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Strategic governance of AI:
A roadmap for the future

Foreword

We are at a pivotal moment in the history of human invention—a moment future generations will look back on. Board members and management teams are eager to harness the transformative potential of artificial intelligence (AI). However, these opportunities come with significant risks and responsibilities. The decisions leaders make today will impact both their organizations and society at large. Although AI is not new, the proliferation of AI and other emerging technologies in organizations brings governance topics to the forefront.

How can we balance the desire for rapid innovation with the patience to scale in a responsible and trustworthy manner? In a complex environment where opportunities, challenges, and priorities frequently arise, it's important for organizations to consider how to govern at scale. This could include challenging orthodoxies while implementing balanced processes that allow the board to operate efficiently, transparently, and in the best interests of the organization as a whole—supporting growth, creating long-term value, and sustaining the organization.

This roadmap offers an overview of governance activities and structures. It includes key questions and resources for boards to consider in their oversight of AI, regardless of the organization's stage in its AI journey. We hope it can inform meaningful discussions in your boardrooms and with your management teams—inspiring a methodical yet agile approach as you navigate critical governance responsibilities.

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Introducing the Deloitte AI Governance Roadmap

The Deloitte AI Governance Roadmap ("Roadmap") is designed to help boards of directors ("boards") understand their role and provide them with guiding questions to support effective oversight of AI. The Roadmap applies the Deloitte Governance Framework ("Framework") to AI. The Framework, illustrated below, provides an end-to-end view of corporate governance and defines and delineates board and management activities. The board's role in each of the elements of the corporate governance infrastructure can vary from that of an active participant in the processes themselves (depicted in the top half of the circle) to an overseer of management-led activities running the day-to-day business and executing the strategy (depicted in the bottom half of the circle). The Roadmap focuses on the top half of the Framework—the specific areas depicting the role of the board.

Components of the Deloitte AI Governance Roadmap

GOVERNANCE »

Understand the significance of the board's own governance of AI, which includes its governance structure, board composition and refreshment, continuing education, and board self-assessments.
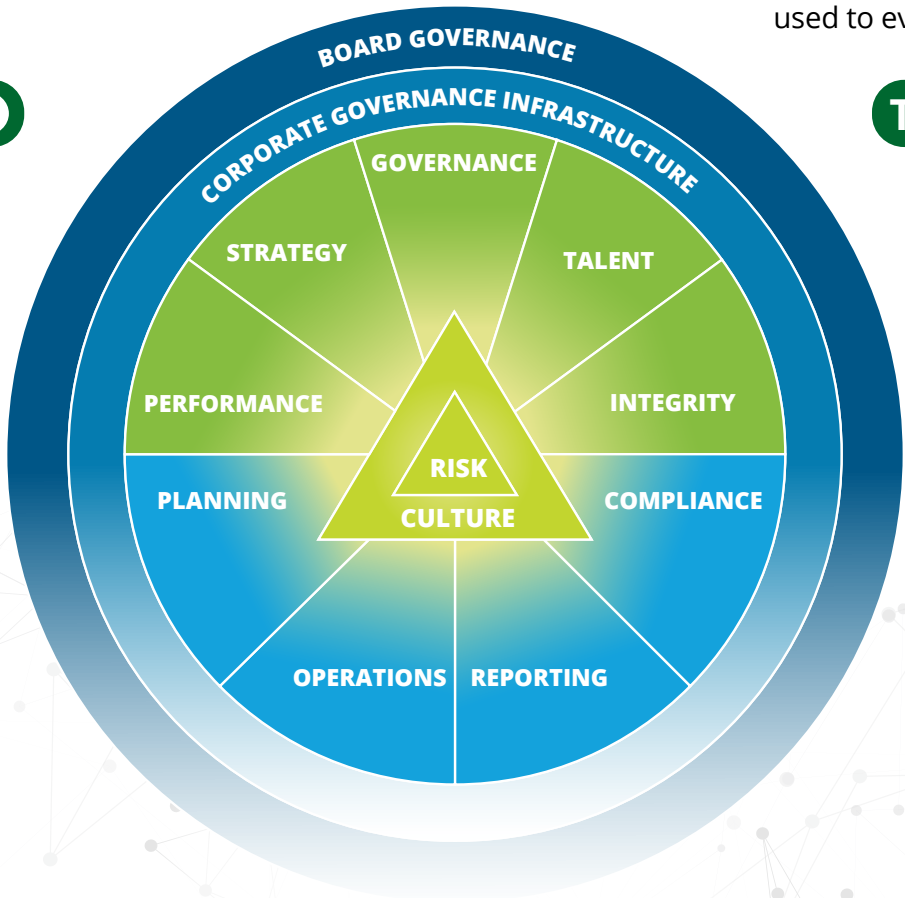
PERFORMANCE »

Monitor the company's progress against its AI-specific financial, operational, and strategic goals. Understand how AI supports or inhibits progress toward the company's overall strategic goals. Establish a consistent method for receiving, reviewing, and utilizing the data used to evaluate progress.

RISK »

Understand and oversee the risks AI poses (strategic, functional, and external) to the company's overall strategy. Consider these risks within the organization's enterprise risk program and monitor how AI can impact existing enterprise risks.

TALENT »

Assess whether the skills needed to execute the company's AI strategy and manage risks are represented among management. Understand impacts and opportunities AI brings to the workforce and how AI is integrated into talent recruitment, workforce development, and incentive strategies.

STRATEGY »

Evaluate the integration of the company's AI approach to its broader corporate strategy. Oversee strategy execution, and help management identify when and how the strategy may need to be adapted in response to AI risks and opportunities.

CULTURE AND INTEGRITY »

Help cultivate a culture of trustworthy AI. This includes incorporating appropriate disclosures and communications about AI strategy. The board also has a role in tracking whether the organization is using AI responsibly while adhering to the ethical standards of the company.

BOARD GOVERNANCE
CORPORATE GOVERNANCE INFRASTRUCTURE
GOVERNANCE
STRATEGY
TALENT
PERFORMANCE
INTEGRITY
PLANNING
RISK CULTURE
COMPLIANCE
OPERATIONS   REPORTING

DELOITTE GOVERNANCE FRAMEWORK

Why now?

In the rapidly evolving landscape of AI, organizations are increasingly leveraging AI technologies to drive innovation, enhance operational efficiency, and deliver value to stakeholders. However, AI's transformative potential also brings significant challenges, including ethical considerations, data privacy concerns, and the potential for unintended consequences. To navigate these complexities and help ensure responsible AI deployment, it is important to establish a *robust governance roadmap*.

AI adoption is progressing quickly

Organizations are increasingly investing in AI to scale its use and embed it within operations to enhance decision-making.

Per Deloitte's State of Generative AI in the Enterprise:
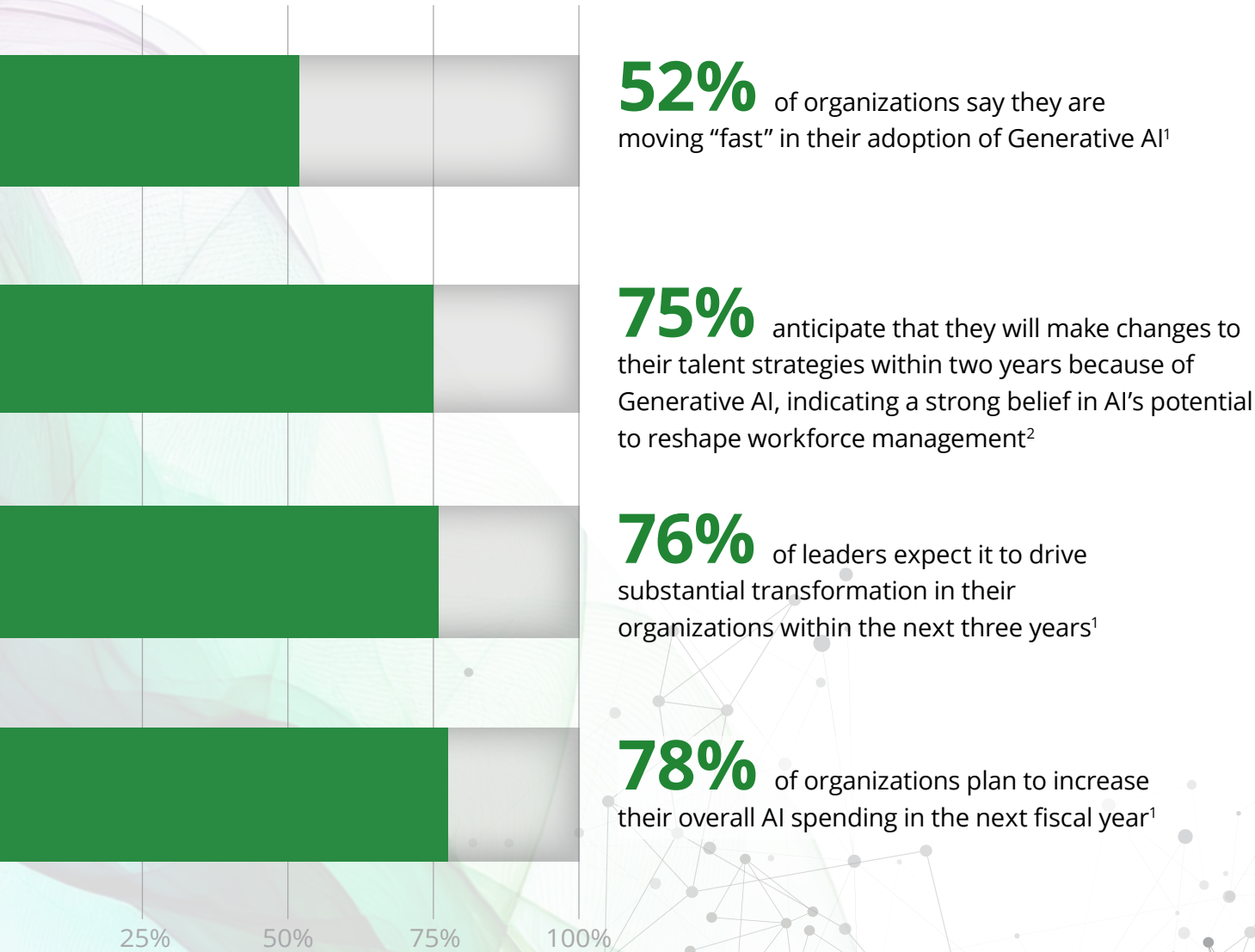
52% of organizations say they are moving "fast" in their adoption of Generative AI[1]

75% anticipate that they will make changes to their talent strategies within two years because of Generative AI, indicating a strong belief in AI's potential to reshape workforce management[2]

76% of leaders expect it to drive substantial transformation in their organizations within the next three years[1]

78% of organizations plan to increase their overall AI spending in the next fiscal year[1]

25% 50% 75% 100%

1 Deloitte State of Generative AI in the Enterprise Survey, July/Sept. 2024.
2 Deloitte State of Generative AI in the Enterprise Survey, Jan./Feb. 2024.

AI risks can pose significant reputational consequences

Despite the promising potential of AI, emerging risks remain a barrier to realizing its full value. These risks (e.g., strategic, operational, financial, and compliance) can pose reputational consequences if not addressed properly, ultimately eroding trust among internal and external stakeholders.

Key risks include but are not limited to:

⚠ Inaccuracy and hallucinations

⚠ Intellectual property infringement and confidentiality violations

⚠ Unethical use or bias

Importance of AI governance

Effective AI governance is crucial for supporting the board's oversight of AI. It can enable ethical use, enhanced data quality, and boosted productivity by aligning organizational goals and values as part of strategic AI integration.

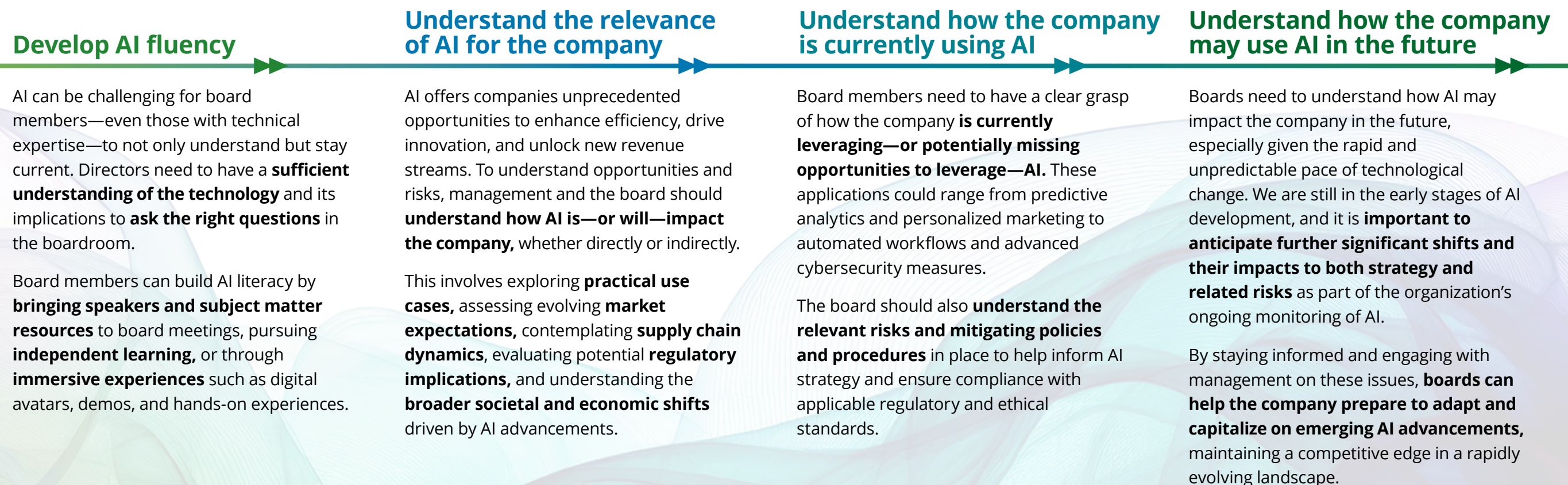### The overarching benefits of robust AI governance may include:

✓ Increased brand equity and trust, leading to new customers and improved employee retention

✓ Reduced costs from potential legal, regulatory, and other remediation activities

✓ More accurate information for improved decision-making

✓ A positive impact on society with ethical and responsible AI use

4

Where to begin: Assess current state of AI in the organization

Overseeing a company's AI adoption and its related opportunities and risks requires a board to first understand the company's current AI maturity. This includes the following actions:

Develop AI fluency

AI can be challenging for board members—even those with technical expertise—to not only understand but stay current. Directors need to have a **sufficient understanding of the technology** and its implications to **ask the right questions** in the boardroom.

Board members can build AI literacy by **bringing speakers and subject matter resources** to board meetings, pursuing **independent learning,** or through **immersive experiences** such as digital avatars, demos, and hands-on experiences.

Understand the relevance of AI for the company

AI offers companies unprecedented opportunities to enhance efficiency, drive innovation, and unlock new revenue streams. To understand opportunities and risks, management and the board should **understand how AI is—or will—impact the company,** whether directly or indirectly.

This involves exploring **practical use cases,** assessing evolving **market expectations,** contemplating **supply chain dynamics**, evaluating potential **regulatory implications,** and understanding the **broader societal and economic shifts** driven by AI advancements.

Understand how the company is currently using AI

Board members need to have a clear grasp of how the company **is currently leveraging—or potentially missing opportunities to leverage—AI.** These applications could range from predictive analytics and personalized marketing to automated workflows and advanced cybersecurity measures.

The board should also **understand the relevant risks and mitigating policies and procedures** in place to help inform AI strategy and ensure compliance with applicable regulatory and ethical standards.

Understand how the company may use AI in the future

Boards need to understand how AI may impact the company in the future, especially given the rapid and unpredictable pace of technological change. We are still in the early stages of AI development, and it is **important to anticipate further significant shifts and their impacts to both strategy and related risks** as part of the organization's ongoing monitoring of AI.

By staying informed and engaging with management on these issues, **boards can help the company prepare to adapt and capitalize on emerging AI advancements,** maintaining a competitive edge in a rapidly evolving landscape.

Questions for the board to consider

- Does the board have the experience and expertise to advise on the strategy and then monitor progress of the implementation?

- Does management have a strategy of how they plan to utilize AI in strategic objectives and functional areas or in other ways?

- Does the board understand the risks and opportunities associated with the AI strategy?

- Does management have a current "inventory" of how machine learning AI and Generative AI are being used in the company?

- Does the board have a clear vision on how the AI initiatives are overseen across the governance structure?
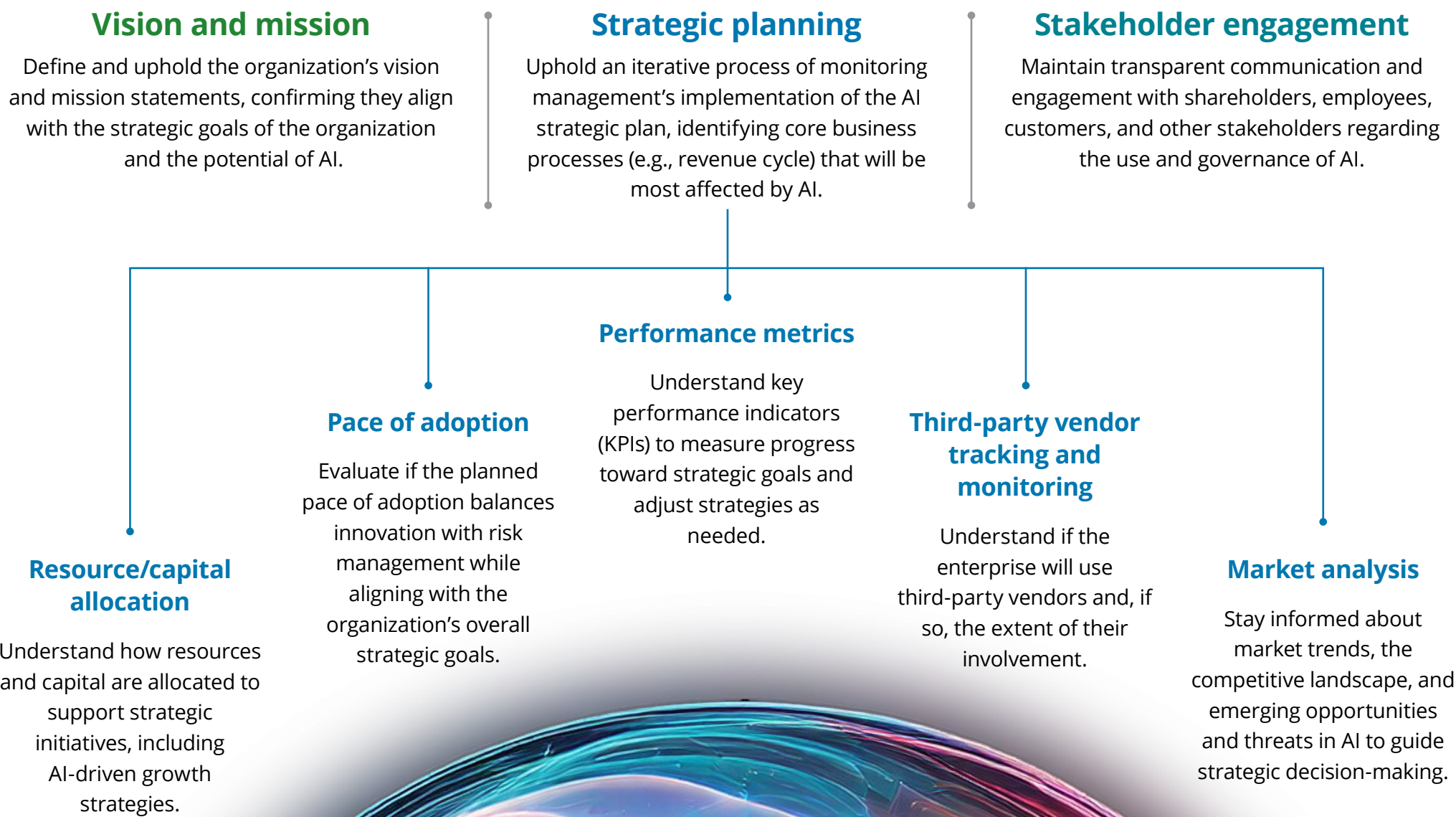
Strategy

BOARD'S ROLE Evaluate the integration of the company's AI approach to its broader corporate strategy. Oversee strategy execution, and help management identify when and how the strategy may need to be adapted in response to AI risks and opportunities.

The board can work with management and oversee the following:

Vision and mission

Define and uphold the organization's vision and mission statements, confirming they align with the strategic goals of the organization and the potential of AI.

Strategic planning

Uphold an iterative process of monitoring management's implementation of the AI strategic plan, identifying core business processes (e.g., revenue cycle) that will be most affected by AI.

Stakeholder engagement

Maintain transparent communication and engagement with shareholders, employees, customers, and other stakeholders regarding the use and governance of AI.

Performance metrics

Understand key performance indicators (KPIs) to measure progress toward strategic goals and adjust strategies as needed.

Pace of adoption

Evaluate if the planned pace of adoption balances innovation with risk management while aligning with the organization's overall strategic goals.

Third-party vendor tracking and monitoring

Understand if the enterprise will use third-party vendors and, if so, the extent of their involvement.

Resource/capital allocation

Understand how resources and capital are allocated to support strategic initiatives, including AI-driven growth strategies.

Market analysis

Stay informed about market trends, the competitive landscape, and emerging opportunities and threats in AI to guide strategic decision-making.

Questions for the board to consider

- Does management have a position on AI's relevance and how the organization is currently using or planning to use AI?

- Does management have a view on the possible future impact of AI on the organization and a process to periodically evaluate the impact of AI developments?

- Has management developed a strategy for AI adoption and integration? Does the strategy consider applicable resources and capital, pace of adoption, performance metrics, involvement of third-party vendors, and emerging market trends and AI developments?

- How does management monitor employee use of AI and ensure feedback is properly addressed in AI initiatives?

- How is management updating external and internal communications policies and controls to reflect the desired level of transparency into AI usage and risks?

LEARN MORE

- COSO paper – Realize the full potential of AI
- Governance of AI: A critical imperative for today's boards
- State of Generative AI in the Enterprise report: Q1
- State of Generative AI in the Enterprise report: Q2
- State of Generative AI in the Enterprise report: Q3
- State of Generative AI in the Enterprise report: Q4

6

Risk

BOARD'S ROLE Understand and oversee the risks AI poses (strategic, functional, and external) to the company's overall strategy. Consider these risks within the organization's enterprise risk program and monitor how AI can impact existing enterprise risks.

The board can work with management and oversee the following:

Risk appetite and tolerance

Define the organization's risk appetite and tolerance levels, confirming they align with strategic objectives and the potential risks of AI. The board should have a comprehensive understanding of how management fulfills the following:

- **Risk identification:** Identify potential risks across all areas of the organization including ethical AI, bias, hallucination, and transparency.

- **Risk assessment:** Evaluate the likelihood and potential impact of identified risks, prioritizing them accordingly.

- **Risk mitigation:** Implement strategies to mitigate identified risks, including those attributed to third-party vendors, to help the organization prepare to handle potential challenges associated with AI.

Monitoring and reporting

Management should monitor risks and report on risk management activities to the board, promoting transparency and accountability. Depending on level of third-party involvement, implement a process to track and monitor third-party service providers and understand how they fit in to addressing AI-related risks.

Risks of inaction

Management should assess the risks associated with not implementing AI and the costs of lagging behind AI expertise.

Questions for the board to consider

- Has management properly defined the organization's risk appetite regarding AI initiatives and broader AI use throughout the organization?

- How does management evaluate risks and opportunities related to AI, and how is the evaluation incorporated within the AI strategy? This includes risks and opportunities of using AI as well as not using AI.

- Does management have a process in place to identify and assess risks related to current AI use cases as well as those under development?

- How is management addressing identified risks, and what monitoring and reporting processes are in place to facilitate oversight?

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» Artificial intelligence: An emerging oversight responsibility for audit committees

» COSO paper – Realize the full potential of AI

» State of Generative AI in the Enterprise report: Q1

» State of Generative AI in the Enterprise report: Q3

» State of Generative AI in the Enterprise report: Q4

Governance: Board governance structure

BOARD'S ROLE Understand the significance of AI for the organization—now and into the future. Define ownership of AI oversight at the board (e.g., the full board, an existing committee, a new committee, or a sub-committee).

The board can work with management and oversee the following:

Governance framework

Develop and uphold a comprehensive governance framework, which will outline how the organization will use AI, and define the purpose and objectives of proposed AI initiatives across the organization.

Oversight roles

Assign oversight responsibility to the respective governing body or bodies, either at the board level or specific committee(s) based on management's strategy for AI utilization (e.g., if AI is embedded in strategic objectives, it may be overseen at the board level; if there is a strategy to utilize AI as part of Finance Transformation, it may be overseen at the Audit Committee).

Leadership and management structure

The board should understand who in management "owns" the AI strategy and if there is a need for an AI management committee or working group to lead the enterprise-wide AI strategy.

Questions for the board to consider

- Are changes to board structure (i.e., allocation of responsibility to new or existing committees) necessary to facilitate effective AI oversight?

- Does management have a governance framework or supporting policies over the use, development, and integration of AI within the organization? How does it incorporate concepts of responsible innovation or Trustworthy AI?

- Does the board understand which executive, team, and/or management committee is responsible for AI strategy implementation?

- Does the board have a clear understanding of who in management will report to the full board or committees overseeing AI strategic initiatives?

- Does the board have a cadence for how often AI will be on the board's agenda and what information will be presented and by whom?

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- Artificial intelligence: An emerging oversight responsibility for audit committees
- COSO paper – Realize the full potential of AI
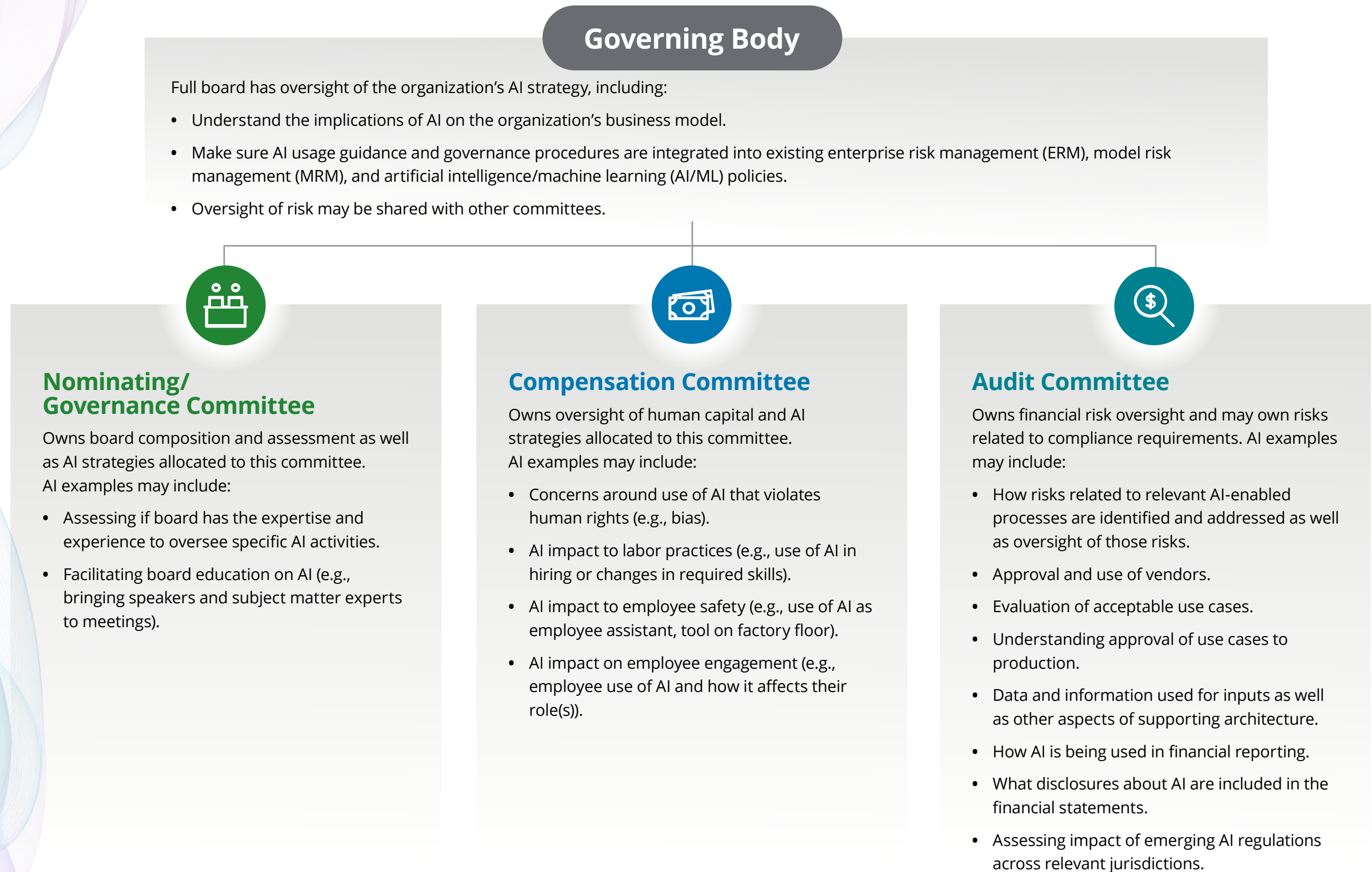- Governance of AI: A critical imperative for today's boards
- Trustworthy AI Framework

8

Governance: Board governance structure

Illustrative example of structure — Less extensive AI integration and oversight

Established board structure provides oversight of the company's strategy and carries out governance responsibilities across the standing board committees based on the specific AI activities as defined by management to achieve the overall AI strategy. **This illustration may be more applicable to an organization that has less extensive AI integration and oversight.**
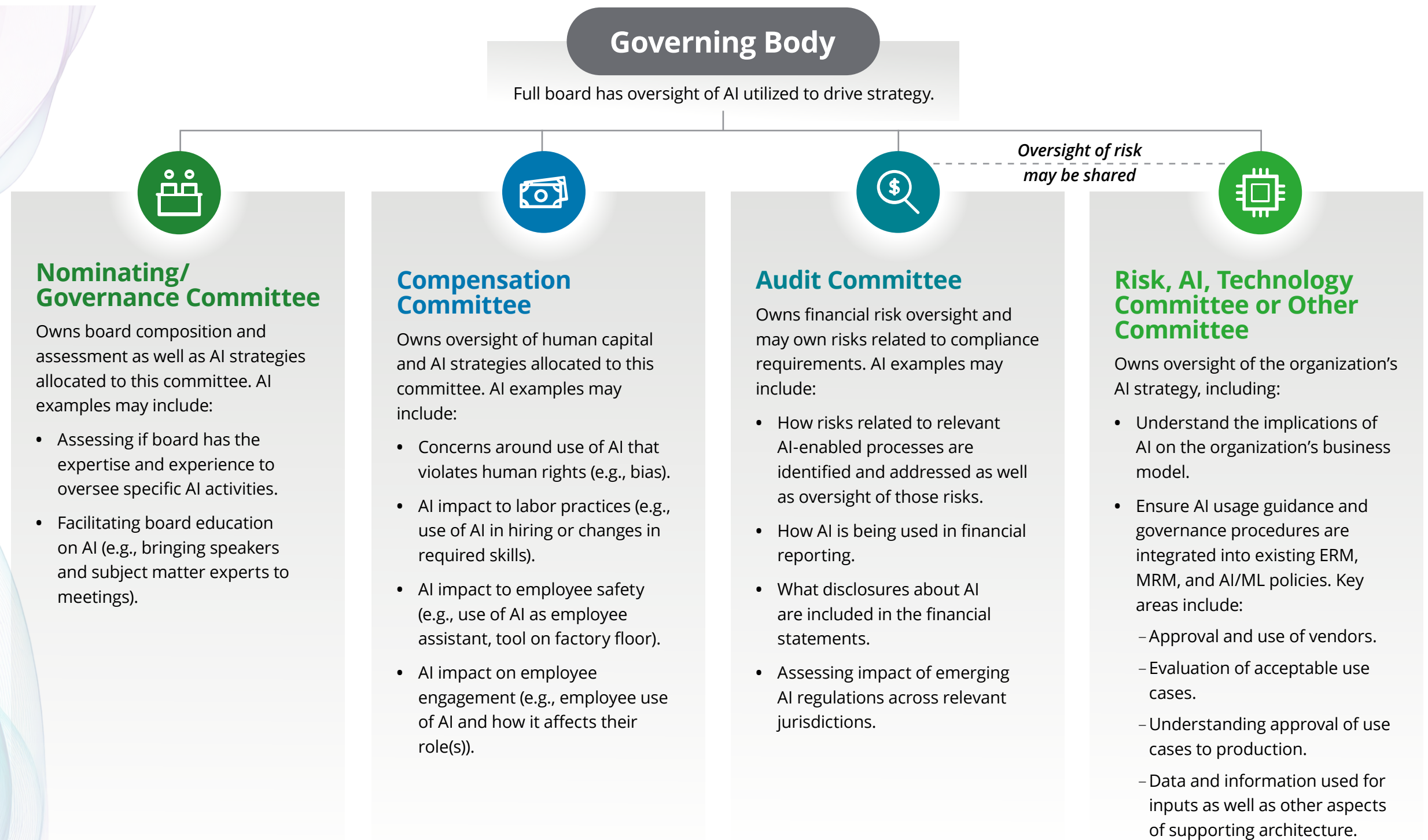
Governing Body

Full board has oversight of the organization's AI strategy, including:

- Understand the implications of AI on the organization's business model.

- Make sure AI usage guidance and governance procedures are integrated into existing enterprise risk management (ERM), model risk management (MRM), and artificial intelligence/machine learning (AI/ML) policies.

- Oversight of risk may be shared with other committees.

Nominating/ Governance Committee

Owns board composition and assessment as well as AI strategies allocated to this committee. AI examples may include:

- Assessing if board has the expertise and experience to oversee specific AI activities.

- Facilitating board education on AI (e.g., bringing speakers and subject matter experts to meetings).

Compensation Committee

Owns oversight of human capital and AI strategies allocated to this committee. AI examples may include:

- Concerns around use of AI that violates human rights (e.g., bias).

- AI impact to labor practices (e.g., use of AI in hiring or changes in required skills).

- AI impact to employee safety (e.g., use of AI as employee assistant, tool on factory floor).

- AI impact on employee engagement (e.g., employee use of AI and how it affects their role(s)).

Audit Committee

Owns financial risk oversight and may own risks related to compliance requirements. AI examples may include:

- How risks related to relevant AI-enabled processes are identified and addressed as well as oversight of those risks.

- Approval and use of vendors.

- Evaluation of acceptable use cases.

- Understanding approval of use cases to production.

- Data and information used for inputs as well as other aspects of supporting architecture.

- How AI is being used in financial reporting.

- What disclosures about AI are included in the financial statements.

- Assessing impact of emerging AI regulations across relevant jurisdictions.

Governance: Board governance structure

Illustrative example of structure — More extensive AI integration and oversight

Established board structure provides oversight of the company's strategy and carries out governance responsibilities across standing board committees and an additional committee that may take "primary" ownership of the AI strategy discussion. **This illustration may be applicable to an organization that has more extensive AI integration and oversight.**

Governing Body

Full board has oversight of AI utilized to drive strategy.

Oversight of risk may be shared

Nominating/ Governance Committee

Owns board composition and assessment as well as AI strategies allocated to this committee. AI examples may include:

- Assessing if board has the expertise and experience to oversee specific AI activities.
- Facilitating board education on AI (e.g., bringing speakers and subject matter experts to meetings).

Compensation Committee

Owns oversight of human capital and AI strategies allocated to this committee. AI examples may include:

- Concerns around use of AI that violates human rights (e.g., bias).
- AI impact to labor practices (e.g., use of AI in hiring or changes in required skills).
- AI impact to employee safety (e.g., use of AI as employee assistant, tool on factory floor).
- AI impact on employee engagement (e.g., employee use of AI and how it affects their role(s)).

Audit Committee

Owns financial risk oversight and may own risks related to compliance requirements. AI examples may include:

- How risks related to relevant AI-enabled processes are identified and addressed as well as oversight of those risks.
- How AI is being used in financial reporting.
- What disclosures about AI are included in the financial statements.
- Assessing impact of emerging AI regulations across relevant jurisdictions.

Risk, AI, Technology Committee or Other Committee

Owns oversight of the organization's AI strategy, including:

- Understand the implications of AI on the organization's business model.
- Ensure AI usage guidance and governance procedures are integrated into existing ERM, MRM, and AI/ML policies. Key areas include:
  - Approval and use of vendors.
  - Evaluation of acceptable use cases.
  - Understanding approval of use cases to production.
  - Data and information used for inputs as well as other aspects of supporting architecture.

10

Governance: Board composition, education, and assessment

BOARD'S ROLE

Stay informed on AI developments relevant to the industry and the company specifically. Consider the best means of providing the board access to expertise depending on the company's needs (e.g., adding regular AI education to the board agenda, creating an AI advisory council to the board, and/or adding a board member with relevant AI expertise).

The board can work with management and oversee the following:

Board skills matrix

Identify board candidate skills that would support effective oversight of AI and assess gaps in the current board composition.

Board refreshment

Ensure the board has a process for effective board refreshment, including an effective board assessment process. The Nominating or Governance Committee should continually think through additional skills that may be needed and establish a board candidate pipeline.

Onboarding and education

Embed AI education in new director onboarding, and continually include technology and AI as topics the board should be briefed on through a continual education program for directors.

Board assessment

As part of the board's periodic self-evaluation, consider assessing the alignment of director skill sets and AI priorities.

Questions for the board to consider

- Based on the extent of AI use or adoption in the organization, does the board have the appropriate experience(s) to support effective oversight of AI?

- Given the potentially expansive impact of AI, is the board meeting with the appropriate C-suite members and business leaders? Is the board getting sufficient and appropriate information on AI-related matters?

- Does board composition need to be adjusted to recruit board members with more experience with AI and emerging technologies? What about company leadership?

- What training and educational opportunities are available to help the board upskill on AI and emerging technologies? Would the board benefit from bringing in internal or external experts to inform discussions?

- How can the board ensure it remains actively engaged in the evolving landscape of AI, guarding against complacency and outdated perspectives, and remaining agile and responsive to AI's evolving capabilities? Would the board benefit from bringing outside voices into board meetings?

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COSO paper – Realize the full potential of AI

Governance of AI: A critical imperative for today's boards

Performance

BOARD'S ROLE Monitor the company's progress against its AI-specific strategic, financial, and operational goals. Understand how AI supports or inhibits progress towards the company's overall strategic goals. Establish a consistent method for receiving, reviewing, and utilizing the data used to evaluate progress.

The board can work with management and oversee the following:

Operational performance
Monitor key operational metrics to evaluate efficiency and effectiveness. Additionally, track and monitor AI implementations by third-party vendors (e.g., measures on accuracy, number of issues identified), as applicable.

Strategic performance
Assess progress toward strategic goals, making necessary adjustments to align with AI implementation targets (e.g., level of scaling throughout the enterprise or number of users).

Financial performance
Review budgets and financial forecasts pertaining to investments made for AI (e.g., ROI, reduced costs).

Continuous improvement
Cultivate a culture of continuous improvement and innovation, fostering long-term success, and helping to ensure AI is adopted effectively, efficiently, and responsibly (e.g., establish feedback channels and confirm resolution of feedback).

Compliance and legal obligations
Identify the laws, rules, and regulations that may apply to the company given its AI strategy. Brief the board or committee(s) on the policies and processes that are—or will be—in place to support the board's monitoring duties. Identify any voluntary disclosures the company may make and any related risks.

Questions for the board to consider

- How has AI contributed to progress toward strategic goals? How has it inhibited progress?

- What metrics and KPIs should be used to measure the success of AI initiatives? How frequently are these KPIs reviewed to ensure they remain relevant?

- How will the board receive updates on KPIs?

- How often will updates be provided? What events will trigger an update to the board outside of regular updates?

- What are some examples of how AI has delivered measurable value to the organization?

- How does management monitor the AI regulatory and compliance landscape? What will trigger the board's involvement in a regulatory or compliance matter?

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» COSO paper – Realize the full potential of AI

» State of Generative AI in the Enterprise report: Q2

» State of Generative AI in the Enterprise report: Q3

» State of Generative AI in the Enterprise report: Q4

Talent

BOARD'S ROLE Assess whether the skills needed to execute the company's AI strategy and manage risks are adequately represented among management. Understand the impacts and opportunities AI brings to the workforce and how AI is integrated into talent recruitment, workforce development, and incentive strategies.

The board can work with management and oversee the following:

Three lines of defense model

Adopt or adapt a model[3] to enable the organization to incorporate various skill sets (e.g., quantitative/technical, governance/policy, internal controls) into effective oversight, evaluation, and monitoring of AI applications and underlying models.

Leadership development

Identify and develop current and future leaders within the organization to help ensure a strong leadership pipeline with a focus on technology and AI competencies.

Talent upskilling

Implement a learning curriculum to educate employees on AI capabilities, limitations, ethical considerations, and best practices. Also, provide employees with opportunities to expand their skills in AI such as workshops where employees can practice using AI tools in a controlled environment.

Talent acquisition

Oversee the recruitment and retention of top talent to help ensure the organization attracts and retains skilled employees with expertise in technology and AI.

Performance management

Implement effective performance management systems to evaluate and develop employees, emphasizing the importance of technology literacy and AI skills.

3 Refer to *"An auditor's mindset in an AI-driven world"* for a perspective on the three lines of defense model adapted for AI.

Questions for the board to consider

- Does the organization's talent model align with the AI strategy and AI risk management?

- Does the organization have the resources, including personnel and tools, to enable effective oversight, evaluation, and monitoring of AI applications and underlying models?

- Do succession plans reflect current and future needs to recruit talent experienced with AI and emerging technologies?

- Have learning opportunities or a curriculum been developed to help current employees and the pipeline of future leaders expand their skills and expertise in AI and related technologies?

- Have learning opportunities or a curriculum been developed to help the current workforce effectively and responsibly leverage AI?

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State of Generative AI in the Enterprise report: Q2

State of Generative AI in the Enterprise report: Q4

Culture and integrity

BOARD'S ROLE Help cultivate a culture of trustworthy AI. This includes incorporating appropriate disclosures and communications about the AI strategy. The board also has a role in tracking whether the organization is using AI responsibly while adhering to the ethical standards of the company.

The board can work with management and oversee the following:

Ethical leadership
Lead by example, promoting ethical behavior at all levels of the organization, especially in the deployment and use of AI.

Incentive and reward systems
Align the organization's use of AI with its core values and incentive/reward systems.

Code of conduct
Establish and enforce a code of conduct that outlines expected behaviors and ethical standards, including those related to AI.

Cultural alignment
Establish mechanisms to monitor how the company's AI strategy impacts its reputation among the workforce and external stakeholders.

Whistleblower policies
Implement mechanisms for reporting unethical behavior, including related to AI use or development, without fear of retaliation, helping ensure accountability.

Compliance mandates
Maintain oversight of the evolving compliance landscape, including requirements specifically related to AI governance, data privacy, and ethical AI use.

Questions for the board to consider

- How does management instill a culture of AI and innovation while ensuring strategies are executed ethically?
- Does the organization have an ethical framework (e.g., Trustworthy AI framework) or guidelines for AI development and use?
- How does the organization ensure that its AI systems are designed and used ethically?
- What steps has the organization taken to identify and mitigate biases in its AI systems?
- How does the organization ensure fairness and equity in AI-driven decisions?

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Trustworthy AI Framework

Continue the conversation

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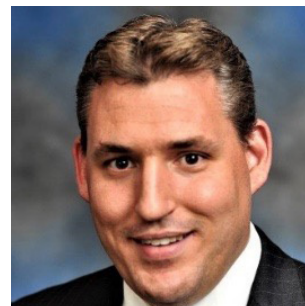
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