RELIABLE GENERATIVE AI ADOPTION

TWO SIDES OF THE SAME COIN

AI Governance First Approach

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Speaker introductions

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AI Governance Leader

Manish is a leading professional in the AI governance, data assurance, data governance and digital transformation fields. Manish cultivates teams with diverse experiences and perspectives to deliver innovative solutions to clients.

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Speaker introductions

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Polling question

Do you have team members using AI (AI integrated SaaS, ChatGPT, Bard, Bing, etc.) applications in your organization?
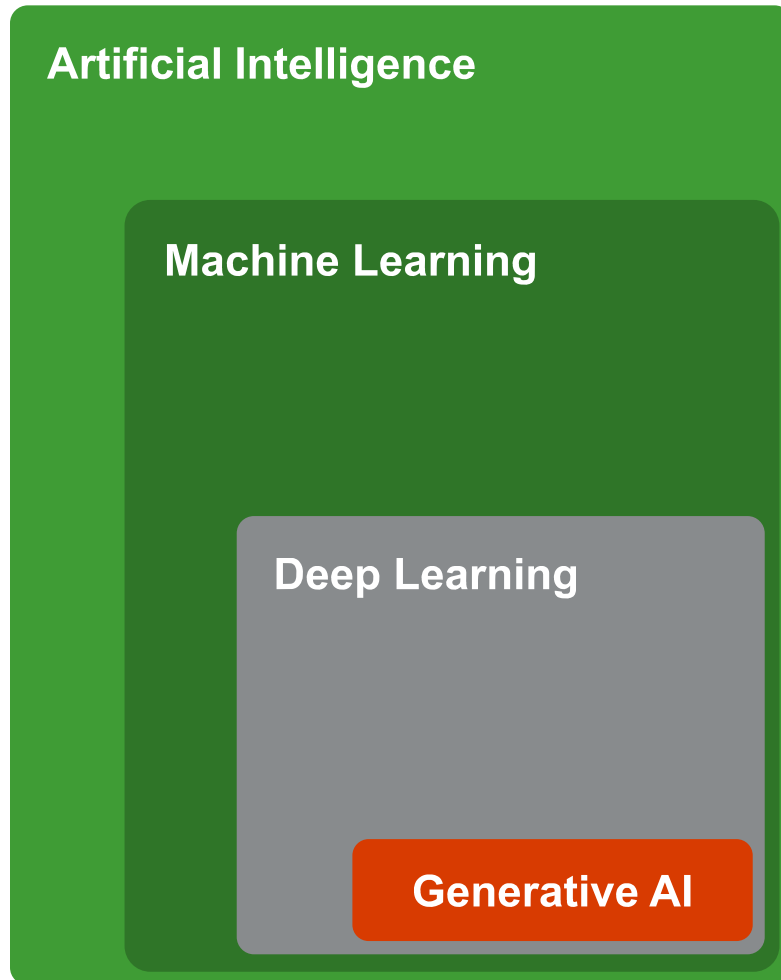
    A. Yes, and feel confident that AI is being used properly

    B. Yes, but potential concerns about the use of AI

    C. Unsure if AI is in use

    D. No AI in use today

HOW WE GOT HERE

Artificial intelligence

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| Artificial Intelligence |
| **Machine Learning** |
| **Deep Learning** |
| **Generative AI** |

1956 Artificial Intelligence

the field of computer science that **seeks to create intelligent machines** that can replicate or exceed human intelligence

1997 Machine Learning

subset of AI that enables machines to **learn from existing data** and improve upon that data to make **decisions or predictions**
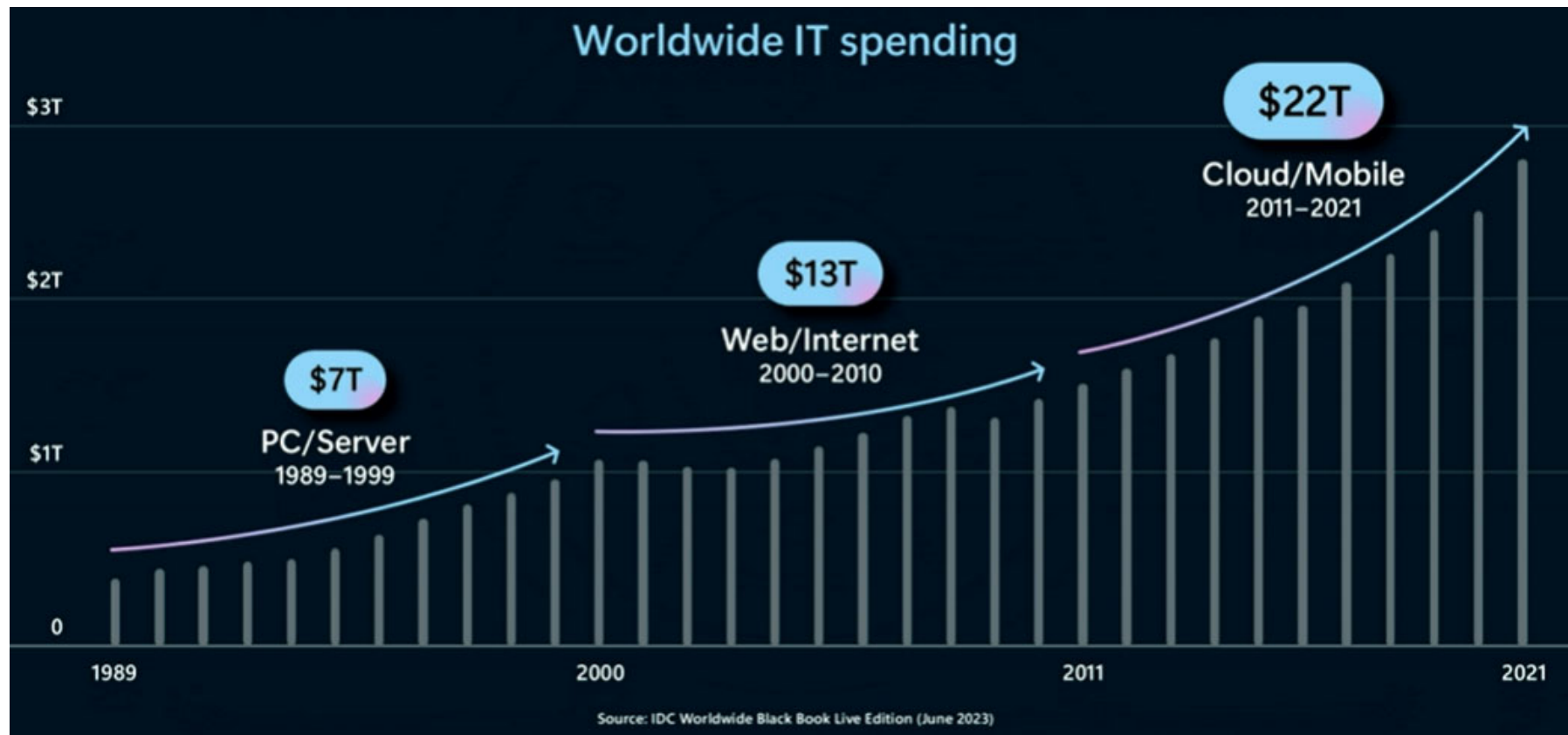
2017 Deep Learning

a machine learning technique in which **layers of neural networks** are used to process data and make decisions

2021 Generative AI

Create new written, visual, and auditory content given prompts or existing data.

Worldwide IT spending – Major technology shift

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Source: Microsoft

Classification revolution

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Reflecting on the past decade, we have witnessed a *classification revolution* driven by deep learning. This breakthrough has enabled us to *make sense of raw and messy data*.

For example, by classifying images (e.g., distinguishing between dogs and cats) we have *substantially improved image recognition*.

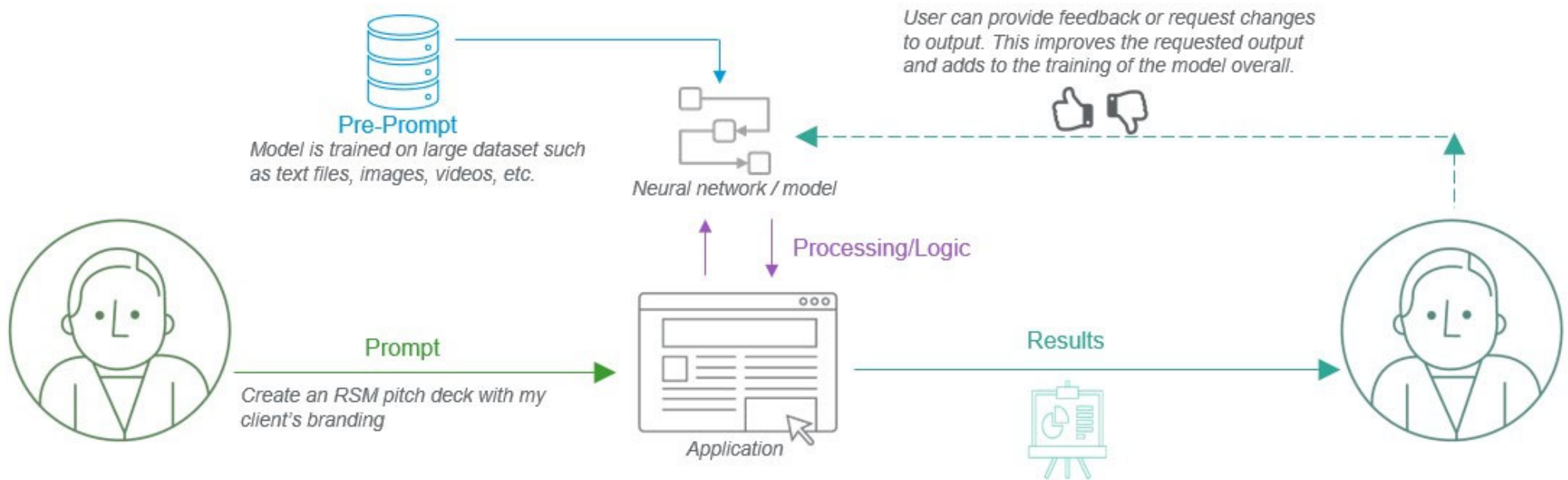Similarly we have made progress with *language translation and speech recognition*.

2017 - Google transformers are designed to process sequential input data like natural language and perform tasks like text summarization and translation.

CURRENT AI LANDSCAPE

What is generative AI

*Generative AI uses machine learning algorithms to **create new and original content** such as images, videos, text, and audio.*

Pre-Prompt
Model is trained on large dataset such as text files, images, videos, etc.

Neural network / model

User can provide feedback or request changes to output. This improves the requested output and adds to the training of the model overall.

Processing/Logic

Prompt
Create an RSM pitch deck with my client's branding

Application

Results

Current capabilities

We stand at the ***forefront of a generative revolution***. Our AI systems can now create new music and images. This represents a ***significant leap forward***: given knowledge of what a dog looks like, we can generate a ***dog with pink fur and yellow spots***. Such generative capabilities are achieved through ***interpolation and prediction*** based on input variables.

As we continue to ***enhance our computational resources***, including larger models and datasets, the ***accuracy and quality of generative AI improve exponentially***. Over the ***past decade***, we have witnessed an unprecedented ***tenfold increase*** in computational power for cutting-edge AI generative models ***each year***. Looking ahead, we anticipate similar progress over the next five years to ***produce even more sophisticated models***.

Generative AI – Potential use cases

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Type of Use Case	Possible Implementation
Companionship	• Friend, fitness coach
Question/answer	• Search engine, homework help
Utility *	• Period to period flux analysis • Pricing analysis for product margin at retail entities • Vendor/customer purchasing trends at retail entities • Contract legal review (redlining) for all entities with vendor contracts, customer contracts, lease/sales contracts • Accrual & reserve accounting (i.e. payroll accruals, purchase orders, inventory obsolescence)
Creativity *	• Marketing images, creative storytelling and brand generation
Hyper-personalization	• Music suggestion, social media feed
Multi-step task agents *	• Customer service AI tool for customized responses per customer for Direct-to-Consumer websites or portals

FUTURE WITH AI

Scenario 1

In the future version, you will be able to:
- Ask: Generate a new product.
- Here are the steps that AI will go through to generate a new product idea for you:
  - Find out what people are talking about in the marketplace.
  - Predict what is going to sell.
  - Generate a new image of what that product will look like compared to the competition.
  - Reach out to a manufacturer and provide details so the manufacturer can generate a product or provide a blueprint.
  - Negotiate with the manufacturer to get a better rate.
  - Market and sell the product.

There will be *no autonomy* in that system, but those *individual tasks will be taken care of*. This will increase the *pace of innovation* and make managing things *more efficient*.

Scenario 2

It may unleash *personal intelligence revolution* where AI will empower individuals across various domains.

For e.g., in that transformative era:
- *Interactive, conversational, intelligence services* will replace traditional websites
- AI will serve as a *chief of staff*, prioritizing and assisting in a multitude of tasks.

Polling question

Are you excited or concerned about the future of AI?

A. Excited
B. Concerned
C. Not sure

WHAT DOES THIS MEAN FOR US?

Productivity

- Intelligence has been the *engine of creation*. Everything that you see is a result of us leveraging our intelligence to *make our life better*.

- A pound of grain is produced by just *2% of the labor* required to produce a similar amount *100 years ago*.

- The trajectory of technology and scientific invention is that things are getting easier to make. *This is a tremendous productivity gain*.

- What happened with agriculture is what *is happening with intelligence*.

More with less

- We are doing **more with less in every area** of agriculture, education, medicine, etc.

- That can be an **era of abundance**. Every person will have the best aide, tutor, coach, chief of staff, etc. Currently, this is limited to very few, but **it would be available to everyone**.

- For e.g., if you are a millionaire or earn a regular salary, you have access to similar worldclass hardware. **That is an incredible progress**.

AI RISKS

AI risks

The *potential risks associated* with the *increasing power of technology* are multifaceted and require careful consideration. Here are *some key points* to make your statement more impactful:

- **Empowering bad actors**: As technology becomes more powerful, it also becomes *more accessible and easier to use*. This pattern has been observed throughout history, including with the advent of the transistor. Consequently, there is a risk that *these powerful tools could be exploited by malicious individuals or groups* to scale up their attacks.

- **Concentration of power:** If models powered by artificial intelligence *(AI) were to govern the world*, a limited number of tech *companies controlling these models could amass significant power*, potentially *surpassing that of nation-states*. This underscores the importance of global regulation to ensure equitable access and prevent undue concentration of power.

AI risks

- **Job loss:** While concerns about job loss due to increased automation are valid, it is essential to recognize that *technological advancements also create new opportunities*. By making processes more efficient, technology frees up time for individuals to pursue *new ventures and inventions*. This, in turn, leads to the creation of new jobs in emerging fields such as prompt engineering and app design. Over the next two decades, structural unemployment may not be a significant concern as people adapt and contribute their labor in different ways. However, *type of the jobs, skills required for the jobs and location of the jobs may get disrupted*.

- **Radical abundance:** Civilization is ultimately about *peace and prosperity, not work*. As technology continues to advance, there is an opportunity to create a stage of radical abundance where individuals are liberated from mundane or undesirable tasks. This raises questions about how we can redistribute the wealth generated by this change and ensure a *fair and equitable society*.

AI risks

- **Societal challenges:** Deepfake technology poses ***challenges to the functioning of society***. While it has the potential to amplify both the best and worst aspects of humanity, effective oversight and regulation are crucial. ***Striking a balance between innovation and responsible use*** will be essential in harnessing the full potential of deepfake technology.

We need ***regulation and oversight*** to address these risks ***proactively***, so we can navigate the path towards a future that ***maximizes benefits while minimizing harm***.

Polling question

Which one of the following risks are you most concerned about:

A. Empowering bad actors
B. Concentration of power
C. Job loss
D. Radical abundance
E. Societal challenges
F. Some other risks
G. Not concerned at all

PERSPECTIVE

Be Empowered Approaching AI
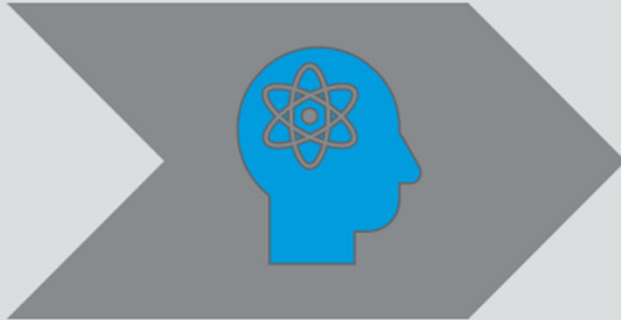
UNDERSTAND IT

- Learn about the technology
- Learn about the associated risks
- Discuss it with your network
- Drive awareness within the organization

BE INTENTIONAL

- Competitive Requirement
- Board and Executive Awareness
- Transformational Technology
- Address fear, uncertainty, and doubt

PURSUE IT

- Lean into this incredible innovation
- We have expertise
- We can help you manage AI risks

Polling question

Are you getting questions related to risks associated with AI?

    A. Yes, and we are appropriately able to address it

    B. Yes, but we don't know how to address it

    C. Unsure if AI is in use

    D. No AI in use today

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RISK MANAGEMENT IN AN AI POWERED WORLD

AI Governance

Why govern AI?

Different than Other Technologies

- Extremely fast evolution

- Takes decision on its own

- Generates new and original ideas

Powerful Compared to Human

- More persuasive

- Always on

- Transmit knowledge faster

Establish AI Governance Program before you implement AI Technology

Why adopt AI governance – Understand AI landscape
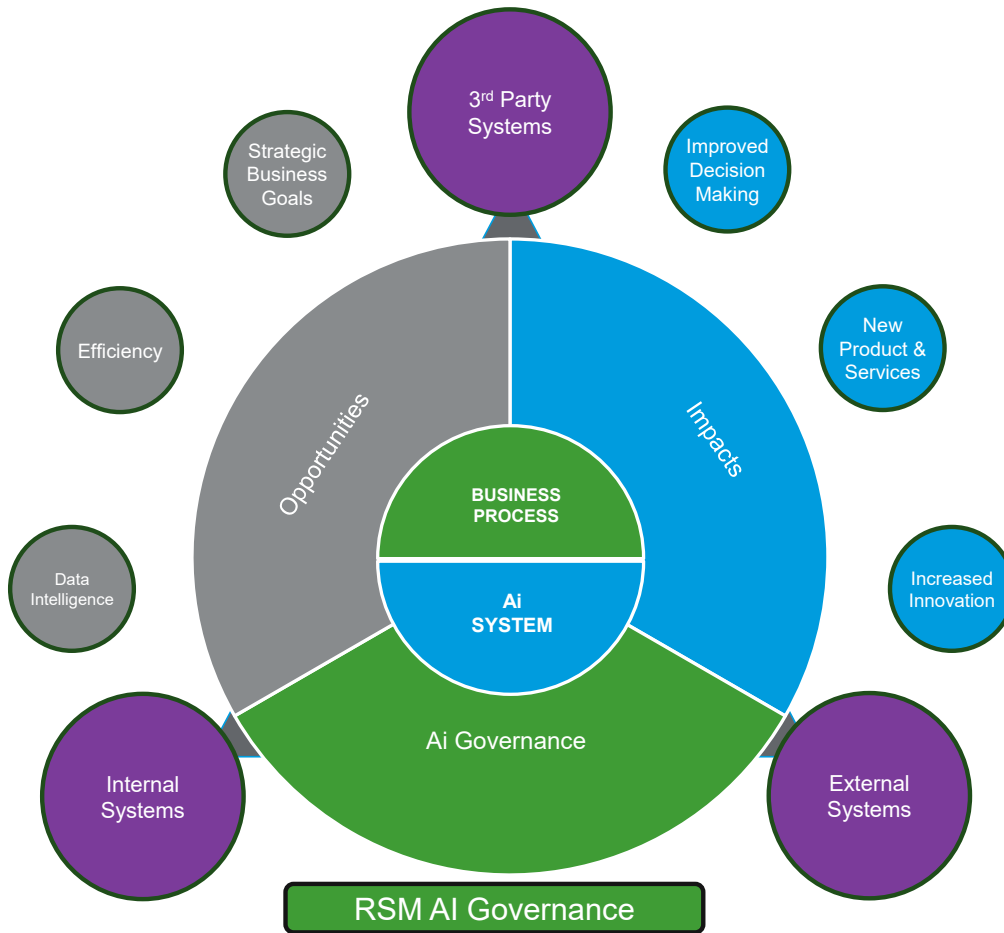
Adopting an AI Governance *FIRST* approach can enable organizations to unlock opportunities and achieve meaningful impact.

Evaluate business processes to identify and incorporate third party, external, and internal AI systems in your governance program.

Polling question

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AI governance framework

Leaders with requisite skills are appointed to oversee the program. Incorporate the organization's values and ethics into the design and implementation of the system. Develop procedures and policies to govern AI.

Applicable regulations are factored into the design and implementation of the AI system.

The stakeholders should be able to understand the input and explain the model's output.

Clearly define ownership of the model, its input, and outputs. An audit trail of key input & updates should be captured and retained.

Through stakeholder engagement, the AI system is designed to be unbiased and fair.
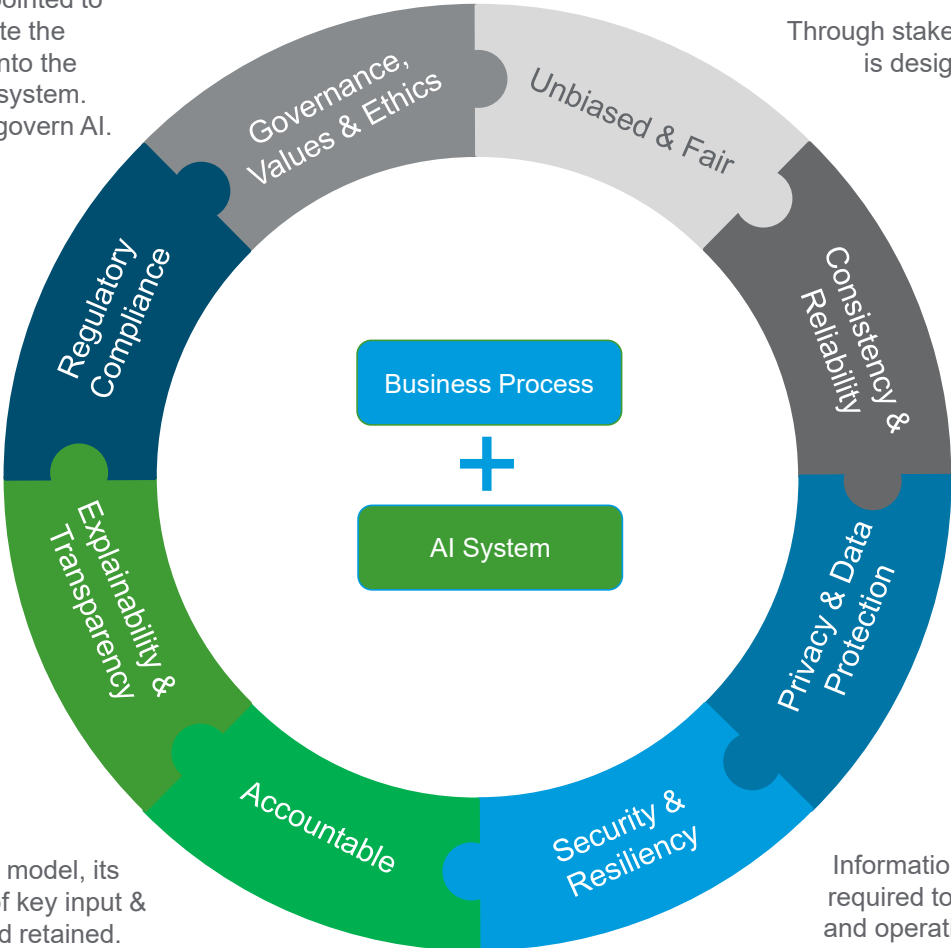
The system is designed, trained and monitored so that its outputs are as expected and maintains level of quality over the period.

Incorporate data governance, data access and privacy policies and procedures of the organization into the design and implementation of the AI system.

Information security standards and policies are required to be reflected in the AI System design and operation, protecting the system against the impacts of adversarial attacks.

Governance, Values & Ethics

Unbiased & Fair

Regulatory Compliance

Consistency & Reliability

Business Process

+

AI System

Explainability & Transparency

Privacy & Data Protection

Accountable

Security & Resiliency

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AI governance – Strategic initiative

Leverage AI Governance Framework Across Line of Service to Manage AI Risks

First Line Services
Pre-implementation

Second Line Services
Operational Risk Assessment

Third Line Services
Internal Audit & Compliance

Governance, Values & Ethics

Unbiased & Fair

Regulatory Compliance

Consistency & Reliability

Business Process

+

AI System

Explainability & Transparency

Privacy & Data Protection

Accountable

Security & Resiliency
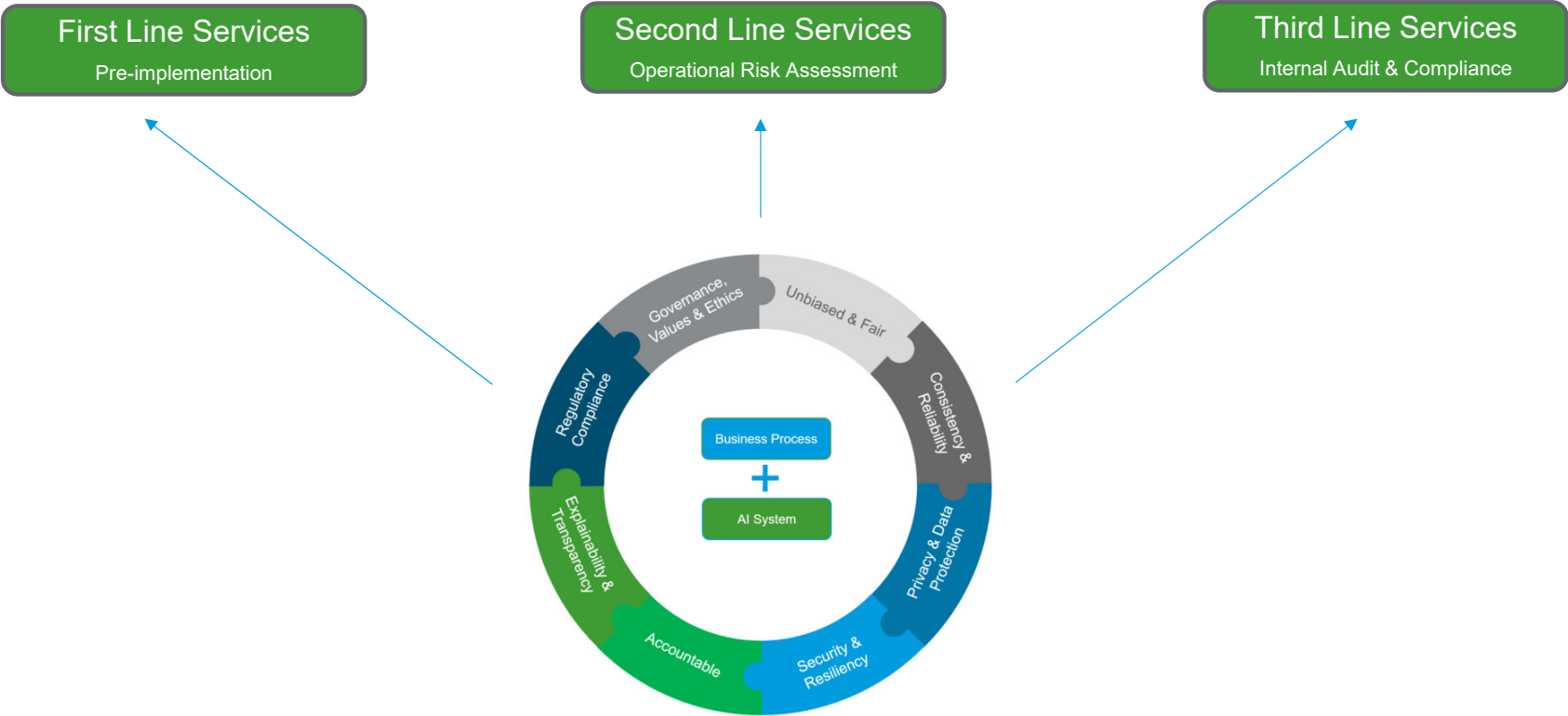
Who should get involved
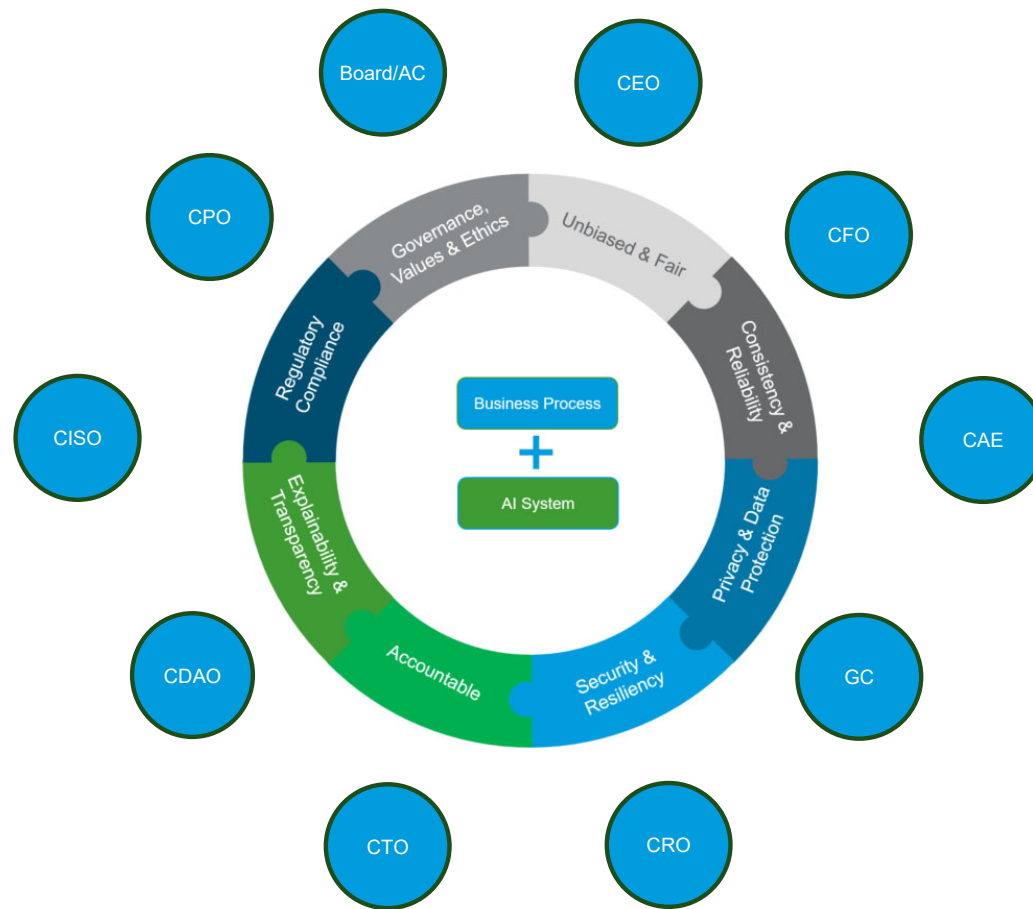
FRAUD IN AN AI POWERED WORLD

Fraud risk in the AI power world

Developments in AI have accelerated and increased the frequency and scale of many fraud schemes such as: fake investment scams, Identity theft scams, phishing scams, tech support scams, cryptocurrency scams, deepfake scams, employment scams, government grant scams, charity scams.

Automation

+
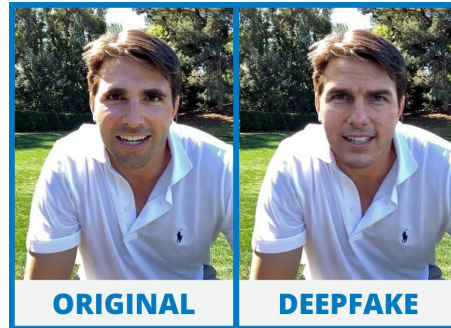
Deepfakes

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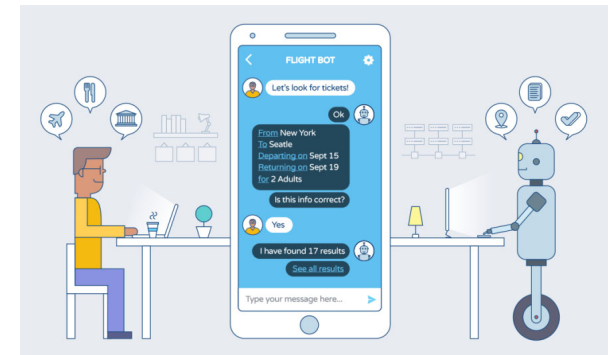
Chat Bots / Generative AI

How AI can help prevent fraud

- Real-time fraud detection

- Synthetic data generation

- Adaptive authentication

- Risk-based pricing

- Fraud investigation

- Synthetic identity detection

- Deepfake detection

- Money laundering detection

- Insurance fraud detection

- Tax evasion detection

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TECHNOLOGY TRENDS IN FRAUD, WASTE AND ABUSE DETECTION

Why do internal auditors and investigators use eDiscovery and forensic technology?

Forensically collect and process data from computers, cloud storage and devices

Gain insight into what happened

What additional evidence should we be collecting?

Who is talking to who – when, where and how?

What deletion and removal activity has taken place?

What file transfers have occurred, to where and why?

What are we missing?

What evidence supports and refutes the allegations and issues?

What foreign languages have been identified to be analyzed?

How AI improves email, chat and document review

AI allows investigators to go beyond keyword searching:

- Technology assisted review (TAR)

- Sentiment analysis

- Communication network diagrams

- Conceptual grouping of topics

- Automated transcription of voice messages / videos

- Automated translation

- Computer vision
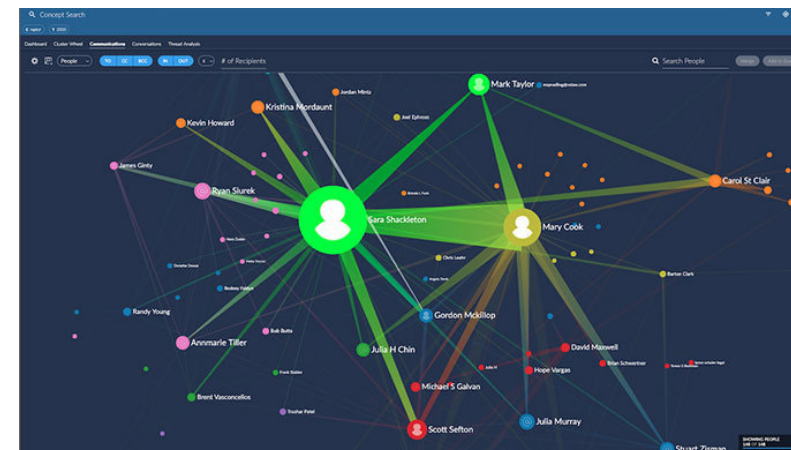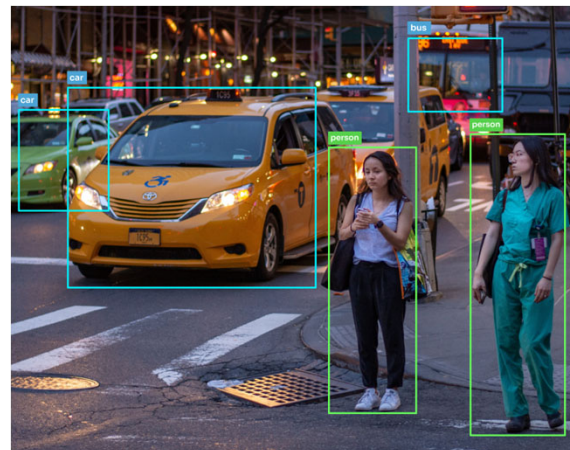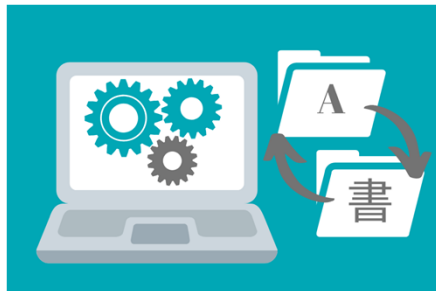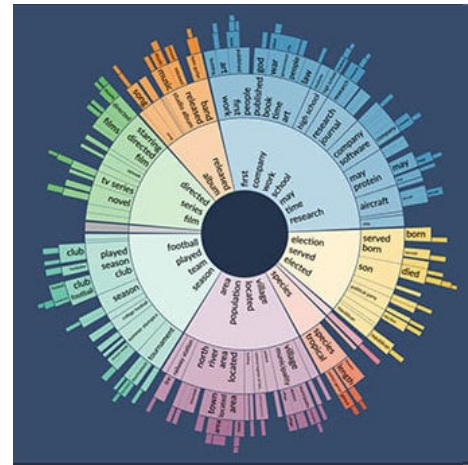
Computer vision for compliance violations and fraud detection

Integrating technology with AI and computer vision in an organizations T&E process can help detect issues that would often be missed, such as reimbursement for duplicative invoices or unauthorized line items.
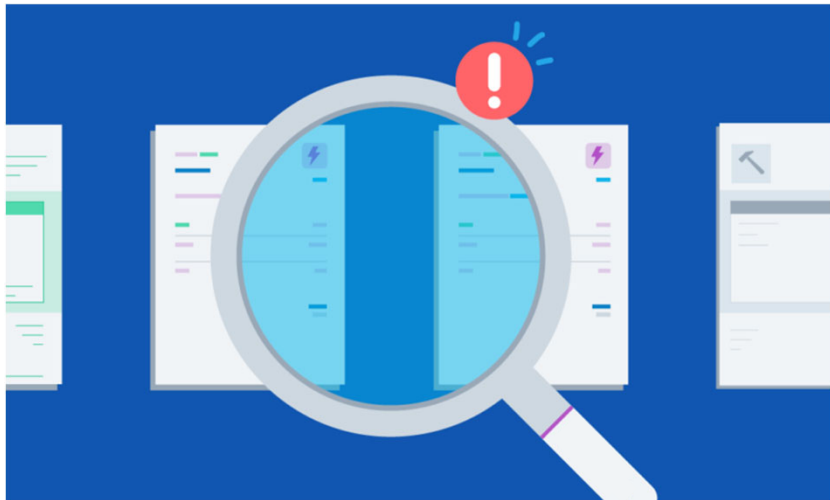
Aggregate risk scoring

Organizations face many risks and may run hundreds of analytics to identify items for investigation. Aggregating risk scores can help focus efforts in the riskiest areas.

Combining:

- **Rule based analytics** such as round payments, missing fields, duplicate transactions, etc.

- **Statistical analytics** such as unusual debit/credit account combinations, abnormally high amounts for given budget line item, etc.

- **External data** such as third-party due diligence screening information.

- **Machine learning** to tailor scoring based on historical investigations.

Case management software

- In many cases internal auditors move from one audit to another and lack the time or technology to log key information in a consistent and trackable manner.

- For AI (supervised machine learning) to provide meaningful results, information needs to be logged/tagged in a consistent manner.

- Utilizing a case management tool with auditor populated responses, allows for summarization, visualization and machine learning that can assist with reporting to stakeholders and focusing efforts on future audits.
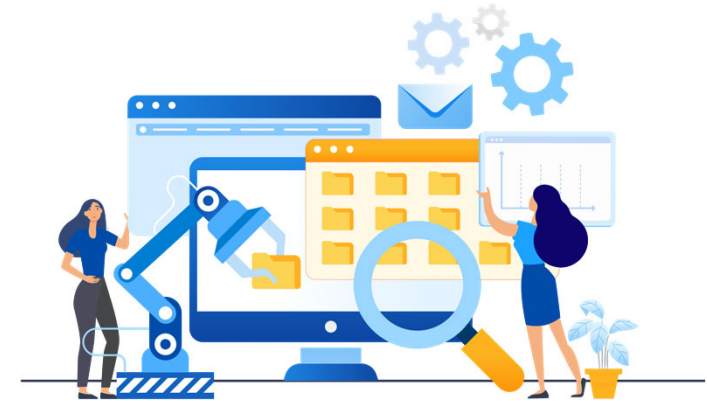
Generative AI to ease the administrative burden of internal audits

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CHALLENGE

- Reporting on procedures and findings of an internal audit / investigation is a **time consuming** and **repetitive task**
- Writing still **requires focus** and **attention to detail**, tying up resources time to review

SOLUTION

- Leverage generative AI to **extract key items** from documentation
- Utilize model **text summarization** to **isolate critical information**
- **Generate responses** to the critical information and questions

RESULTS

- **Text extraction automation and report drafting** results in hours/weeks of **time savings**
- **Reduction in time spent** reviewing and drafting reports, allowing for critical resources to **focus their time and attention** on more critical matters

Workflow – Audit Report Drafting

Audit Data

Power Platform

PowerApps

Microsoft Azure Cognitive Services

Fine-tuned Model

+ OpenAI

Report Drafting

Power Platform

PowerApps

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