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AI in the Corporate Landscape

Navigating AI adoption opportunities and challenges, managing risks, and ensuring compliance

November 16, 2023 - ISACA Risk Event 2023

MAKING AN
IMPACT THAT
MATTERS
since 1845

Who am I? (pictured by DALL-E)

Ron Hakvoort

Partner, Deloitte

IT Audit & IT Risk Advisory

Emerging Tech enthusiast

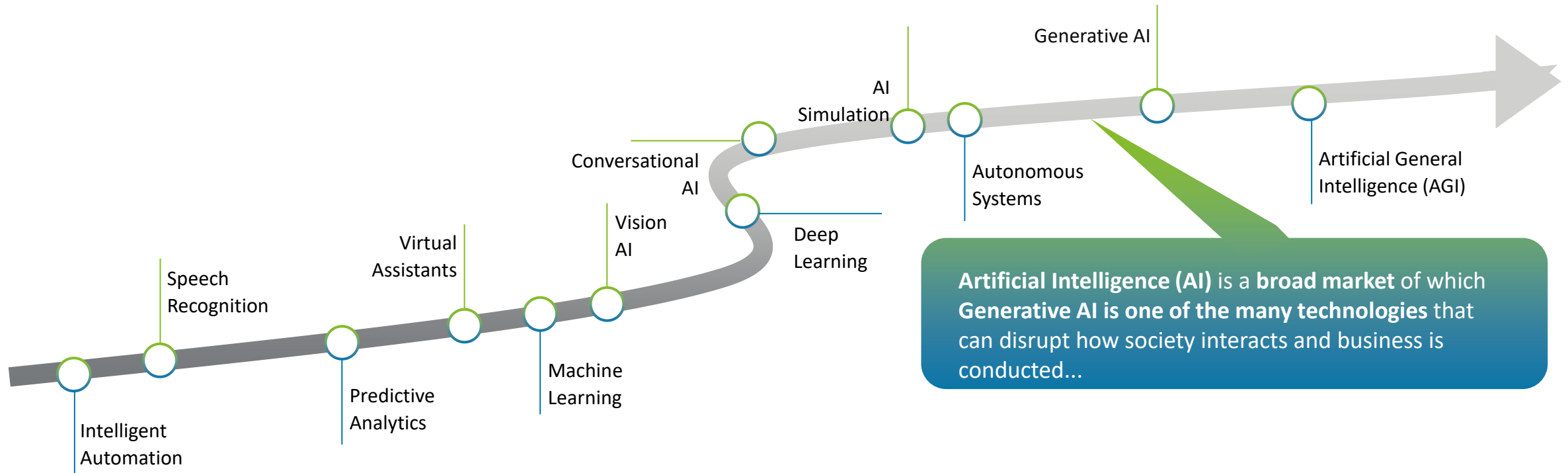GenAI Controls workstream leader

Table of Contents

Corporate AI Adoption

Opportunities and Challenges

AI includes many technologies, providing innovative solutions to transform society and business

Generative AI

AI Simulation

Conversational AI

Autonomous Systems

Artificial General Intelligence (AGI)

Vision AI

Deep Learning

Virtual Assistants

Speech Recognition

Machine Learning

Predictive Analytics

Intelligent Automation

Artificial Intelligence (AI) is a **broad market** of which **Generative AI is one of the many technologies** that can disrupt how society interacts and business is conducted...

… and signals show the AI market growth is turbocharging

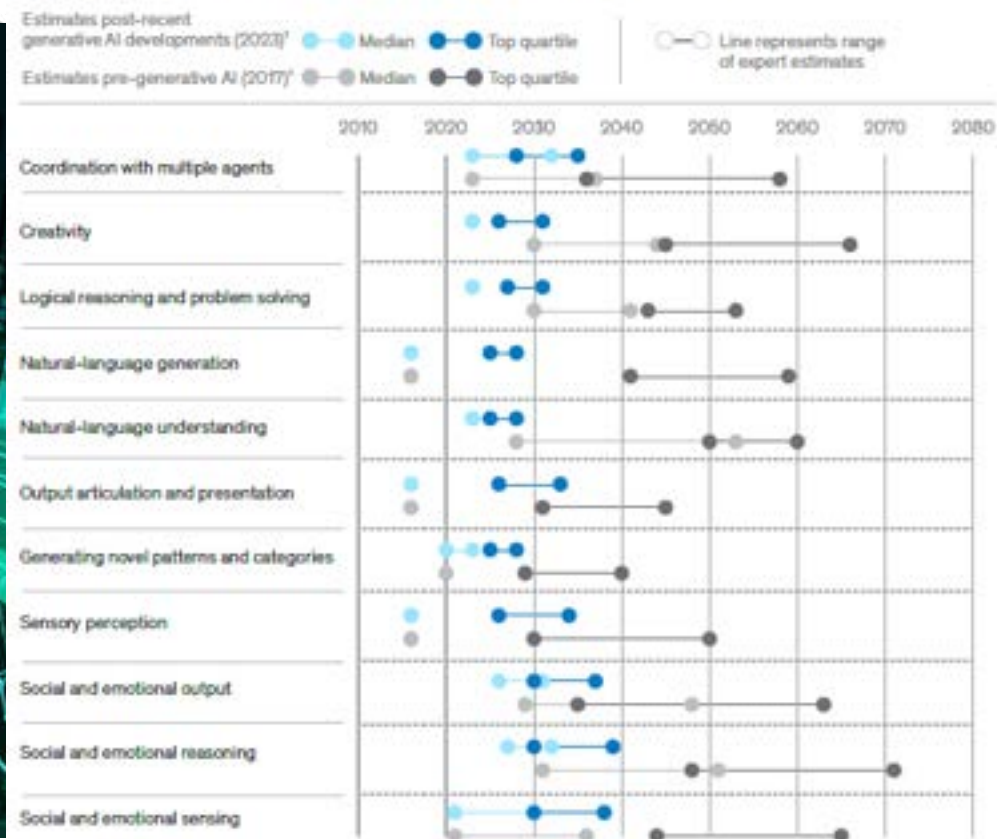| Economic impact	Worldwide revenues	Enterprise application
Generative AI expected to increase Global GDP by **$7 trillion** (7% over 10 year period), with a **1.5% growth in labor productivity**[1]	Global revenues for AI-related software, hardware, and services is forecasted to surpass **$900B in 2026**, representing a 18.6% five-year CAGR[2]	**79% of leaders** reported full-scale deployment for **three or more types of AI applications – a 17% increase from 62% in 2021**[3]

1. Goldman Sachs, Generative AI could raise global GDP by 7% 2. IDC Worldwide Semiannual Artificial Intelligence Tracker 3. State of AI in the Enterprise, 5th Edition, Deloitte

GenAI has progressed so fast over the past 12 months that experts are re-assessing their timelines for AI to reach 'human level capabilities'.

- Substantial improvements in AI over the past 5 years led to acceleration of forecast of when AI achieves **human performance.**

- While "Artificial General Intelligence" is still in distant future per most surveys, **AI progress is much faster in selected capabilities relevant for business purposes.**

- A useful guidance is provided by **McKinsey survey of experts issued in June 2023,** on maturity of different AI capabilities – incl. logical reasoning, output presentation or creativity.
  - After recent Gen AI developments, for **most** assessed **capabilities**, **median** human performance is **already within reach** of AI.
  - Exceptions are activities involving **social and emotional tasks**.
  - The performance equivalent to **top-quartile human** output is expected **in 2020's or 2030's.**

> 66 99
> **We tend to overestimate the effect of a technology in the short run and underestimate the effect in the long run.**
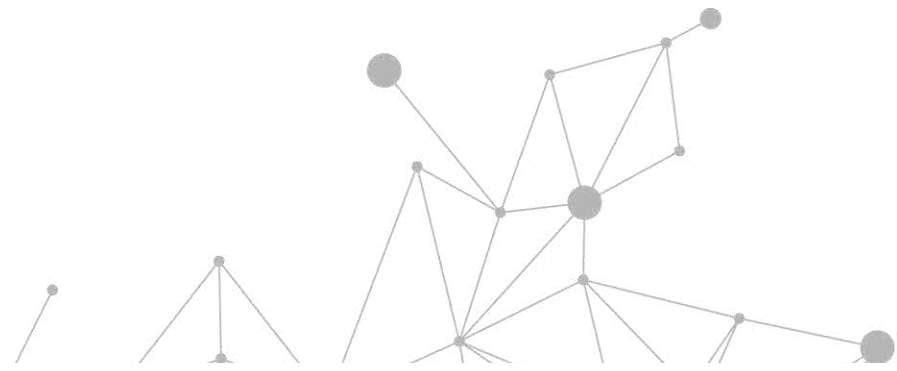> *Amara's Law*

When performing assessment of the impact on business we should keep in mind that as the **technology is rapidly improving**, many skills may **reach top human level by late 2020s or earlier**.

Technical capabilities, level of human performance achievable by technology

Generative AI adoption: CEO's view

Over half (55%) are evaluating & experimenting with Generative AI.

79% believe Generative AI will increase efficiencies and half (52%) believe it will increase growth opportunities.

Over a third (37%) are currently implementing Generative AI to some degree.

Source: Summer 2023 Fortune/Deloitte CEO Survey

Improvements CEOs Expect From Generative AI

	Likely	Neutral	Unlikely
Improve risk management	31%	50%	19%
Increase growth opportunities	52%	37%	11%
Improve new data capture	61%	30%	8%
Reduce business operational costs	65%	27%	8%
Automate manual operations	75%	20%	5%
Increase efficiencies	79%	13%	8%

Legend: Likely, Neutral, Unlikely

Impact of Generative AI

Cross Industry Impact	Generative AI has the potential to **reduce the marginal cost of generating knowledge-intensive content significantly.** It has the potential to facilitate the creation of new ideas and information at a faster rate, and potentially of higher quality, than what could be achieved through human effort alone

INDUSTRY SPECIFIC USE-CASES

There are transformative Generative AI use cases specific to each industry that could **enable revenue growth and/or expense reduction**

Consumer	Energy, Resources, & Industrial	Financial Services	Life Sciences & Health Care	Technology, Media & Telecommunications	Government & Public Services
• Ad and marketing creation • Personalized recommendations • Product design • Product attribution • Store layout optimization • Virtual try-on • Website content creation • Trade promotion optimization • Artificial mod	• Design optimization • Development of site plans • Predictive maintenance • Supply Chain and process optimization • Quality control • Resource allocation • Virtual field assistant • Personalized OHS Training	• Customer segmentation • Financial forecasting • Fraud detection • Loan underwriting • Portfolio optimization • Automated claims reporting • Real time risk management	• Drug discovery • Medical imaging • Personalized medicine • Precision diagnostics • Synthetic control data generation • Medical coding • Automated regulatory compliance	• 3D assets for video games • Ad and marketing creation • Audio translations • Content creation and localization(e.g., scripts, videos, music) • Telecoms network optimization • Semi-conductor chip design	• Fraud, waste, and abuse prevention • Regulation and oversight • Open-source intelligence and sensemaking • City planning • Report generation • Knowledge management • Policy development Copilot • Hyper-personalized

Deloitte's Generative AI Dossier offers 60 use cases for effective implementation, enhancing productivity, and guiding strategic decisions on Generative AI across industries.

"WITH GREAT POWER COMES GREAT RESPONSIBILITY"

- Uncle Ben, Spiderman

INNOVATION is always closely tied to RISKS, which need to be handled but should not stop you from participating

AI Adoption Challenges and Evolving Tech Risk Landscape

As businesses increasingly use AI tools to make critical decisions (e.g., loan approvals, healthcare decision making), several important considerations are taking centerstage and re-shaping organizations' technology risk landscapes.

01

Reputational impact of AI gone wrong
Undesired outcomes of AI algorithms could draw public backlash and impacted customer loyalty

02

Heightened regulatory activity around AI
Regulators are increasingly scrutinizing AI applications and the underlying data, and voicing concerns through additional guidance and proposed regulations

03

Need for executives to get ahead of their AI exposure
Lack of visibility and governance over the increasing adoption of AI within the organization, or through third parties, is leading to unknown and unaccounted for exposure

Oct 30, 2023: President Biden Signs Sweeping AI Executive Order.

Artificial intelligence platforms will drive the next phase of trade finance growth

Nov 2023: British PM hosted first AI safety summit, but global oversight remains uncertain.

AI vs. GDPR: Finding balance between ethics and innovation

Jan 2024 EU AI Act will be in force?

1. The Executive Office of the President, "Promoting the Use of Trustworthy Artificial Intelligence in the Federal Government", Dec 3, 2020.
    The Executive Office of the President, "Maintaining American Leadership in Artificial Intelligence", Feb 11, 2019.
    The Executive Office of the President, "Guidance for Regulation of Artificial Intelligence Applications," Nov 17, 2020.
    OECD, "Recommendation of the Council on Artificial Intelligence", May 21, 2019
    European Parliament, "Artificial intelligence act", 2022.

What risk mitigation measures pertaining to AI has your company adopted/implemented? [Select all that apply]
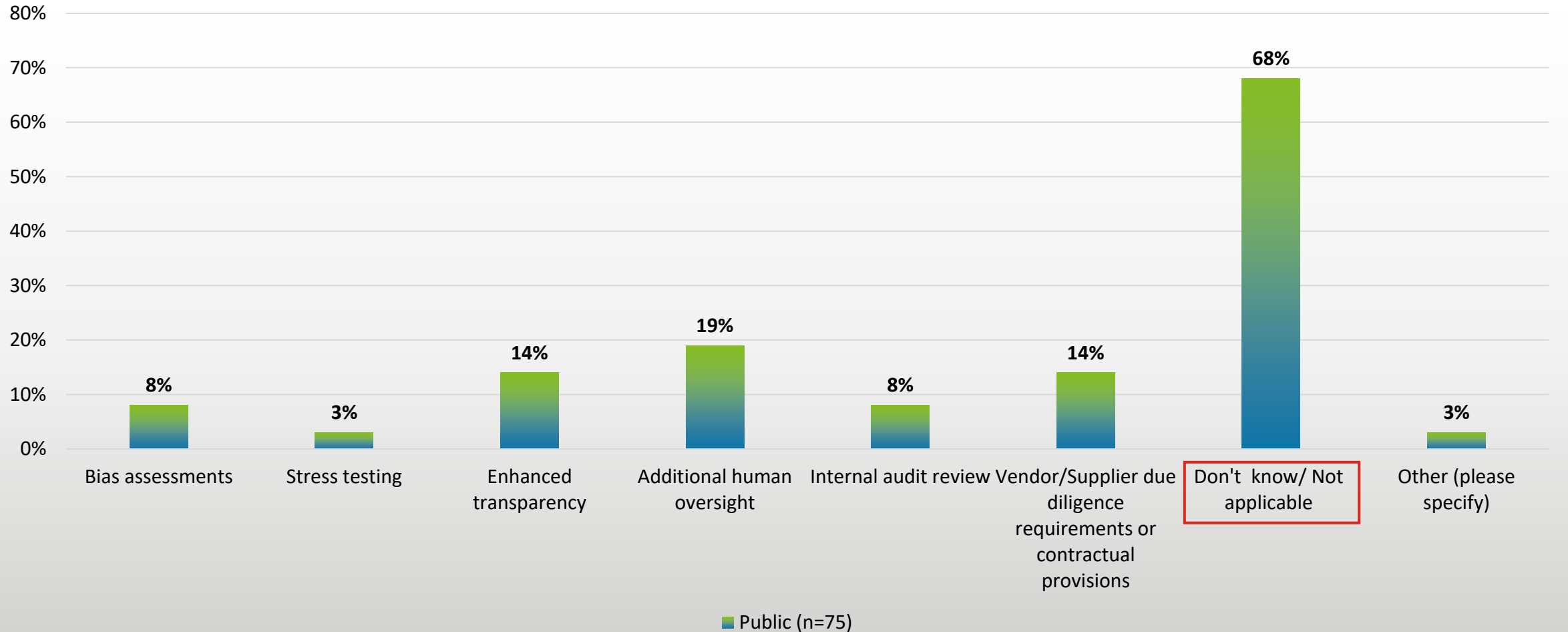
Bar chart showing percentages for each risk mitigation measure:
- Bias assessments: 8%
- Stress testing: 3%
- Enhanced transparency: 14%
- Additional human oversight: 19%
- Internal audit review: 8%
- Vendor/Supplier due diligence requirements or contractual provisions: 14%
- Don't know/ Not applicable: 68%
- Other (please specify): 3%

Legend: Public (n=75)

Does your company have an AI use framework, AI policy, or AI code of conduct?
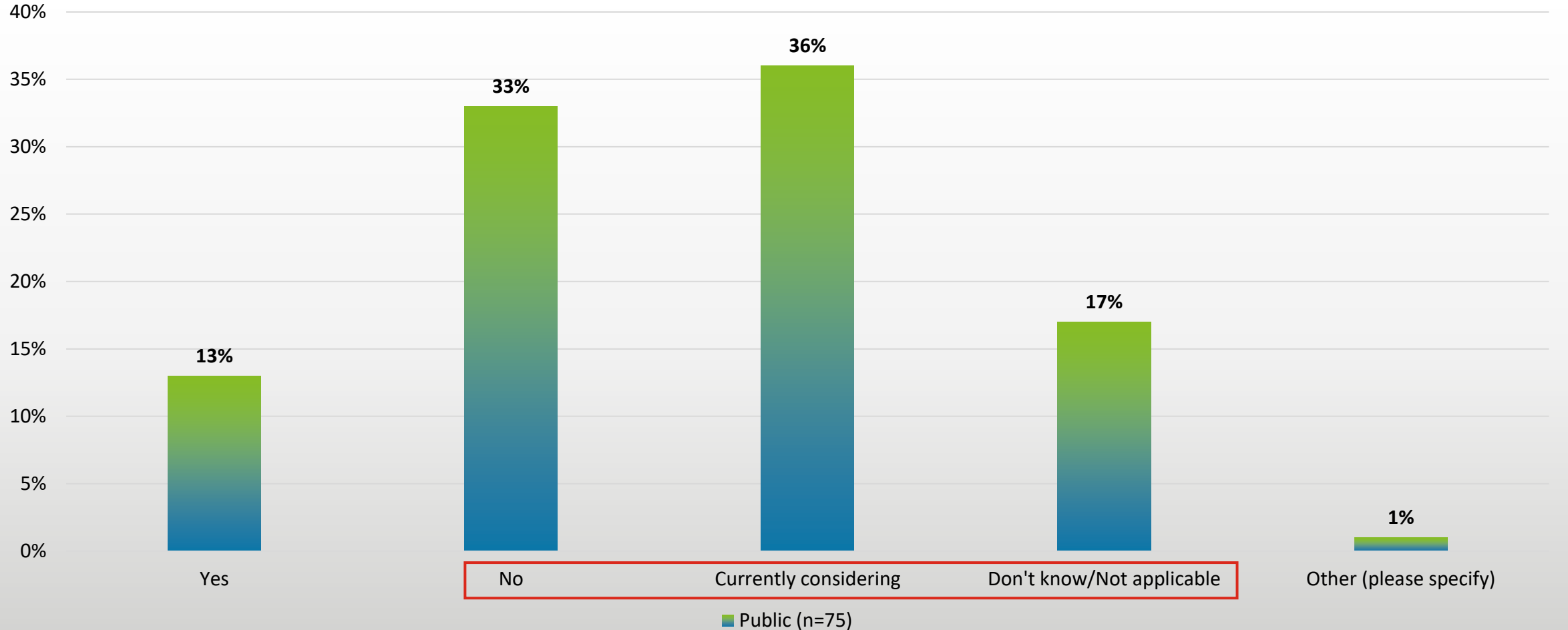
Yes — 13%
No — 33%
Currently considering — 36%
Don't know/Not applicable — 17%
Other (please specify) — 1%

Public (n=75)

AI in the Corporate Landscape

Capabilities Each Organization Should have for Successful AI Adoption

Define Capabilities that need to be in place

AI Agility is the ability of organizations to rapidly respond and adapt to the dynamic AI landscape. Its significance lies in fostering innovation, staying competitive, and ensuring efficient AI adoption.

1

AI Agility

Key Capabilities to drive successful AI Adoption

2

AI Governance Models
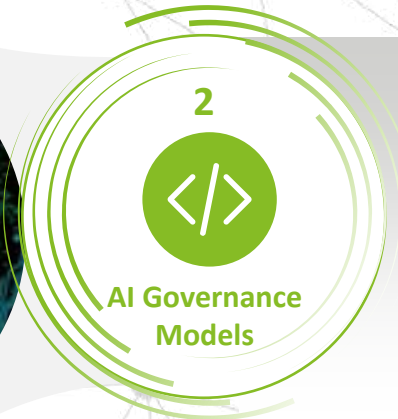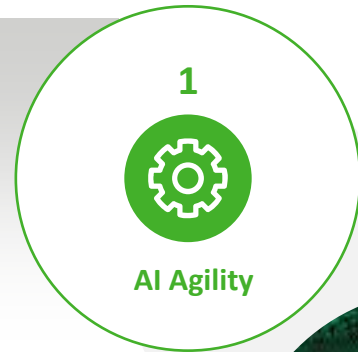
AI governance models are structured frameworks for overseeing and managing AI initiatives. Their significance lies in ensuring ethical, compliant, and effective AI adoption, minimizing risks, and optimizing AI's potential benefits for organizations.

AI risk management involves identifying, evaluating, and mitigating potential risks associated with AI adoption. Its significance lies in ensuring responsible, secure, and effective AI implementations while safeguarding against ethical, legal, and operational challenges

3

AI Risk Management

CAPABILITY #1 : AI Agility

AI Agility refers to an organization's capacity to **rapidly respond** to the dynamic landscape of AI. It encompasses more than simply **adopting** the most recent AI technologies; rather, it entails establishing a versatile, knowledge-centric strategy that enables organizations to **promptly adapt** and **iterate** upon emerging AI advancements.

Why AI Agility?

In the fast-paced digital age, AI Agility is essential for organizations as it empowers them to swiftly pivot in response to the ever-changing AI environment. This agility is key to outpacing the competition, harmonizing AI integration, fostering innovation, enhancing operational efficiency, and adeptly navigating the complexities of AI to flourish in an increasingly data-dominated era.

Key elements of being AI-Agile

- Strategic flexibility
- Change by design
- Knowledge-centric infrastructure
- Data-driven decision making
- Continuous learning culture (AI Literacy)
- AI governance
- Ethical AI implementation

Regulation, Ethics, and Governance

Technology and Infra-structure

AI Agility

Process

Data

People
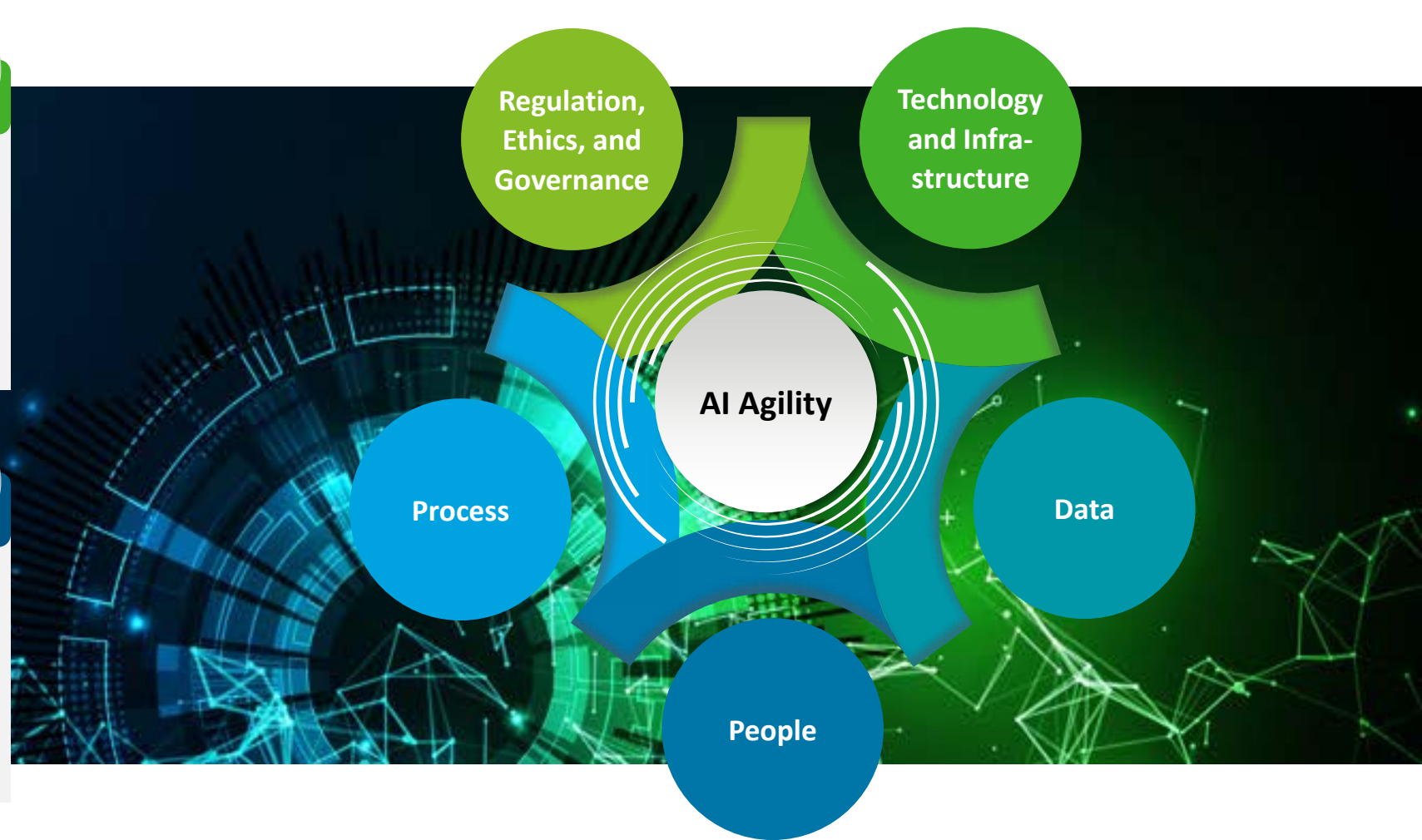
AI Agility Framework

Structured matrix that comprises five core pillars, with each of them progressing through five distinct phases.

Sense and Evaluate
Understand the business's needs and keep an eye on the AI landscape to find potential risks and opportunities. Evaluate the risks and opportunities in relation to the business's needs.

Validate
Select an AI technology and develop a proof of concept or pilot project. Assess its feasibility, viability, and desirability to make an informed decision on whether to proceed with full-scale implementation.

Design
If it's a go, utilize the lessons learnt during the validation stage to craft a strategy for responsible implementation. This phase should incorporate safeguards, ethical considerations, and guidelines for responsible use.

Adapt
Implement the designed framework and manage the necessary changes within the organization. This phase should involve a robust change management strategy to ensure a smooth transition and adoption of the new opportunity.

Monitor
Continuously assess the success and impact of the implemented method. This is via regular monitoring of its performance, data collection, and optimization.
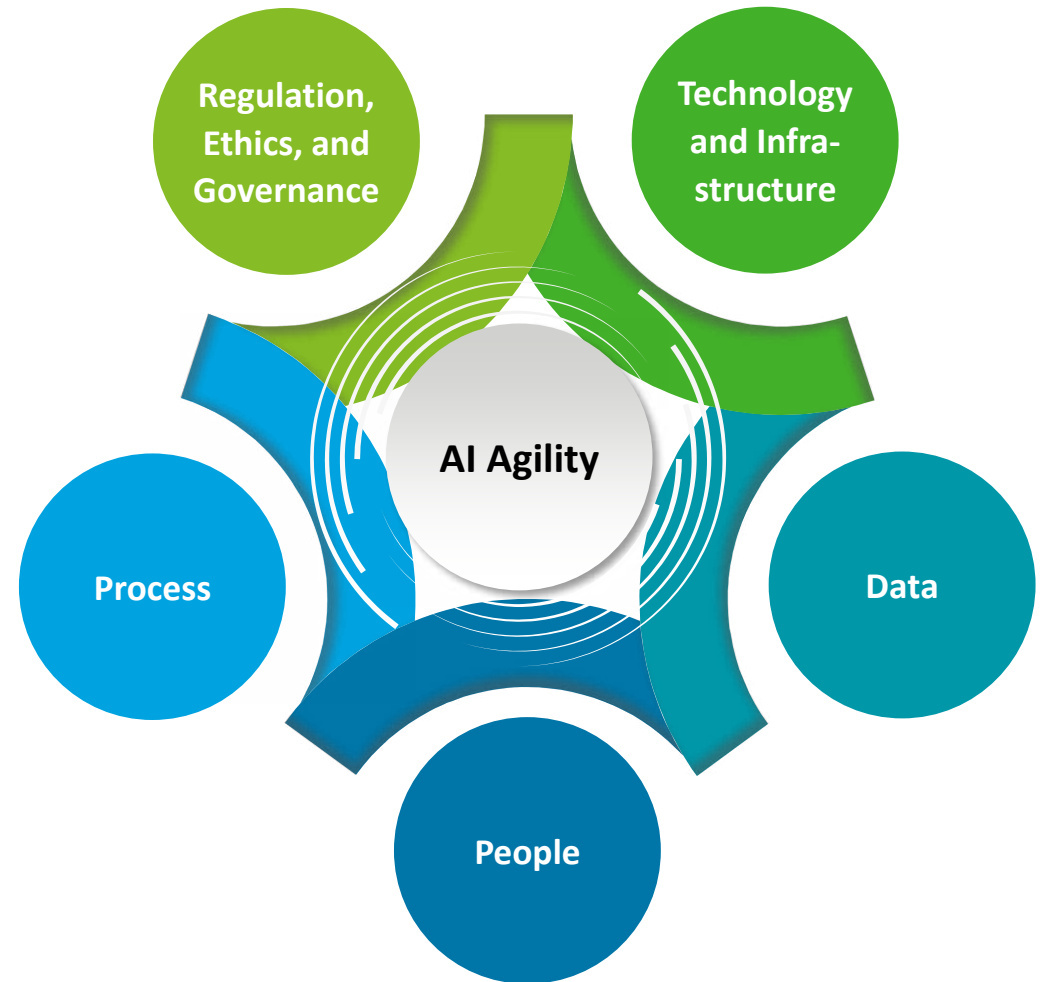
CAPABILITY #2 : AI Governance Models

Your current governance framework is still applicable. Management and the Board of Directors, including the Audit Committee, need to work together to achieve effective governance and oversight of AI to manage risk effectively.

AI governance & oversight

Board of Directors

- Ultimate responsibility for oversight of the business and strategy
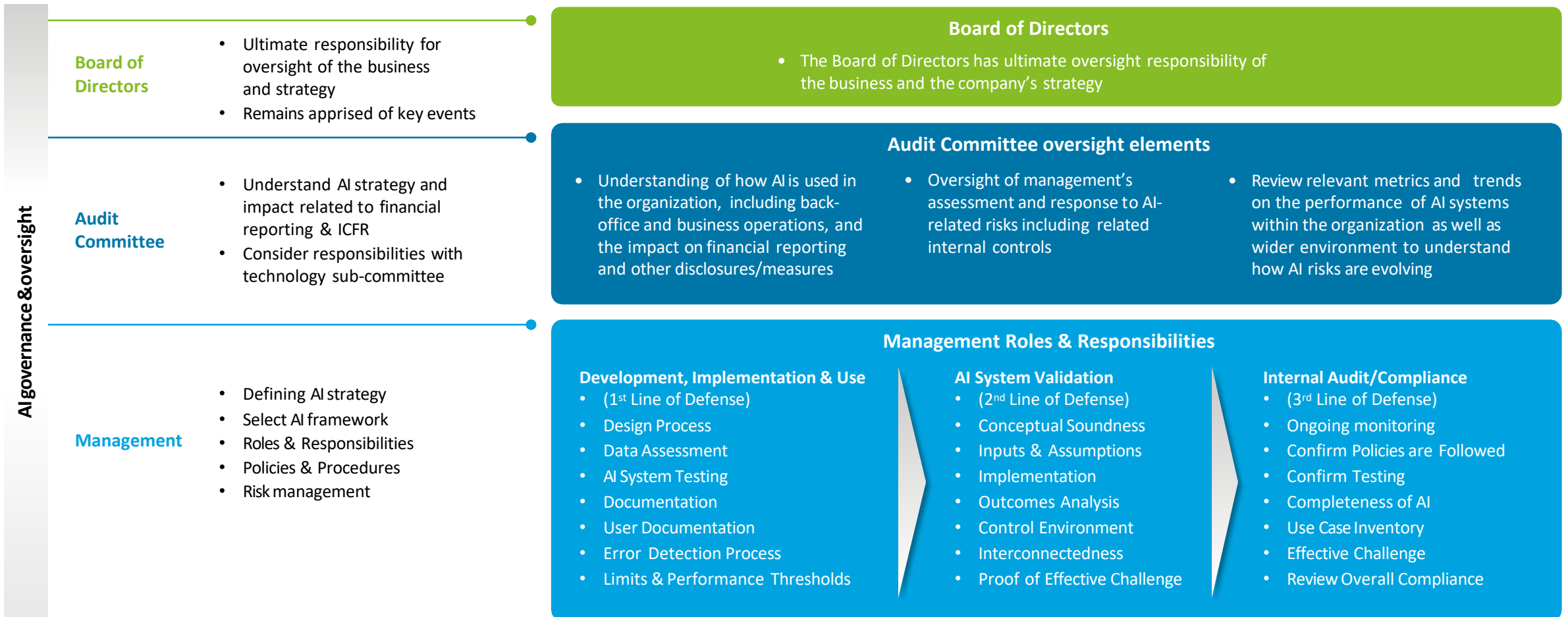- Remains apprised of key events

Board of Directors
- The Board of Directors has ultimate oversight responsibility of the business and the company's strategy

Audit Committee

- Understand AI strategy and impact related to financial reporting & ICFR
- Consider responsibilities with technology sub-committee

Audit Committee oversight elements

- Understanding of how AI is used in the organization, including back-office and business operations, and the impact on financial reporting and other disclosures/measures
- Oversight of management's assessment and response to AI-related risks including related internal controls
- Review relevant metrics and trends on the performance of AI systems within the organization as well as wider environment to understand how AI risks are evolving

Management

- Defining AI strategy
- Select AI framework
- Roles & Responsibilities
- Policies & Procedures
- Risk management

Management Roles & Responsibilities

Development, Implementation & Use
- (1st Line of Defense)
- Design Process
- Data Assessment
- AI System Testing
- Documentation
- User Documentation
- Error Detection Process
- Limits & Performance Thresholds

AI System Validation
- (2nd Line of Defense)
- Conceptual Soundness
- Inputs & Assumptions
- Implementation
- Outcomes Analysis
- Control Environment
- Interconnectedness
- Proof of Effective Challenge

Internal Audit/Compliance
- (3rd Line of Defense)
- Ongoing monitoring
- Confirm Policies are Followed
- Confirm Testing
- Completeness of AI
- Use Case Inventory
- Effective Challenge
- Review Overall Compliance

CAPABILITY #3: AI Risk Management

AI is crucial for businesses, but ethical and governance issues slow its adoption. Organizations must manage AI risks and establish robust ethical and trustworthy AI Risk management frameworks.

AI risk today

Risks pertaining to Ethics and Governance

Consequences: lawsuits, regulatory fines, reputational damage and destruction of shareholder value.

Solution: Trustworthy AI Framework *(A framework designed to identify and address potential risks associated with ethics and governance).*

Key Drivers

Management and those charged with governance are driving a demand for:

- Confidence AI is operating as intended
- Responsible use of AI
- Balance between AI enablement and risk management
- Effective controls
- Proactive approach to address policy and legal uncertainties of deploying AI

Responding to AI risk

Corrective measures to ensure that there is a robust framework for creating trustworthy AI systems

Develop reliable ML algorithms.

Improve anomaly detection accuracy
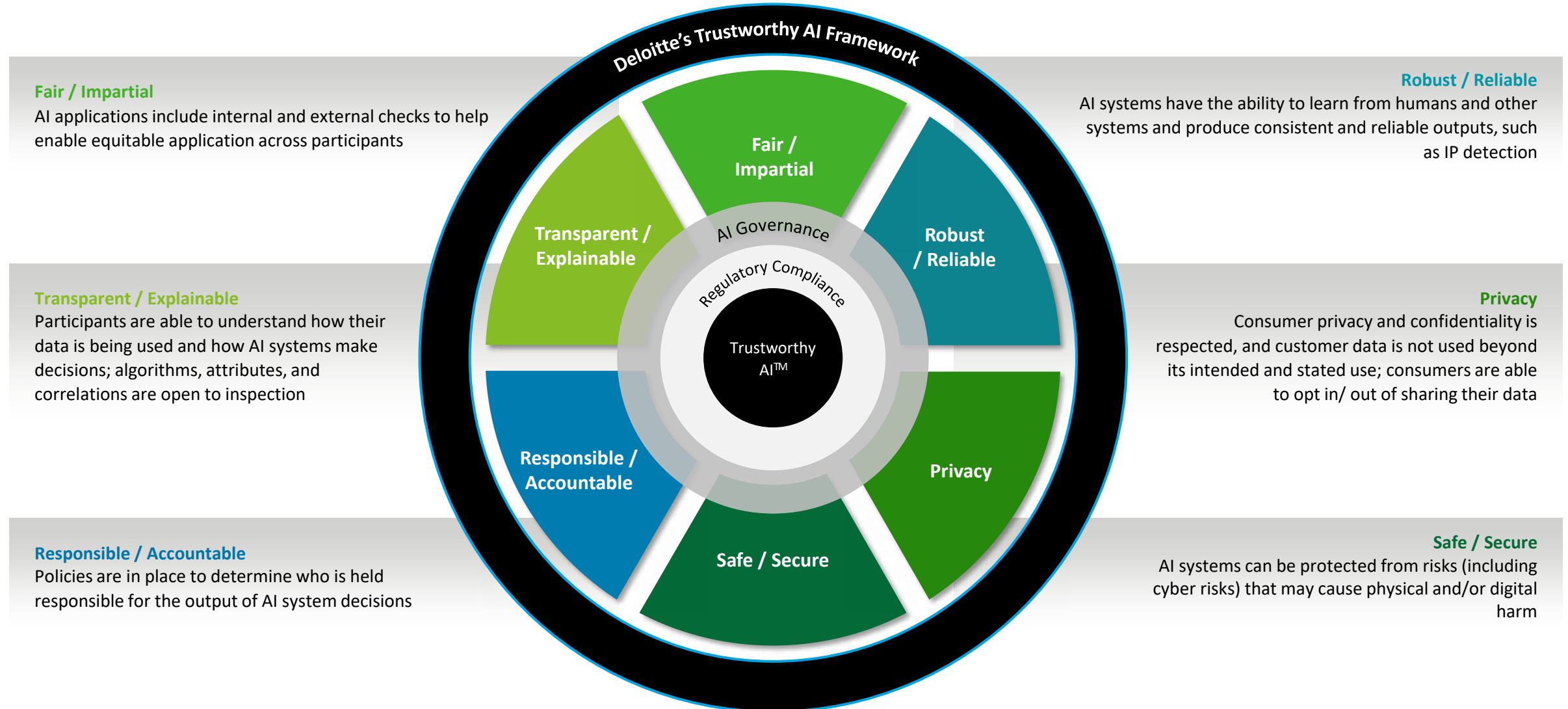
Expand AI understanding organization-wide.

Establish transparent reporting methods.

Trustworthy AI Framework

Deloitte created its Trustworthy AI Framework to help organizations understand, respond to and mitigate AI risks in a responsible, sustainable manner

Fair / Impartial
AI applications include internal and external checks to help enable equitable application across participants

Robust / Reliable
AI systems have the ability to learn from humans and other systems and produce consistent and reliable outputs, such as IP detection

Transparent / Explainable
Participants are able to understand how their data is being used and how AI systems make decisions; algorithms, attributes, and correlations are open to inspection

Privacy
Consumer privacy and confidentiality is respected, and customer data is not used beyond its intended and stated use; consumers are able to opt in/ out of sharing their data

Responsible / Accountable
Policies are in place to determine who is held responsible for the output of AI system decisions

Safe / Secure
AI systems can be protected from risks (including cyber risks) that may cause physical and/or digital harm

Deloitte's Trustworthy AI Framework

Fair / Impartial · Robust / Reliable · Privacy · Safe / Secure · Responsible / Accountable · Transparent / Explainable

AI Governance · Regulatory Compliance · Trustworthy AI™

Your takeaways

It's essential to stress the importance of collaboration between IT, legal, compliance, and business departments to ensure that AI governance is integrated into the fabric of your organization.

Questions to consider

NOW

Where is (Generative) AI being used in the business today?

What guardrails are currently in place over (Generative) AI?

What impact could (Generative) AI have **on the business model?**

Has management appropriately identified the risks and related mitigation, for the current landscape?

NEXT

What is the strategy for future use of (Generative) AI, across the enterprise?

Does the organization have adequate talent and resources to execute its (Generative) AI strategy?

How is management monitoring the ongoing risks associated with (Generative) AI, including regulatory and contractual risks?

Is management's existing governance model suitable for the challenges of (Generative) AI?

Additionally...

Address and confirm areas of responsibility with the full board vs. committees

Establish ongoing dialogue with management and regular updates to other relevant committees

Ensure relevant committees expand their mandates to cover aspects of Generative AI most relevant to their scope

And transform them into actions!

Increasing readiness to build Trustworthy (Generative) AI

Five actions for you to consider to enable your role in Generative AI Governance

01

Build the AI literacy

Being an advocate for value of Generative AI and guide for related risks, demands in-depth AI literacy due to novel risks.

Your organization can **enhance its knowledge through traditional methods** and hands-on experience with Generative AI tools.

02

Promote AI fluency in the C-suite

As the presence of Generative AI grows, leaders need knowledge of technology to shape programs responsibly to make informed decisions on ethics, safety, accountability.

You can **encourage the Generative AI fluency** in the C-suite to address various opportunities and risks.

03

Recruit members with AI experience

Given that AI is a technical and complex field raising its own collection of hurdles and risks, board needs to accordingly recruit members with relevant skillset.

Your organization can **enhance and expand its in-house subject matter expertise** by recruiting professionals with a track record of successful AI project implementations.

04

Prepare the Board for the future

As capabilities, regulations, and trajectory of Generative AI are all in flux, the board needs to ensure ongoing monitoring of related developments.

Organizations can **establish dedicated subcommittees to oversee vital enterprise activities (and ecosystem developments)** or can extend the existing mandates to include Generative AI components.

05

Guide the organization as Generative AI matures

As the enterprise explores how Generative AI can be a productivity enhancer and innovation driver, you can play a vital role in guiding ethical and trustworthy deployment.

You can **leverage frameworks for assessing risk and trust and make clear-eyed evaluations** and usher the organization toward the most valuable use of Generative AI.

Thank you

"It's a very exciting time, but you have to balance the excitement with maturity to ensure you're managing this huge transition."

- Fidelma Russo, CTO, Hewlett Packard Enterprise

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