (e.g., disruptive technologies, regulatory changes, consumer expectations) might impact our long-term vision and planning assumptions?
6. What risks are we assuming as part of this strategy, and are our risks concentrated or dispersed across business areas?
7. Are we investing in real growth and innovation opportunities, or are we maintaining the status quo to limit technology and data-related risk?
8. Given our technology and data strategy, what could we do to accelerate the achievement of our strategic goals? How does this strategy strengthen the future of the organization?

9. What is the impact of technology-driven changes on our business revenue model? Can they create stronger economies of scale or allow us to build new platforms that generate new sources of revenue?



## Customers and Competitors

10. What are our beliefs about evolving customer preferences and how our customers will consume the core value we offer?
11. How does technology enable or inhibit how we reach, acquire, and serve customers in the future?
12. What will be the biggest shifts in our customer base? What is the time frame and how will technology impact these shifts and timing?
13. Who—or what—will be our competitors in the future? How is technology enabling these competitors to emerge from within our current sector, or are future competitors arising from other evolving industries and start-ups?
14. Where are our competitors investing compared to us? How will technology change the basis of competition in our industry? How can technology help us to win and differentiate ourselves against traditional and new competitors?



## Role in the Ecosystem Economy

15. How is our ecosystem economy evolving, and what or who is entering or exiting our ecosystem as a result of evolving technology?
16. How will technology drive shifts in our role in the ecosystem, and where is there already friction and latency in the ecosystem? What friction and latency will we remove? Where and how could we be disintermediated?



## Strategy Requirements

17. Which capabilities do we need to acquire and retain to achieve our strategy (including talent, production, partners, etc.)?
18. Is our current portfolio of technology investments sufficiently focused on new breakthrough opportunities and conversely new technology-driven threats, such as cyber risks?
19. How can we best (re)organize our assets and business model to align to new technological capabilities and to drive future revenues? Do our current business plans reflect the full potential of new technologies to improve our performance?
20. Does the organization have the necessary agility to respond to new opportunities and a changing risk environment, and where do we need to focus to improve our agility?



# Navigating Disruption: Prioritizing Technology on the Board’s Agenda

NACD

**How to use this tool:** This tool can be used to help the board and management identify and align on future strategic technology and risk priorities, allocate priorities across committees and the full board, and incorporate topics into appropriate board or committee agendas. The board can track priorities across board committees and the full board while monitoring the board’s progress throughout the year. Identification of priorities can be done on an annual basis but can also occur on a more frequent biannual cadence if the company finds itself in a particularly volatile environment.

## BOARD PRIORITY IDENTIFICATION CYCLE



As technology changes at a rapid pace, boards should consider it normal to reconsider their technology assumptions and priorities on a more frequent biannual or quarterly basis if necessary. This process

recognizes that the technological landscape can shift quickly and can adapt to these changes based on each board’s unique needs.

## OUTLINING THE PROCESS



### Director and Lead Independent Director Interviews

- ▶ Once (fall) or twice (fall and summer) a year the lead director or chair conducts a one-on-one meeting with each board director.
- ▶ During the fall meeting, each individual discussion will review the previous year's top priorities to determine if the board sufficiently addressed past issues, if the previously identified issues warrant continued emphasis, or whether new technology innovations or strategic priorities warrant greater emphasis in the coming year. These conversations should be candid and can be a great opportunity for directors to challenge past technology assumptions in a penalty-free environment.
- ▶ After the interviews are completed, a review of the discussions will allow the lead independent director (LID) to identify next year's technology priorities, ranking each potential oversight item as requiring either "more," "less," or the "same" emphasis in the coming year's board meetings.
- ▶ *If necessary*, two meetings later, in the second quarter, another one-on-one between the LID and directors can be held to discuss whether the list needs to be updated to reflect new priorities.

**Outcome:** The meetings should generate a list of agreed-upon top (5-7) duties/topics and classify each item as either: "More Emphasis," "Same Emphasis," or "Less Emphasis."



### Socialize Identified Priorities with CEO

- ▶ After identifying the top priority issues through interviews with directors, the lead director can use the Board-Management Alignment Table on page 76 to achieve alignment with the CEO by outlining the board's top priorities, providing additional context surrounding each strategic priority, and proposing potential recommendations to be taken by the board to address the issue.

**Outcome:** The resulting conversation allows the board and CEO to discuss the board's technology priorities that arose during director interviews.



### Align Board and Management Priorities

- ▶ Discussions with the CEO result in an agreed-upon list of the "More Emphasis" duties/topics, creating one slide which fleshes out the context of the items. (See *Board-Management Alignment Table*.)
- ▶ The goal is to achieve alignment on the specifics of the top priorities and recommended actions. This list may go through a few iterations before it is finalized but can help in improving meeting efficiency and establishing clearer expectations between the board and management on future issues and priorities to be discussed.
- ▶ Alignment conversations can be a useful time for the board to challenge past technology assumptions.
- ▶ Part of the alignment should include agreement about board operational changes that could accompany technology priorities as new technologies emerge and the company's strategic priorities evolve. An example of an operational consideration could be more frequent (quarterly) review of important technology drivers of strategy.

**Outcome:** An agreed-upon list of priorities to be incorporated into full-board and committee meeting agendas is generated.

## Board-Management Alignment Table

Strategic Priority	Notes/Additional Context	Thoughts/Recommendations
[List strategic priority]	[A brief description stating driver or primary issue elevating this to the board level]	[State specific board action to be taken, such as adding an item to a committee agenda or increasing the cadence of discussion on a topic]

### Integrate Priorities into Committees & Agendas

- ▶ Based on agreed-upon priorities, the lead independent director can determine placement of the item within either a committee’s or the full board’s agenda. *(See Sample Priority Tracker.)* The full board or committee responsible for discussing the issue can work with relevant management personnel or engage with outside expertise as necessary to obtain the proper information necessary to address the priority at hand.

**Outcome:** The priority issue identified and assigned to the committee or full board should appear on the agenda with appropriate information required for the board to exercise proper oversight.

### Track and Review Coverage

- ▶ The lead director should review the past year’s alignment tracker to determine if the priority issues were adequately discussed and addressed. This can take place as part of the regular full-board evaluation process. This information can also be consulted in the board’s charter-review process to determine if specific technology priority oversight responsibilities should be aligned to a standing committee or warrant the creation of a special technology committee with dedicated oversight.
- ▶ The lead independent director or chair can use the following tracker to assign priority items to a committee or full-board agenda ahead of the board’s upcoming meeting. This tracker can also be retained to help the nominating and governance committee chair assess coverage of priority items in the committee and full-board evaluation process.
- ▶ Based on findings, the board leader should amend board meeting cadences and agendas to allow for proper coverage of priority areas throughout the year.

**Outcome:** Board leadership makes a determination about whether board and management priorities were sufficiently addressed by the board.

## Sample Priority Tracker

		Meeting Month or Number				
		Comp	Audit	Nom/Gov	Risk	Full Board
<b>More Emphasis</b>	[List top items in this section]					
<b>Less Emphasis</b>	[List other items in this section]					





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