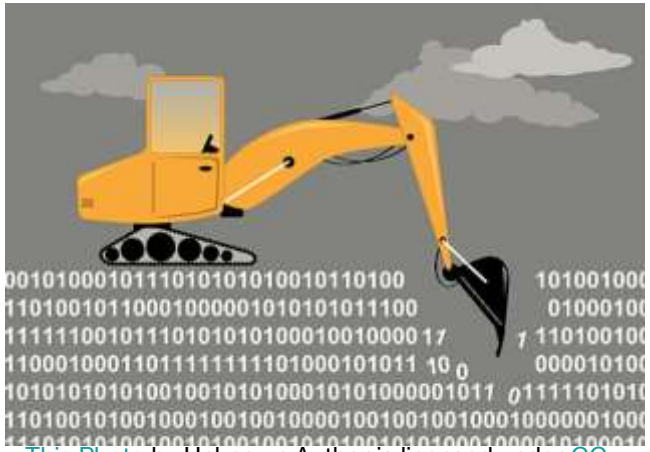
I love AI

Speed



All of the world's information

But

AI gets a lot just a little bit wrong.

2X2 = 22?

Or

2 ducks?

AI is our Apprentice

OUR AI WILL

- Be capable and quick, with relevant skills or knowledge.
- Work hard endlessly without fatigue.
- Learn on the job.
- Do a task well with very structured clear advice and guidelines.

OUR AI WILL ALSO

- Be unpredictable and come up with seemingly random responses.
- Convey accuracy without proof.
- Mislead us since it sounds far more confident than its expertise merits.
- Need constant checking and lots of feedback (i.e. prompts).

So audit and assurance is important to check how we use AI

And the outputs and outcomes it gives us

But if auditors are using AI?

And business lines are using AI?

Is AI checking its own homework?

Welcome to the AI Audit enigma

When are we auditing using AI?

- We need to check the validity of our own AI audit tools.
- We need to check our auditing data – past finding and recommendations.

When are we auditing AI?

- We need our auditing tools to check the validity of the business' data.
- We need our auditing tools to check where AI is being used in the business.

When are we auditing data produced by AI?

- Do we even know?
- Data from our AI tool or the business' (explicitly from AI, 3rd party AI or shadow AI)?

- We need to justify everything we do with our AI audit tools.
- Only then can we perform our audit with confidence.

- ***What follows applies to both our own use of AI and the business' use of AI***

BCS IRMA 50 years

Informed use of AI in auditing

Sue Milton

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My thanks to:

- Raef Meeuwisse, author of “Artificial Intelligence for Beginners” ISBN978-1-911452-36-2, Amazon.co.uk: Raef Meeuwisse: books, biography, latest update
- ISACA, Empowering Careers. Advancing Trust in Technology. | ISACA
  - “Auditing GenA1”, Store - Auditing Generative AI: Methodology, Risk Mitigation, and Best Practices - ISACA Portal.
  - Using AI in IS/IT audits, ISACA Now Blog 2025 The Synergy Between Generative AI and IS Audit
- Claire Bodanis, Founder and Director, Falcon Windsor, FalconWindsor.
- And all the others – link provided in the slides.

Together, we will cover

Why we must begin and end with the ethics.

The many aspects of the AI auditing scope.

And what about the data?

Control evaluation.

The Human in the Loop - informed and wise.

WE BEGIN WITH ETHICS.

AI has no ethical or behavioural code

[7 Disadvantages of Artificial Intelligence Everyone Should Know About | liberties.eu]

- Amoral.
- Bias.
- Hallucinations.
- Facial recognition.
- Profiling.
- Disinformation.
- Misinformation.
- Environmental impact.
- Right versus wrong.
- Right versus right.
- Employment.

We are building AI in our image, warts and all

Neural networks:

- Humans – multi-directional.
- AI – linear and levels.

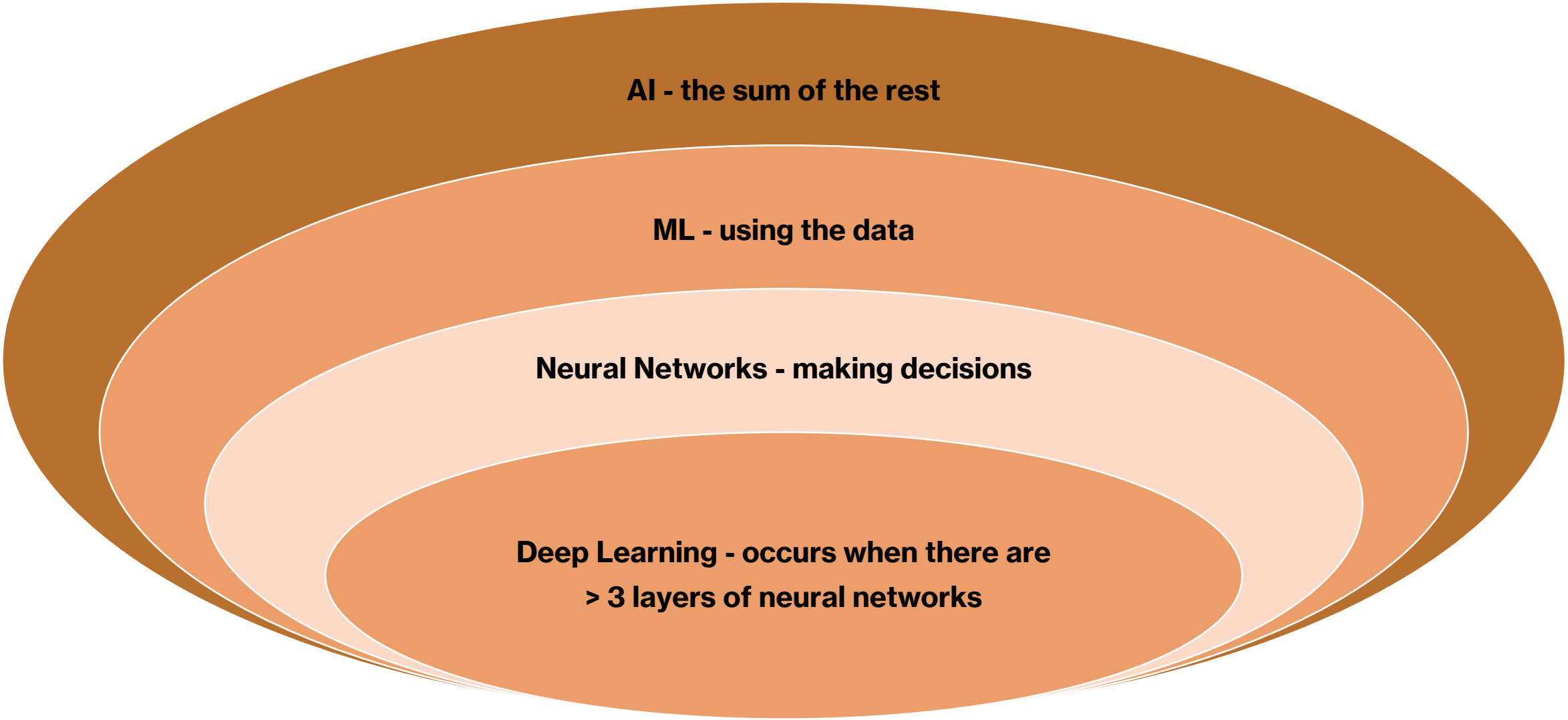
- Humans possess common sense and memory.
- For AI, it's all maths and probability.

- Bias – a useful shortcut in humans.
- Mimicked by AI but without thought.

- Humans assume, get things wrong and lie.
- AI hallucinates based on probability and the data available.

PHOTO BY TEDDY LEUNG/GETTY IMAGES

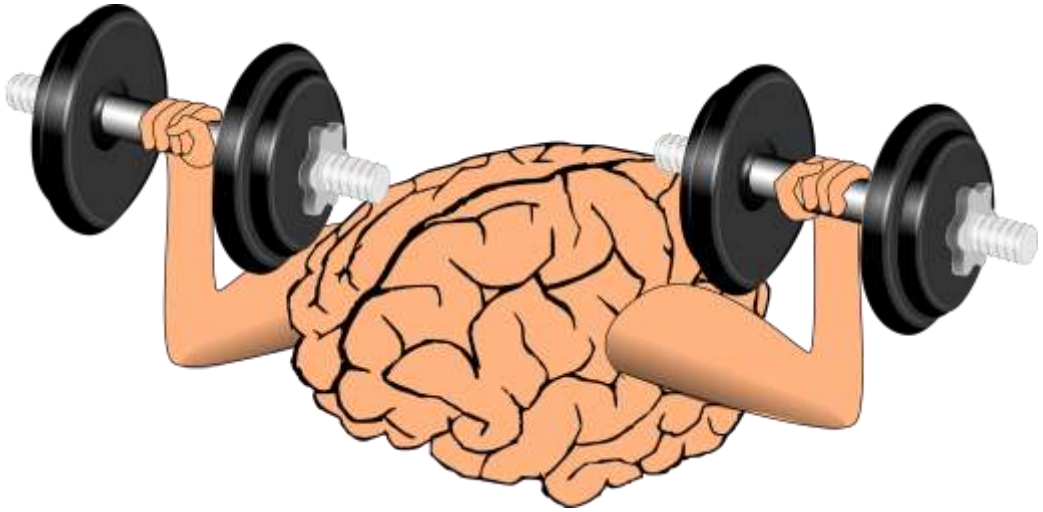
AI’s components



For all its speed, AI is

- Mentally challenged.

- So we need to provide a lot of assurance that it remains within precision tolerance.



And the more challenged AI is, the more help it needs

To understand how AI works, we need to have at least 6 areas of expertise:

1. computer engineering,
2. mathematics,
3. data science,
4. human behavioural psychology,
5. business knowledge, and
6. environmental impacts.

THE MANY ASPECTS OF THE AI AUDITING SCOPE.

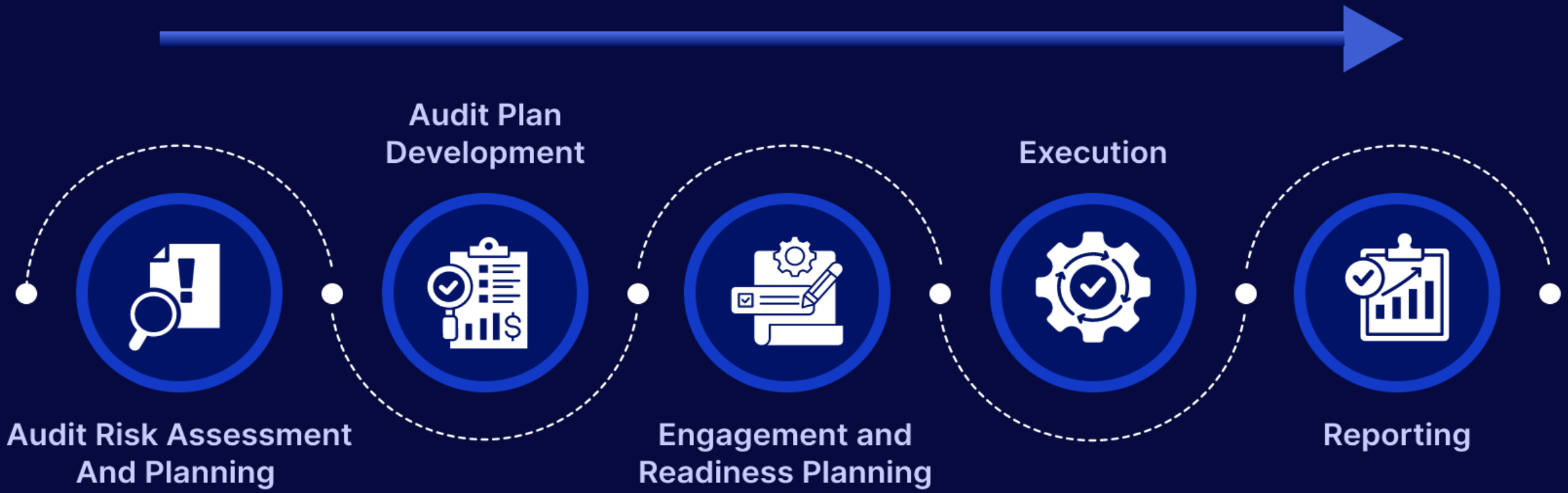
Assuring the AI tools we use in audit.

- Focused AI – e.g. AI-Powered Risk Assessment Software that can analyse vast amounts of data to identify potential risks and suggest mitigation strategies.

- GenAI – it is all in the quality of the prompts AI Overview Video: Prompt Engineering for Internal Audit and AI in Internal Audit: Practical Application with Example Prompts | Workiva.

- Training and Testing – think of AI as a child, What Is AI Model Training & Why Is It Important? | Oracle United Kingdom:
  - Select algorithms (a set of instructions to be followed in calculations or other operations Artificial intelligence (AI) algorithms: a complete overview | Tableau) and initial training data set for the model.
  - Evaluate output accuracy and tune the model to reduce or eliminate certain inaccuracies.
  - Provide additional data sets with specific diverse inputs to customize and fine-tune the model.

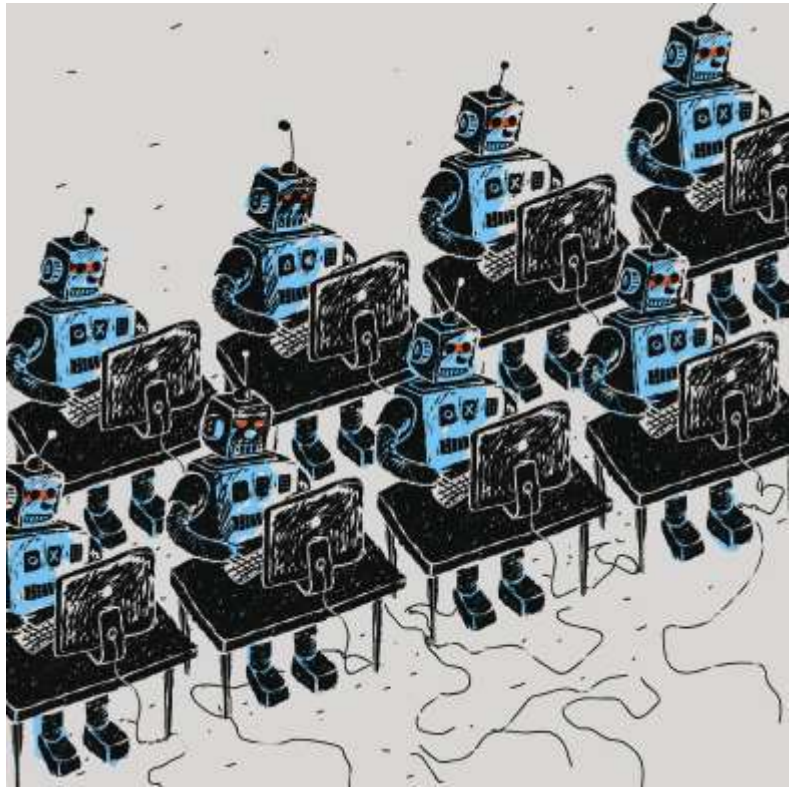
Generative AI across internal audit workflow



ZBrain

AUDITING USING AI.

- Using AI to interrogate datasets.
- Using AI to analyse datasets.
- Using AI to identify anomalies.



AUDITING AI ON AI.

- Using AI to assure AI models.
- Using AI to identify when we are using AI explicitly and implicitly.
- Using AI to analyse outputs from AI.

AND WHAT ABOUT THE DATA?

Data Governance on ‘slow-release’ steroids

Do it fast

but

do it carefully.

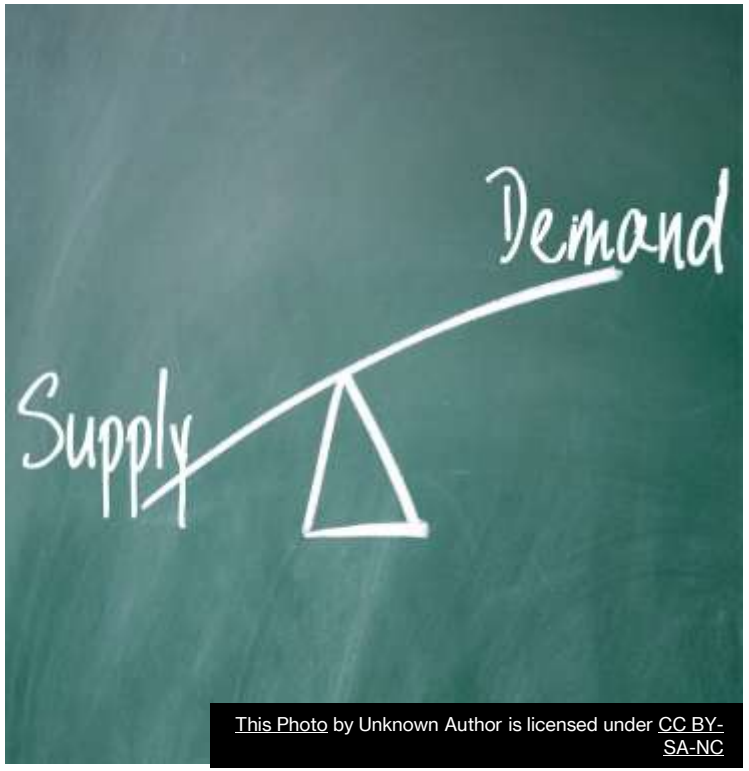
Data supply and demand

"....the rapid evolution and employment of AI suggests a vast array of potential applications both in ***producing data (the supply side)*** and processing, analysing and strategically ***using data (the demand side)***."

John Elkington, *Co-founder of Environmental Data Services (ENDS), CounterCurrent, SustainAbility and Volans; author of Green Swans: The Coming Boom in Regenerative Capitalism, and Tickling Sharks: How We Sold Business on Sustainability. May 2025*

"[Stakeholders demand] that the information remains accurate; and that the ***opinions and decisions set out in reporting remain the preserve of the people responsible for them***."

Claire Bodanis, *Founder and Director, Falcon Windsor*



Auditors must interrogate the data pipeline with precision

AI's intelligence is only as good as the data it consumes.

Flawed or biased data can lead to catastrophic outcomes, from discriminatory hiring practices to erroneous financial decisions.

- Where does the data originate?
- Is it ours to use?
- Is it representative of the population it serves?
- How often is it refreshed to reflect current realities?
- Who has access to it, and how is it secured?

Data governance

- Data location: find it.
- Data identification: define it.
- Data refinement: clean, label, and prepare AI-ready data.
- Organisational and supply chain governance framework: ensure quality, trust, and compliance.
- Access strategies: balancing usability with security.

Covering

- ‘At rest’ data.
- Data in transit.
- Data manipulation.
- Data extraction
- Authorised and non-authorised access.

And check our training data

- High quality.
- Relevant to the task.
- Need loads of it.
- Review and update.

- ***Each human interaction provides more data – is that data correct or skewing the relevance?***

- Comes from past audits (findings, recommendations).
- Audit universe.
- Audit policies and practices.
- Legal and compliance requirements.
- Risk assessments.
- Incident logs.
- Remedial actions and controls.
- Organisational strategy.

Data safety and security

Need data integrity so watch out for:

- Data leakage.
- Using data without consent.
- Perpetuating and exacerbating bias.
- Loss of IP ownership rights.
- Compliance violations.

CONTROL EVALUATION

Property of Museum of History & Industry, Seattle

AI turns this on its head

AI in Internal Audit: Practical Application with Example Prompts | Workiva

Our audit apprentice is good

Product | AuditBot – AI audit automation software - AuditBot – Smarter, Faster Audits; and AI and Auditing: The Future of Financial Assurance - MindBridge

- Ability to handle routine tasks that auditors previously performed manually.
- Examines computer code faster and more reliably than manual checking.
- AI-powered data extraction to automatically extract, structure, and prepare documents for audit testing.
- Automated transaction and data matching, pattern recognition, identifying anomalies with accurate insights, including fraud detection.
- Risk-rate 100% of the transactions – no need to select sample sizes.
- Predictive analytics can forecast issues that could impact an organisation's health.
- Real-time Insights and Continuous Auditing.
- Auto-generated ready-to-use structured documentation to deliver comprehensive audit working papers.
- Improve regulatory compliance.

But not perfect

Our sample check is now to assess if AI got it right.

We need to check the AI context, which is essentially a vulnerability and security check.

Such as Model risk – hidden in plain sight

[Shadow Vulnerabilities in AI: The Hidden Perils Beyond CVEs | Oligo Security]

Exploitation possible via Common Vulnerabilities and Exposures (CVE) identifier when a seemingly innocuous configuration setting can inadvertently open the door to exploitation, allowing attackers to compromise AI systems.

Data poisoning by Intentionally injecting false or misleading information within the training dataset, modifying the existing dataset, deleting a portion of the dataset

Prompt injections, deliberately crafted to manipulate its outputs.

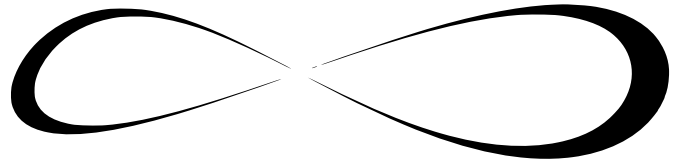
Hallucinations from insufficient data and/or inadequate prompts.

Credibility loss: malicious use, discriminatory content and outputs, security breaches.

Ensure comprehension and enable contestability

Having an audit trail of when we used AI in the audit.	Mapping AI interventions in the audit process.
Having an explanation of why we used AI in the audit.	The advantages of AI use in certain parts of the audit.
Having and explanation of what we asked AI to look at and what to do.	The ‘questions’ we asked and the prompts we gave AI.
The AI tools we used.	Name and description of the audit AI tools.
The AI we encountered in the audit.	Where AI audited AI and what was examined.
Sharing how we cope with bias, ‘little bit wrong’ and judgement capabilities.	Judgements from the human in the loop.
Demonstrable explanations of our findings.	How AI output, human discovered output and judgements support the recommendations.

THE HUMAN IN THE LOOP - INFORMED AND WISE.



The Importance of human oversight is to keep AI aligned to human values

- Ethical decision-making: Humans ensure AI aligns with societal values by defining ethical guidelines and reviewing outputs for biases and discrimination.
- Accountability: Human oversight fosters transparency and addresses errors in AI systems, building trust between technology and society.
- Adaptability and contextual understanding: Humans complement AI by adapting to new scenarios, considering diverse perspectives, and improving AI models for accuracy and alignment with human needs
- Continual learning and improvement: Through ongoing human intervention, AI systems can evolve and become more accurate, reliable and aligned with human needs and expectations.
- A responsible and sustainable future: humans and AI can work hand in hand, creating a powerful synergy that benefits individuals, organizations and society as a whole.

Human Oversight in AI: The Crucial Role of Humans in AI | Cornerstone

But on the one hand, AI is removing lower-level roles

- In 2024, entry-level hires were down 25 per cent year on year. “AI is doing what interns and new grads used to do”, said SignalFire partner Heather Dishy. “Now, one experienced worker equipped with AI tools can do the work of multiple junior staff, without the overhead”.
- In the UK, policymakers remain focused on AI safety and national competitiveness, with economic preparedness being neglected.
- Why hasn’t AI taken your job yet? (FT): two roles ‘at risk’ are writers and software developers because they do what **AI excels at: nice, clean, linear and sequential tasks, exam-style questions and essay assignments**.”

Yet on the other hand

- AI is creating jobs, not destroying them, say UK business chiefs (Telegraph): bosses believe AI will create more jobs than it removes.
- Why hasn't AI taken your job yet? (FT): "accounting clerks, insurance underwriters, travel agents and legal secretaries all overlap almost entirely with LLMs' capabilities" but the worker numbers have remained steady even as generative AI has proliferated.

The consequence being that

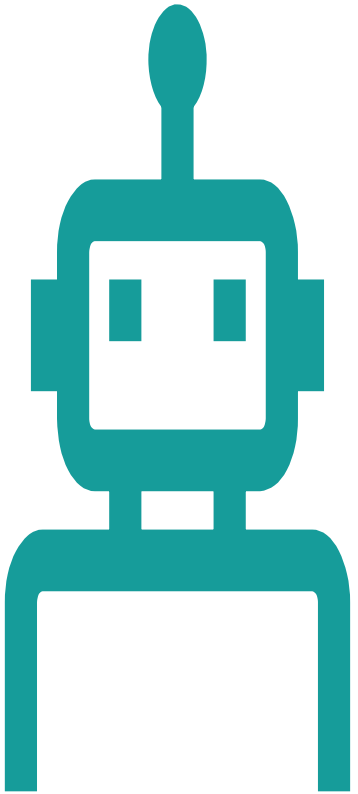
- It increases the need to train people more, not less, to understand those lower-level roles (equivalent of us being able to do our times tables) to bridge that gap.
- Because the more AI does for us, the more important the human is to provide independent validation based on knowledge and understanding.

WE END WITH ETHICS.

As auditors:

“AI doesn’t just automate – it accelerates.”

In the Race to Adopt AI, Your Data Is the Advantage - West Monroe



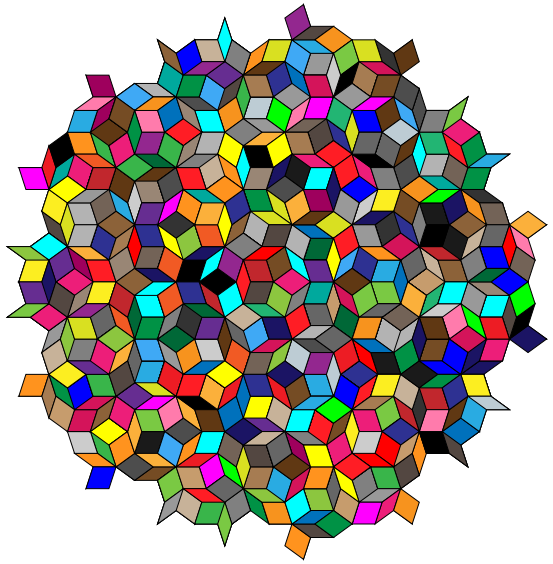
We get many benefits from AI but we are also responsible for understanding the risks when incorporating an artificial intelligence audit into the plan.

Ensure we avoid injustice and harm.

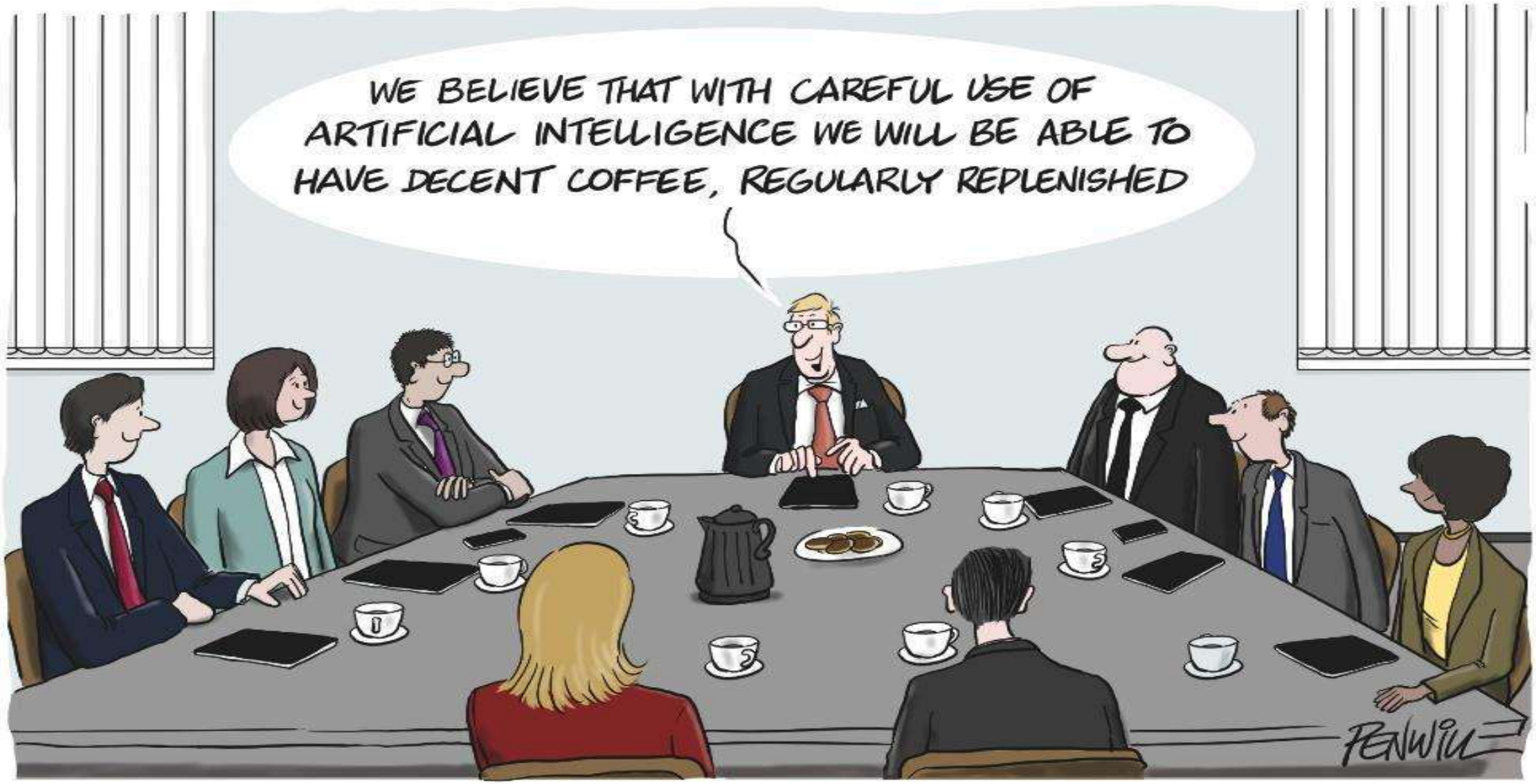
As auditors:

"Something in everything we do is for everyone."

BSI, May 2025



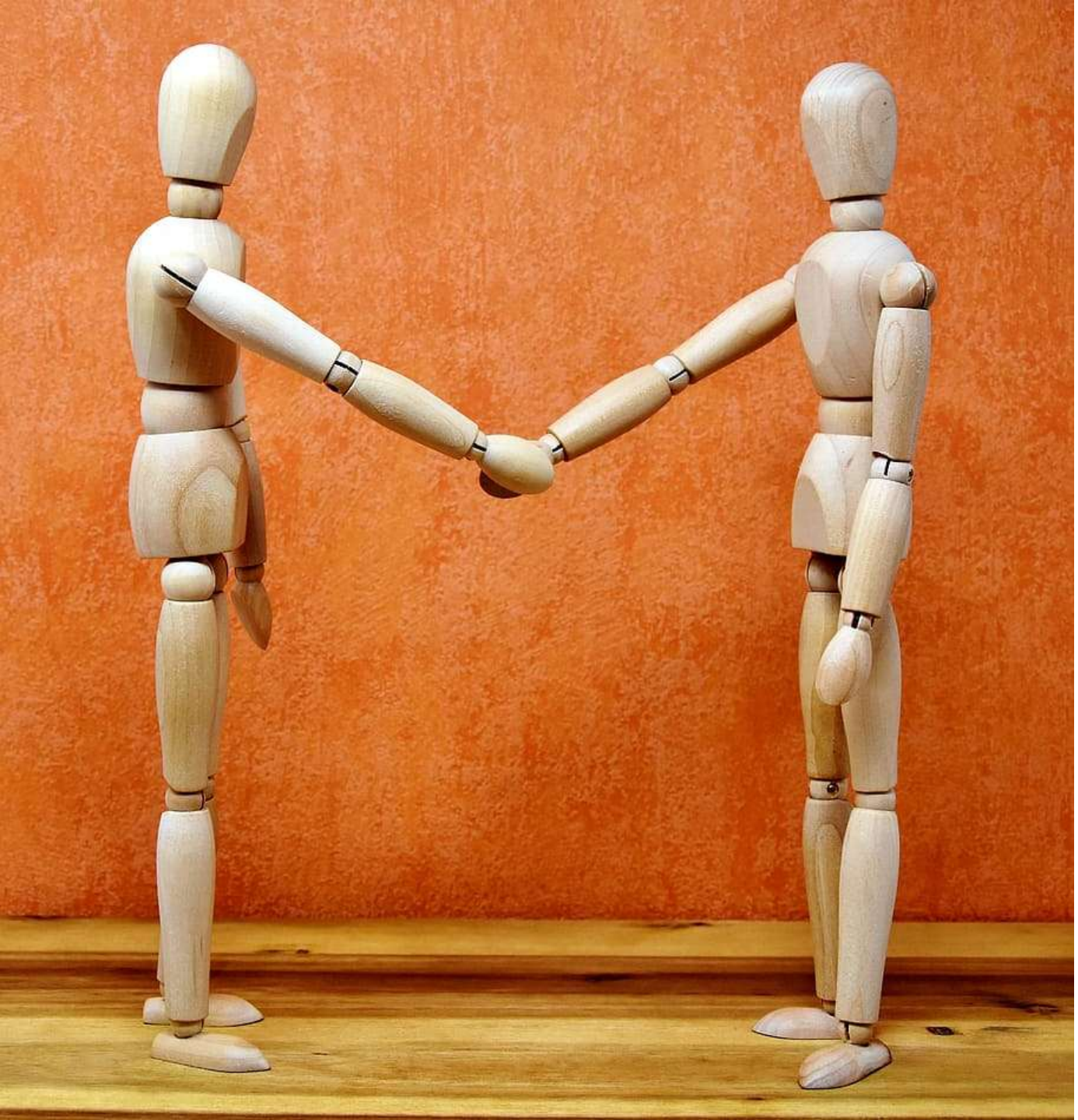
Source: Independent Audit, [Independent Audit: Enhancing Board Effectiveness]



HOW A.I. CAN TRANSFORM THE BOARD'S WORK

QUESTIONS?

COMMENTS?



HELPING HANDS

Supranational and national guidance

- OECD principles for AI, providing: values-based principles covering equality, transparency and accountability, safety and security; policy recommendations including inclusivity, global cooperation for trustworthy AI, AI Principles Overview - OECD.AI
- IEEE global initiative on ethics of autonomous and intelligent systems covering data gveornance, bias, safety, transparency ec about us
- ISO/IEC AI standards for robustness and safety covering ethics, transparency, data quality, and system reliability ISO - Artificial intelligence
- The GDPR is a fundamental (human) rights law that gives individuals a wide range of rights in relation to the processing of their data. On the other hand, the EU AI Act is a product safety law that provides parameters for the safe technical development and use of AI systems and is based on medical device safety legislation. Understanding intersection between EU's AI Act and privacy compliance – Compact
- EPRS_STU(2020)641530_EN.pdf is GDPT adequate? Mainly, BUT "The use of personal data in a training set, for the purpose of learning general correlations and connection, should be distinguished from their use for individual profiling, which is about making assessments of individuals." p80.
- Artificial Intelligence Risk Management Framework (AI RMF 1.0) pp38 – 41
- EU rules White Papers 2024 Understanding the EU AI Act
- UK does not currently have one overarching legal framework for AI but a range of legislation and regulation applying to AI: data protection; cybersecurity; product safet;, employment and equality; consumer protection; competition; online safety; sector-specific regulations such as financial services and healthcare. Unpacking the UK's AI Action Plan

Tips for using AI in audits

- The Internal Auditor's AI Strategy Playbook | BDO Insights | BDO
- Educate: Before your internal audit team can implement AI, it first needs to understand it. All team members need to grasp what AI is, what it can do, and its implications for the function. This foundational knowledge can help auditors make informed decisions and set realistic expectations.
- Identify use cases: AI is not a one-size-fits-all solution. The real power of AI emerges when it is tailored to address specific challenges or enhance processes within the internal audit function. It's important to pinpoint those areas where AI has the potential to deliver the most significant impact, like improving an auditor's day-to-day processes, enabling ongoing risk monitoring, or reviewing larger data sets during testing.
- Prepare and build: Just like constructing a building, the strength of an internal audit team's AI initiatives lies in the foundation. Strong data is critical as it feeds AI, and its quality informs the system's success. Security, governance, privacy, and practicing responsible AI are not just checkboxes, they are essential. Confirming these elements are robust and followed closely can help safeguard the organization.
- Enable and adopt: A tool is only as good as its user. Integrating AI into an internal audit workflow requires a cultural shift. It's about training, providing resources, dispelling myths, and most importantly, helping the team understand the 'why' behind AI. If the internal audit team can see the value, they will not only adopt it but become champions for the technology.
- Go and grow: Once the groundwork is laid, it's time to activate. The internal audit team's journey to AI does not end at launch; it's an ongoing, iterative process. As the internal audit function evolves, so too will its AI needs. Regularly revisiting and refining your AI systems helps them remain relevant and continue to deliver value.

A Comprehensive Framework for an AI Audit (by Maman Ibrahim, CRISC, CISA, CISSP, ChCSP, MCIIS, PMP, 2025 Volume 8 Proven Strategies to Uncover AI Risks and Strengthen Audits

1. Data Quality

- Attribute: completeness, accuracy and representativeness of training data.
- Assessment: conduct data profiling, detect biases and validate data sources.

2. Model Validation

- Attribute: robust testing and validation of AI models.
- Assessment: review validation reports, analyse test datasets, and benchmark performance.

3. Drift Monitoring

- Attribute: Mechanisms to detect and respond to model drift.
- Assessment: Evaluate monitoring tools, retraining schedules and performance logs.

4. Explainability

- Attribute: interpretability of AI decisions.
- Assessment: use explainability frameworks and review decision logic.

5. Security Resilience

- Attribute: resistance to adversarial attacks and data manipulation.
- Assessment: conduct penetration testing, simulate adversarial inputs and review mitigation strategies.

6. Access and Change Controls

- Attribute: governance over model and data modifications.
- Assessment: Review access logs, change management processes and role-based policies.

7. Performance Metrics

- Attribute: Defined benchmarks for accuracy and reliability.
- Assessment: Verify performance reports, conduct independent tests and analyse deviations.

Don’t forget the Green issues:
Each time we use AI, consider the cost to society

- Power, heat, cooling, water, landscape, environment.

- “AI threatens to raid the EU’s water reserve” POLITICO, p16.
  - 2024, Europe’s data centres consumed 62million cubic meters of water (24,000 Olympic-size swimming pools.
  - 2026 prediction: 90million cubic meters.