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DATA ETHICS AND AI

Chuck Price, Data Ethics and Strategy Principal, Acxiom
Graham Wilkinson, EVP Product Strategy Innovation, Kinesso

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AGENDA

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Compliance vs Fairness

COMPLIANCE is the collection of policies and controls designed to ensure adherence to regulatory requirements. In the application of artificial intelligence, typical compliance efforts focus on:

- Avoiding the use of protected class data directly or by proxy, which can vary by industry or geography (FCRA, HIPAA)

- Ensuring that data used in analysis meets with privacy requirements, which also vary by industry or geography (GLBA, CPPA, CPRA, CDPA)

FAIRNESS is a framework for considering the intended and unintentional impact that artificial intelligence may have on others:

- What is the impact on the population being included or excluded?

- What is the risk of unintentional harm?

- Who benefits?

What am I **ALLOWED** to do?   VS   What is the **RIGHT THING** to do?

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Bias vs Fairness

BIAS

is a predisposition that influences the outcome of AI.

It may:

- <u>Cause a failure to comply</u> with regulations regarding protected class data (usually by proxy)
- Create a system that is <u>unfair</u> to a sub-group

FAIRNESS

is a measure of balance in two important ways:

- The opportunity to be included in the decision
- The chance to have a favorable <u>outcome</u>

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Why Use the Term Data Ethics?

When we say DATA ETHICS, we include not only compliance, but ensuring that the personal information we hold is properly governed and that all use of data is just and fair.

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Applying Ethics in AI

Evaluate the need for AI...

- Is the system something that should be perpetuated?

- Privacy Impact Assessment (PIA)

- Are benefits and risks balanced *for the consumer*?

- Is AI the correct analytic approach?

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Applying Ethics in AI

Seek and eliminate unfair bias across the AI cycle…

Data prep phase
Input Data · Objective

Analysis phase
Data Mining · Testing

Application phase
Execution · Reporting

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What AI Are We Talking About?

There is no agreed upon definition of AI.

Symbolic AI	Machine Learning	Artificial General Intelligence
Uses symbolic reasoning and logic.	Learns from data without explicit programming.	Capable of performing any intellectual task that a human can.

Narrow, weak or near-term AI

Strong or long-term AI

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Machine Learning Subsets

Supervised	Unsupervised	Reinforcement Learning	Deep Learning
Trained using training data, where correct answers are known	Aims to sort and describe the data on its own	Learns through experiences, rewarded & punished	Emulates activity of neurons in the brain

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Two Sets of Ethical Issues

Machine Learning Vulnerabilities

Arising because of limitations to current machine learning systems.

Human Vulnerabilities

Arising because machine learning systems may be working too well, causing humans to be vulnerable in the presence of or interacting with them.

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Machine Learning Vulnerabilities

Ethical issues arising because of limitations to current machine learning systems.

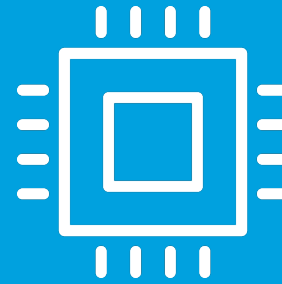| Data Quantity	Data Quality	Algorithm Quality	Black Boxes	Weak AI

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Human Vulnerabilities

Ethical issues arising because machine learning systems may be working too well, causing humans to be vulnerable in the presence of or interacting with them.
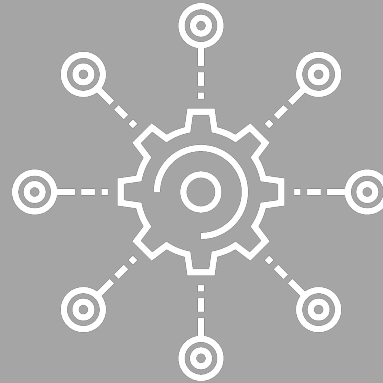
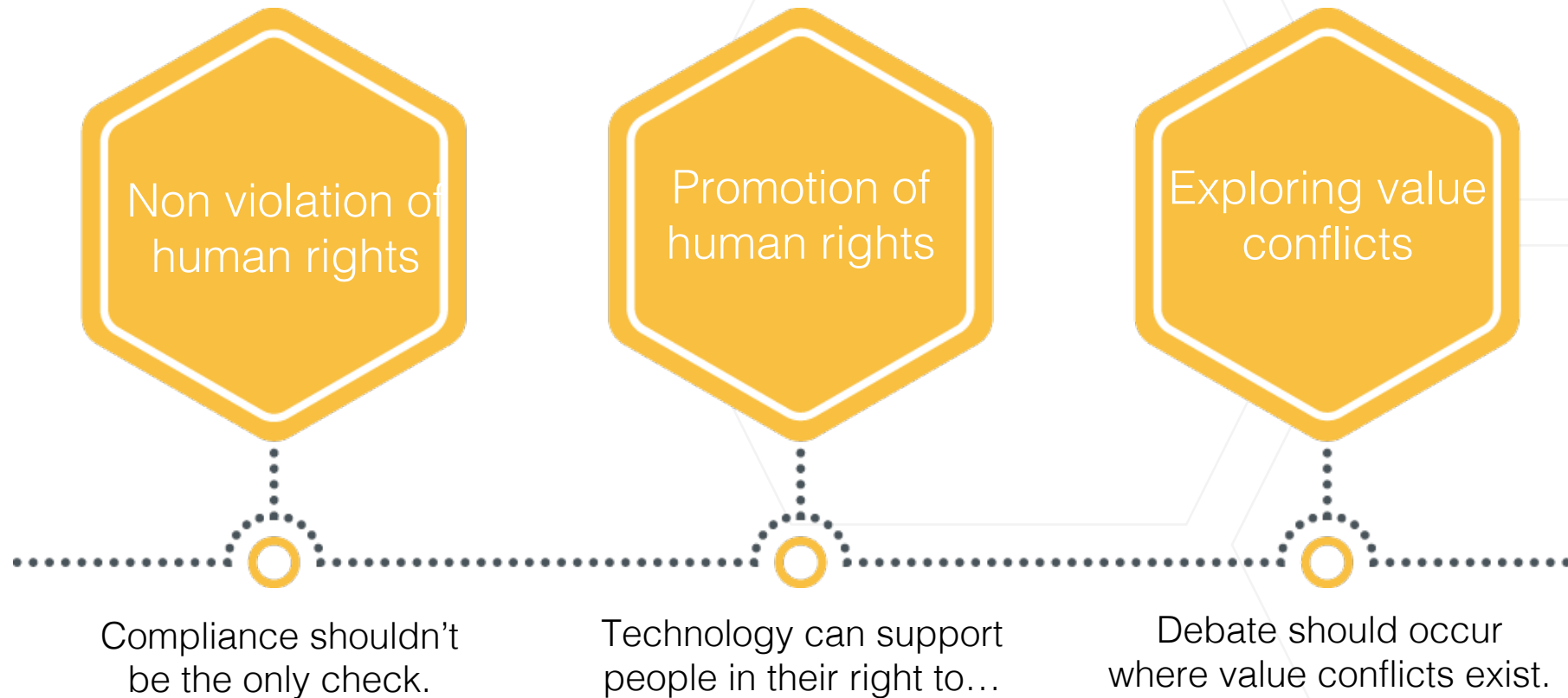| Facial Recognition	Deepfakes	Automation	Companions

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Addressing Human Vulnerability

Adopt a theoretical human rights framework to ensure that governments, corporations and individuals are all responsible for:

Non violation of human rights

Promotion of human rights

Exploring value conflicts

Compliance shouldn't be the only check.

Technology can support people in their right to…

Debate should occur where value conflicts exist.

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Implement an Ethical Matrix

Requires us to consider the interests of a range of stakeholders with reference to three general types of moral goods: well-being, autonomy and justice.

Respect for:	Well-being	Autonomy	Justice

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Key Takeaways

- Understand both your compliance requirements and ethical aspirations

- Be conscious of the limitations and the implications of the technology

- Successful AI is not necessarily ethical AI

- Assemble a framework from which to make decisions and ensure your application of AI meets your objectives

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THANK YOU

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