/ Welcome and Introduction

Chris Combemale, CEO, DMA

DM A

**Data &
Marketing
Association**

/ Data Horizons: How UK SMEs and Consumers View the Future of Privacy Regulations

Ian Gibbs

DMA Director of Planning and Insight
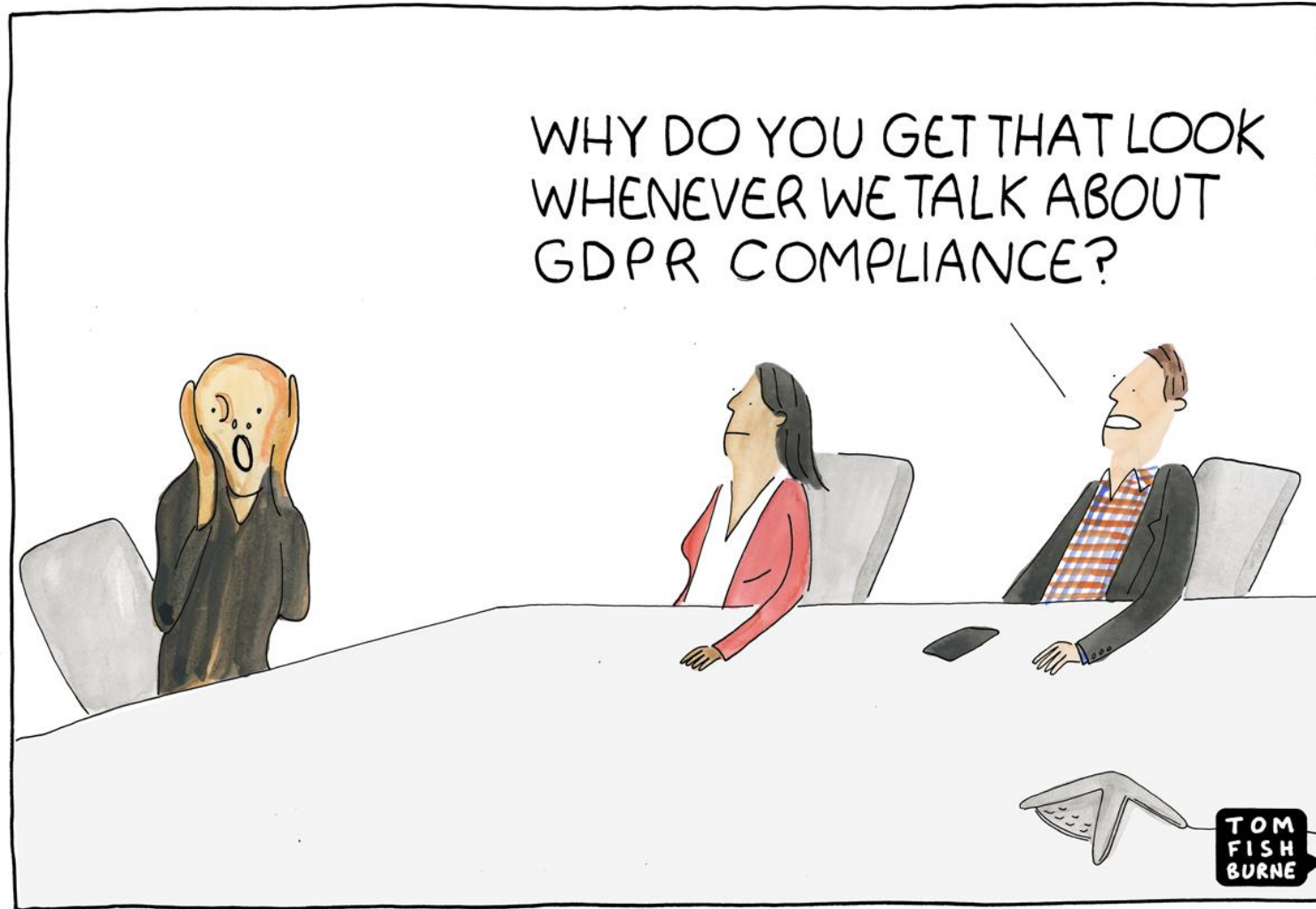
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Canvassing the views of 100 SMEs and 1,000 consumers

Data Horizons:
How UK SMEs and
Consumers View the Future of
Privacy Regulation

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Getting to the heart of the question that matters

SME's have a lot on their plate right now

Cost-of-living-crisis impact on demand

Supply chain cost inflation

Declining customer loyalty

SMEs say Personal Data is Integral to Growth

73%

Personal data is an integral part of business growth strategy

75%

GDPR compliant

But Processing it Under GDPR is a Challenge

Impact of GDPR on UK SMEs (% agree)

To what extent do you agree or disagree with the following statements about GDPR?

Statement	%
GDPR has introduced unnecessary bureaucracy into my business	48%
GDPR is straight forward to implement	47%
GDPR has caused me to get rid of a lot of my customer database	31%
GDPR is confusing	29%
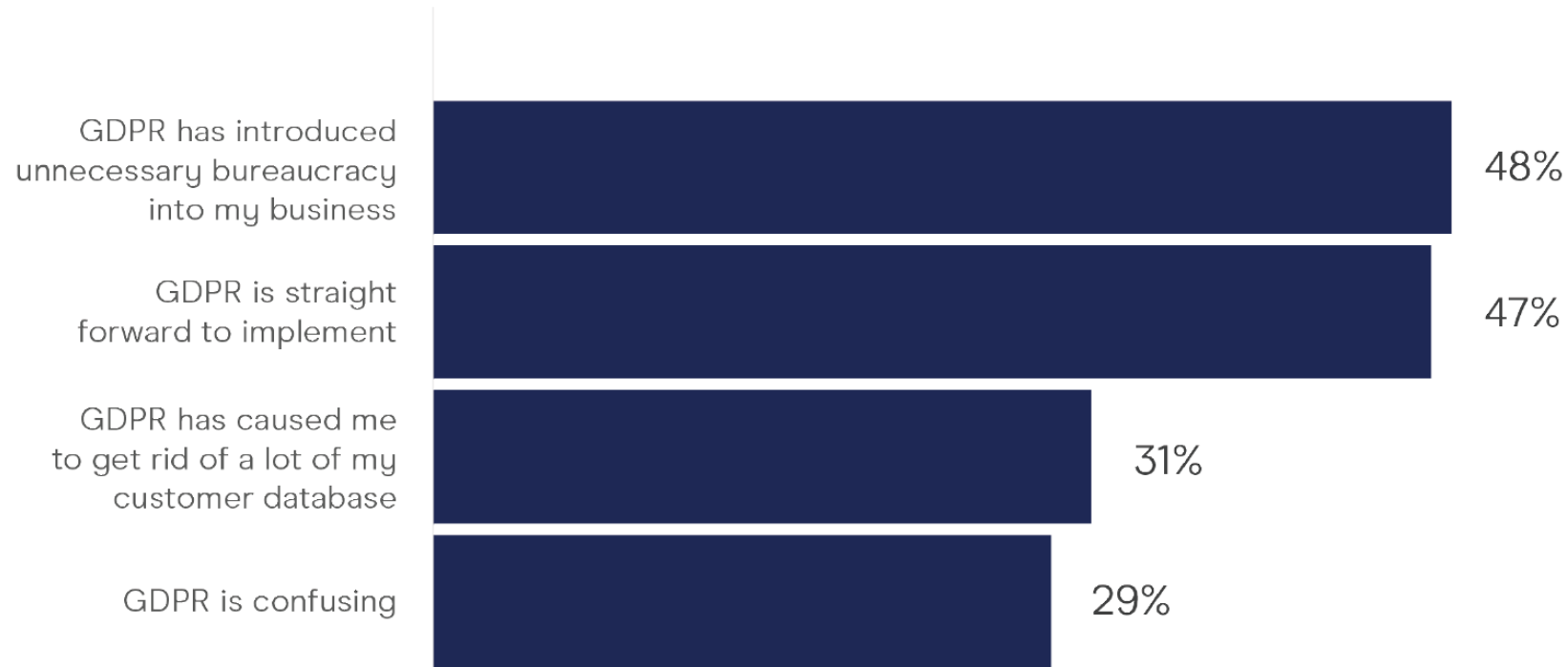
Leaders Back Plans to Modernise Data Laws

Support for data privacy regulation reform

To what extent would you be supportive of or against the UK government introducing updated and modernised regulation around data privacy and digital information beyond the EUs GDPR framework?
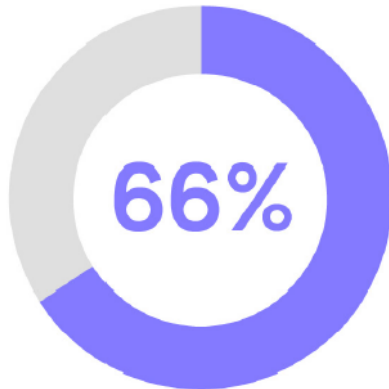
66% Supportive of an updated and modernised data privacy regulation

To what extent do you agree or disagree with the following statement? Reformed data protection regulation will enable the UK to become a more attractive tech hub to tech innovators and investors

67% Agree that reformed regulation will make the UK a more attractive tech hub

A Platform for Responsible Innovation
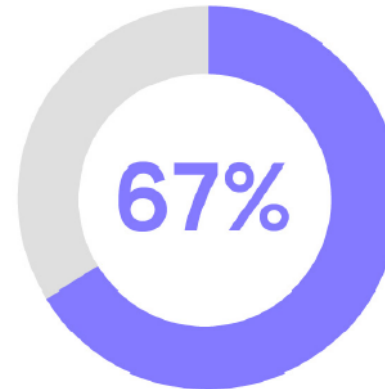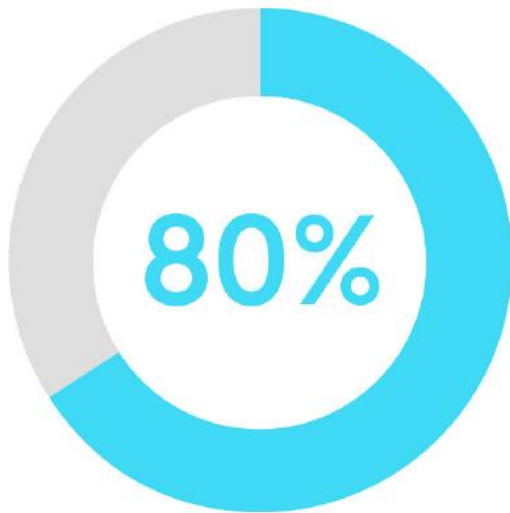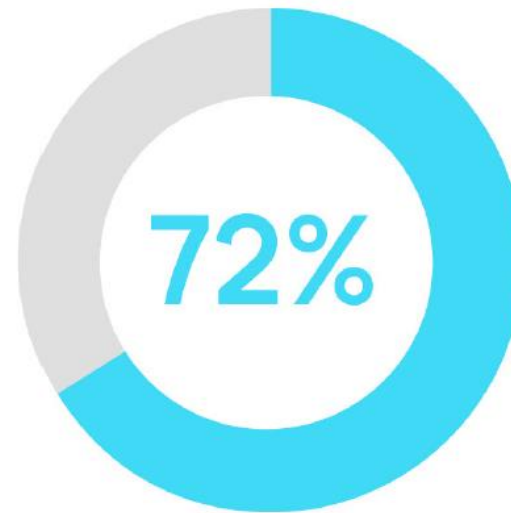
SME understanding of the role of GDPR (% agree)
To what extent do you agree or disagree with the following statements about GDPR?

80% GDPR requires companies to have processes in place for handling and storing customer data

72% GDPR keeps customer data safe

Reforms in Line with DPDI Provisions

SME demands from data regulations (% agree)

To what extent do you agree or disagree with the following statements about the future of data regulations?

Statement	% agree
Data regulations should be easy to understand	81%
The UK needs customer data regulations that make it easier to talk to my customers	76%
The UK needs customer data regulations that enable me to easily prospect for new business	75%

DPDI Fits the Bill

SME awareness of the DPDI Bill

To what extent, if at all, are you aware of the DPDI (Data Protection and Digital Information) Bill?

21%
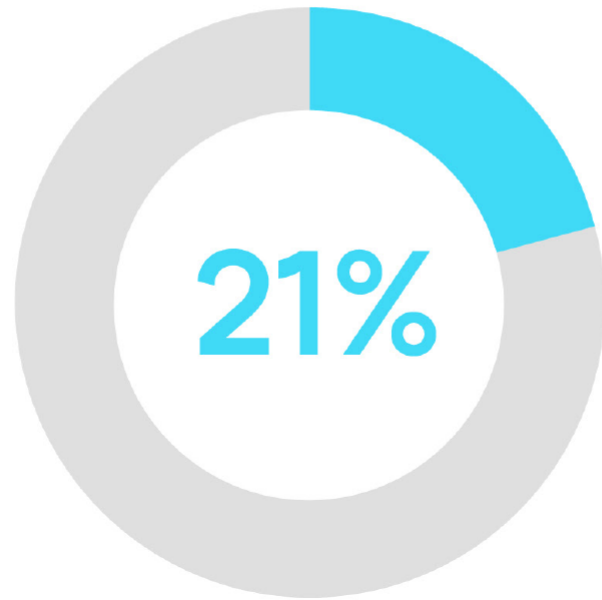
Very aware of the DPDI Bill

DPDI Must Not Impact Consumers' Protections

Consumer attitudes to data privacy and regulations

To what extent do you agree that...?

74% — Current data privacy regulations are sufficent

59% — Confident that brands are using their data responsibly

47% — Disengage with brands who misuse their personal data
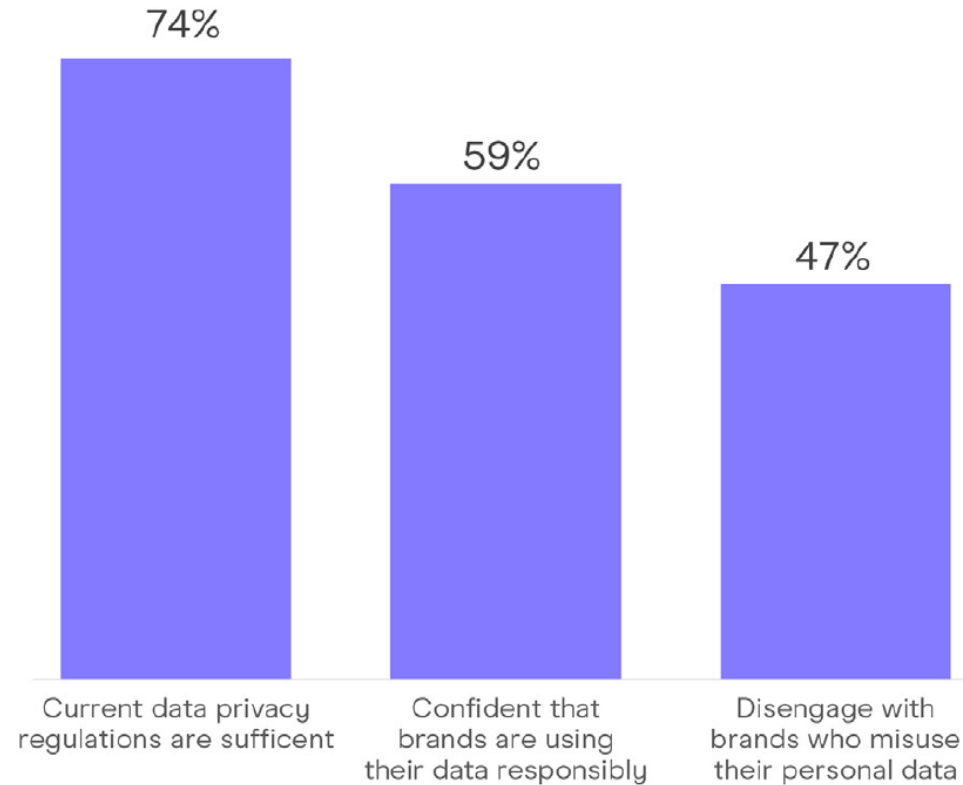
Making AI a Force for Good

Consumer concerns around impact of AI (% agree)

What, if anything, is your main concern about the growth of Artificial Intelligence?
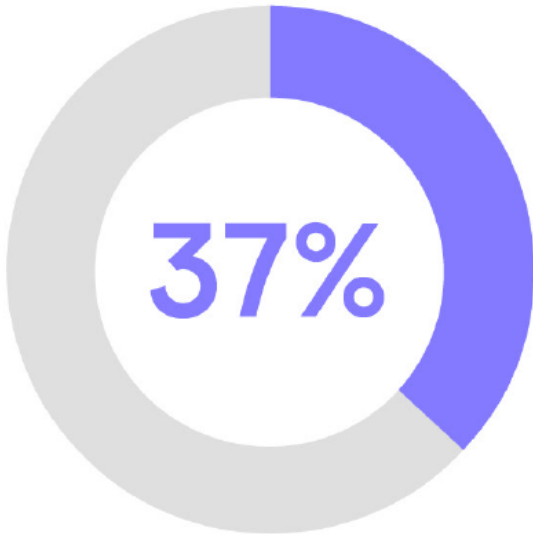
37% Concerned about the threat AI poses to human jobs
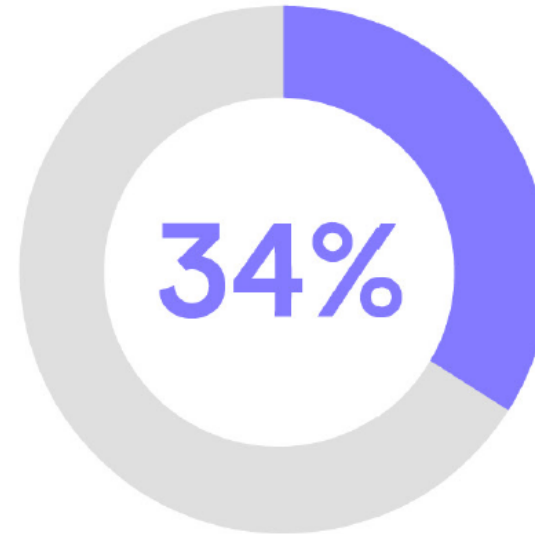
34% Concerned about the privacy and use of my personal data and information

Raising Awareness of Regulatory Change

Sources of SME guidance on use of personal data and digital information

Where, if anywhere, do you go to for support and guidance on best practice for the use of personal data and digital information?
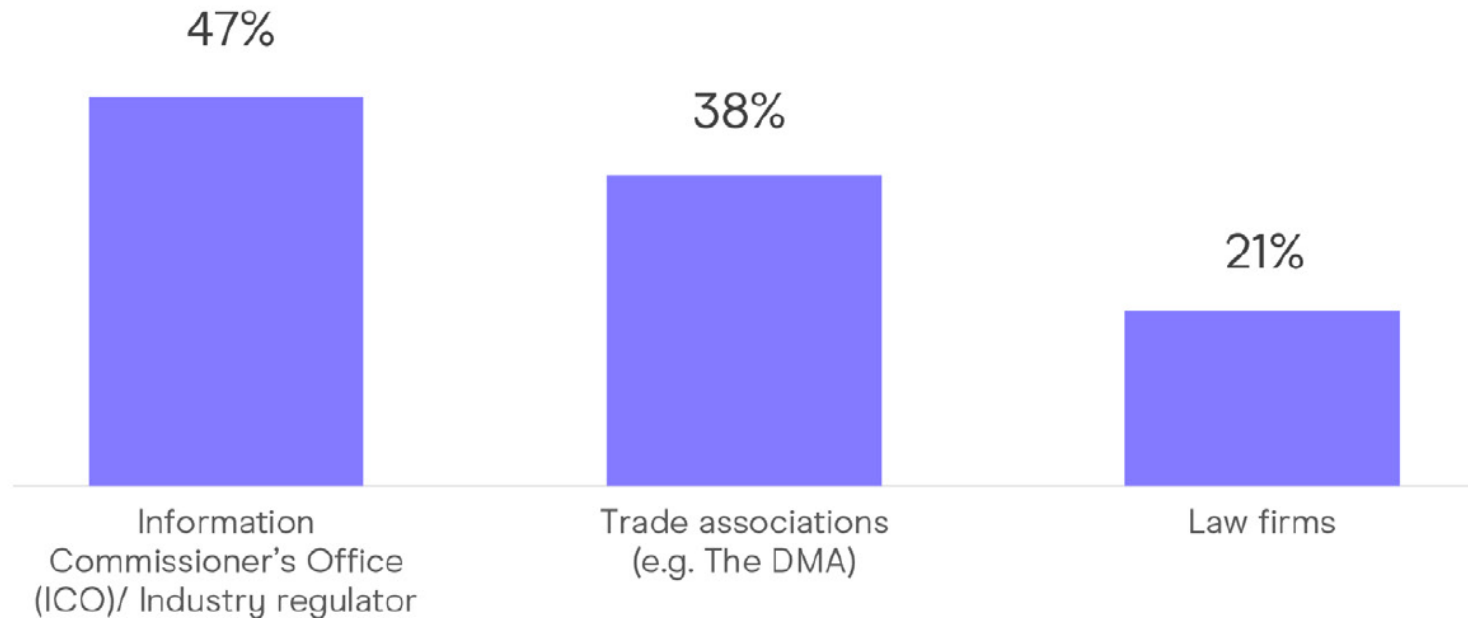
Pro-growth reforms

"

Reforms within the DPDI Bill will create a better balance between innovation and privacy, maintaining GDPR's high levels of data protection while enabling scientific and technological innovation that will power the future economy.

AVOIDING BIAS IN ARTIFICIAL INTELLIGENCE

18 OCTOBER 2023

COVERING

- What is 'Artificial Intelligence'?

- What type of bias can arise and how?

- Strategies and techniques to mitigate bias

- Next steps

WHAT IS ARTIFICIAL INTELLIGENCE?
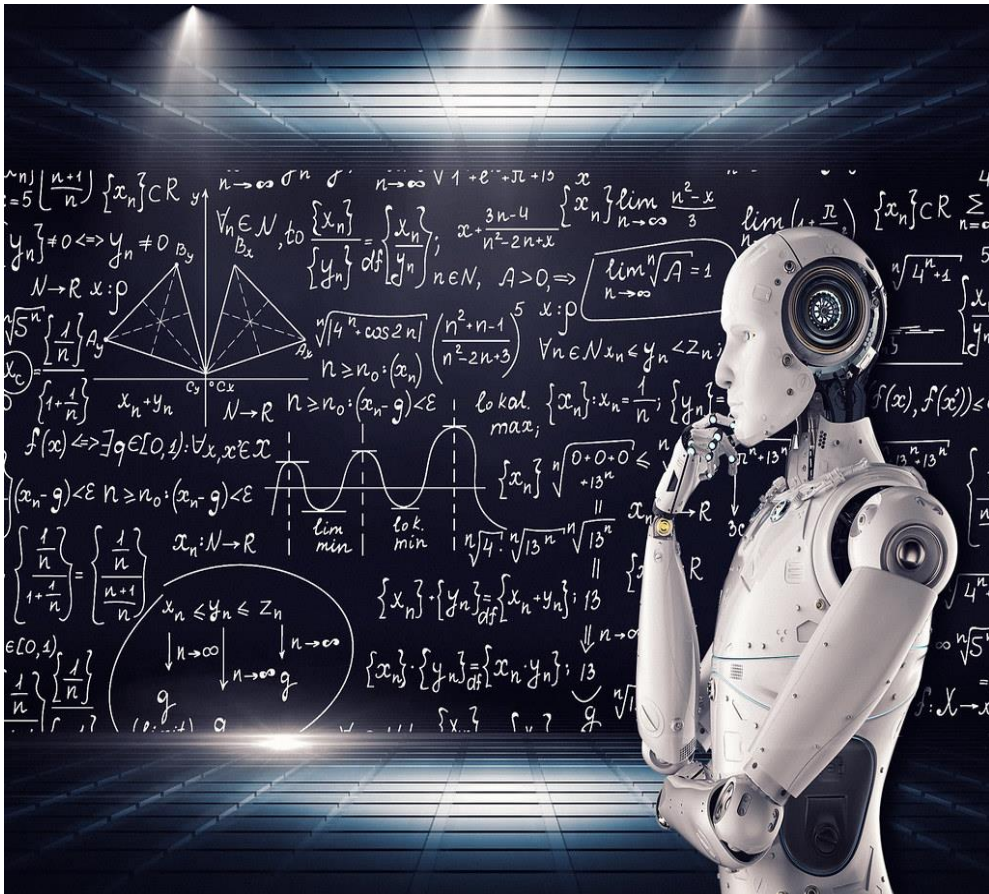
- *Artificial intelligence - AI - is technology that enables a computer to think or act in a more 'human' way. It does this by taking in information from its surroundings, and deciding its response based on what it learns or senses.*

  Source: https://www.bbc.co.uk/newsround/

- *AI is a machine's ability to perform the cognitive functions we associate with human minds, such as perceiving, reasoning, learning, interacting with an environment, problem solving, and even exercising creativity.*

  Source: McKinsey

TYPES OF ARTIFICIAL INTELLIGENCE

DEEP LEARNING — MACHINE LEARNING
PREDICTIVE ANALYTICS

TRANSLATION — NATURAL LANGUAGE PROCESSING
CLASSIFICATION, CLUSTERING
INFORMATION EXTRACTION
SPEECH TO TEXT — SPEECH
TEXT TO SPEECH

INFERENCE ENGINE — EXPERT SYSTEMS
KNOWLEDGE BASE

REDUCTION — PLANNING, SCHEDULING, OPTIMIZATION
CLASSICAL
PROBABILISTIC, TEMPORAL
REACTIVE MACHINES — ROBOTICS
LIMITED MEMORY
THEORY OF MIND, SELF-AWARE
IMAGE RECOGNITION — VISION
MACHINE VISION

DESIGN: CLOUD-NQB.COM

GENERATIVE VS DISCRIMINATIVE AI

Generative AI models are trained on data.

- Generative AI focuses on understanding patterns and structure in data (the distribution of the data set) and using that to create new data that looks like it.

- Generative models are often used to predict what occurs next in a sequence.

- Applications include language translation, image and speech recognition, and music composition.

Discriminative AI focuses mainly on classification, learning the difference between "things" – for example cars and trees.

- Discriminative models return a prediction based on conditional probability.

- Applications include navigation apps to distinguish between good routes from A to B and recommendation engines like those used by Amazon to distinguish between things you might want to buy and things you're unlikely to be interested in.

GENERATIVE AI IN USE

Images: These generative AI tools can take a natural language prompt and use it to generate a picture. For example using Bing Image Creator based on DALL-E, I asked for a happy elephant sitting on a database …

Text: Think ChatGPT. Generative text tools can be used to write anything from essays and articles to plays, poems and novels. I asked for poems in different styles about the DMA …
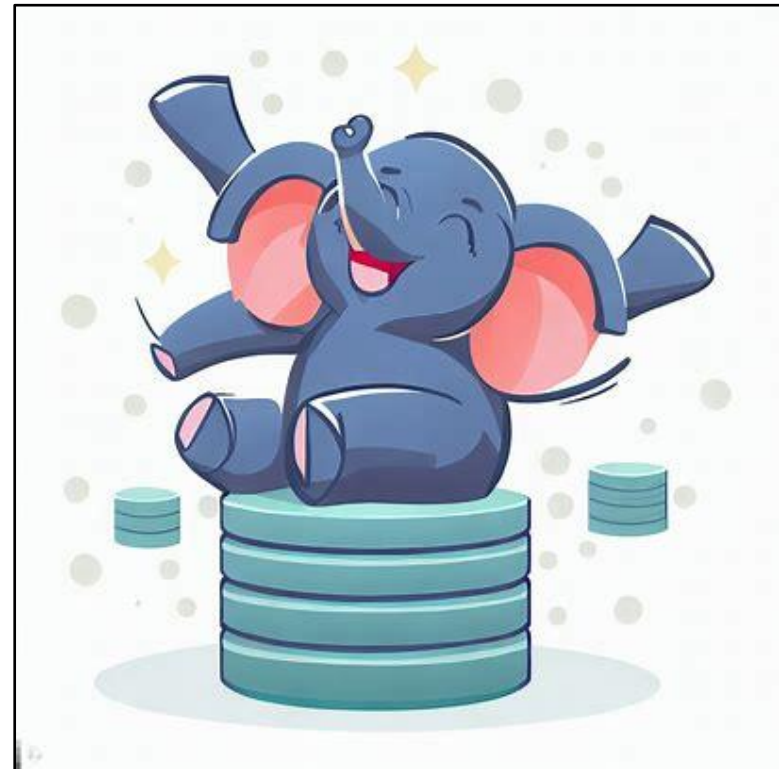
AI GENERATED POEMS ABOUT THE DMA

Medium / Informational

The UK Data and Marketing Association
Is a leading voice for the industry
It promotes ethical and effective practices
And champions customer-centric strategies

It offers guidance, training and events
To help its members grow and innovate
It advocates for data-driven marketing
And fosters a culture of excellence and debate

Short / Funny

There once was a group called DMA
Who loved data and marketing all day
They set the standards and rules
For the industry's tools
And made sure everyone played fair and okay

GENERATIVE AI IN USE

- **Coding: AI** coding tools make it easy for anyone to generate computer code with very little technical knowledge.

- **Audio:** Generative AI tools can create human-like voices (voice synthesis), allowing computers to speak words that have never before been uttered by a human, as well as music and sound effects.

- **Video:** Tools that allow the creation and editing of video simply by describing what we want to see.

- **Data augmentation:** Creating synthetic data sets for use in training other AI models that follow real-world rules.

- **Virtual environments:** Designing Virtual Reality (VR) environments that can be explored and interacted with.

WHAT DO WE MEAN BY BIAS?

Bias / Noun

- A preference or an inclination, especially one that inhibits impartial judgment.

- An unfair act or policy stemming from prejudice

Bias / Verb

- To give a settled and often prejudiced outlook to

WHAT TYPE OF BIAS CAN ARISE AND HOW?

- Data Bias
- Algorithmic Bias
- User Bias
- Feedback Loop Bias

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DATA BIAS

Data bias occurs when the training data used to build an AI system is not representative of the real-world population or contains inherent biases.

- Example: If a facial recognition system is trained primarily on data of one racial group, it may perform poorly on individuals from other racial backgrounds.

- Impact: When AI models are trained on biased data, they can perpetuate and even amplify existing biases, leading to unfair or discriminatory outcomes.

CAUSES OF DATA BIAS

- **Historical Bias:** Often, historical data reflects societal biases or discrimination present at the time of data collection.

- **Data Collection Methods:** Biases can emerge if data is collected in a manner that systematically excludes or underrepresents certain groups.

- **Sampling Bias:** If the dataset isn't sufficiently diverse, it can introduce bias by not accurately reflecting the entire population.

ALGORITHMIC BIAS

Algorithmic bias refers to the bias that is introduced or amplified during the model training and decision-making process.

Algorithmic bias can arise from the design choices, features selected, or the way data is processed during model development.

- **Example:** An AI used in hiring may favour candidates from specific educational backgrounds, excluding others who might be equally qualified.

- **Impact:** Algorithmic bias can lead to unequal treatment of different groups, reinforcing stereotypes, and causing harm to vulnerable populations.

CAUSES OF ALGORITHMIC BIAS

Causes

- **Feature Selection:** Choosing features that are proxies for sensitive attributes (e.g., postcode as a proxy for race).

- **Algorithm Design:** The choice of algorithms, hyperparameters, and optimisation techniques can lead to biased results.

- **Labelling Bias /**Subjective Judgments: Biases can be introduced when human labellers apply subjective judgments when creating labelled datasets.

- **Cognitive Biases:** Individuals may have cognitive biases such as confirmation bias or affinity bias, which can influence their decisions when designing AI systems.

USER BIAS

User bias occurs when individuals using AI systems introduce their own biases or preferences into the system's output.

User bias can be a result of users interacting with AI systems in ways that reflect their personal biases or preferences.

- **Example:** In a content recommendation system, if a user consistently clicks on content from a particular political perspective, the system may recommend more of the same, reinforcing the user's bias.

- **Impact:** User bias can skew recommendations, filter bubbles, or search results, reinforcing individuals' existing beliefs and limiting exposure to diverse viewpoints.

FEEDBACK LOOP BIAS

Feedback loop bias occurs when the actions and decisions influenced by AI systems create a feedback loop that reinforces and amplifies bias over time.

Feedback loop bias is a result of the AI system's impact on user behaviour, which, in turn, affects the data used for training and decision-making.

- **Example:** If a news recommendation algorithm suggests sensational or divisive content because it gets more clicks, it can create a feedback loop of polarising news consumption.

- **Impact:** This type of bias can lead to a self-perpetuating cycle where biased recommendations or decisions continue to exacerbate existing disparities. They can result in the entrenchment of biases over time, making it difficult to rectify and leading to potentially harmful consequences.

CAUSES OF FEEDBACK LOOP BIAS

Causes

- **User Behaviour:** Users may change their behaviour based on AI recommendations, inadvertently reinforcing the biases present in the data.

- **Content Amplification:** If AI systems prioritise or amplify certain types of content, it can lead to a feedback loop where users are exposed to more of the same content.

STRATEGIES AND TECHNIQUES TO MITIGATE BIAS

- Ethical AI design principles.

- Diverse and representative training data.

- Algorithmic fairness and bias testing.

- Regular audits and bias monitoring.

ETHICAL AI DESIGN PRINCIPLES

- Ethical AI design principles involve incorporating ethical considerations into the entire AI development lifecycle, from design to deployment.
- The key ethical principles that should guide your responsible development and deployment of AI systems, especially in the context of **bias mitigation**, are:
  - Fairness
  - Accountability
  - Transparency
  - Privacy
  - Consent
- Ensuring ethical principles guide AI development promotes responsible and bias-aware AI systems.

Implementation

- Define your ethical principles: Set out what you each of the defined principles means to your organisation and communicate these.
- Ethics Committees: Establish AI ethics committees or boards to provide guidance and ethical oversight.
- Ethical Impact Assessment: Conduct assessments to identify and address potential ethical and bias-related concerns during the design phase.
- User-Centred Design: Involve diverse stakeholders, including those from underrepresented groups, in the design process to ensure inclusivity.

DIVERSE AND REPRESENTATIVE TRAINING DATA

■ To mitigate bias, it's essential to use training data that accurately represents the diverse range of individuals or groups that the AI system will encounter in real-world scenarios.

■ Diverse and representative training data helps reduce the risk of biases being learned and perpetuated by AI models.

Implementation:

■ Data Collection: Collect data from a wide range of sources and ensure that the dataset includes sufficient examples from underrepresented groups.

■ Data Augmentation: Generate additional training data by using techniques like oversampling or synthetic data generation for minority groups.

■ Balancing Classes: Ensure that the distribution of different classes or groups in the dataset is approximately equal.

ALGORITHMIC FAIRNESS AND BIAS TESTING

- Algorithmic fairness and bias testing involve assessing and measuring the fairness of AI models to identify and address bias.

- Regularly testing for bias allows developers to detect and rectify bias issues before they lead to discriminatory outcomes.

Implementation:

- **Fairness Metrics:** Use predefined fairness metrics (e.g., equal opportunity, demographic parity) to quantify and assess bias in algorithmic decision-making.

- **Bias Audits:** Conduct audits by comparing the impact of AI decisions on different groups and assessing disparities.

- **Benchmarking:** Compare AI model performance across various demographic groups to identify disparities.

REGULAR AUDITS AND BIAS MONITORING

- Regular audits and bias monitoring involve continuous evaluation and oversight of AI systems to identify and address bias over time.

- Bias can evolve, and new sources of bias may emerge, making ongoing monitoring crucial for maintaining fairness.

Implementation

- Monitoring Dashboards: Create monitoring systems with dashboards that provide real-time insights into AI system behaviour.

- Bias Detection Tools: Employ automated tools to flag potential bias issues and alert responsible teams.

- Feedback: Establish mechanisms for user feedback to report bias-related concerns and experiences.

NEXT STEPS
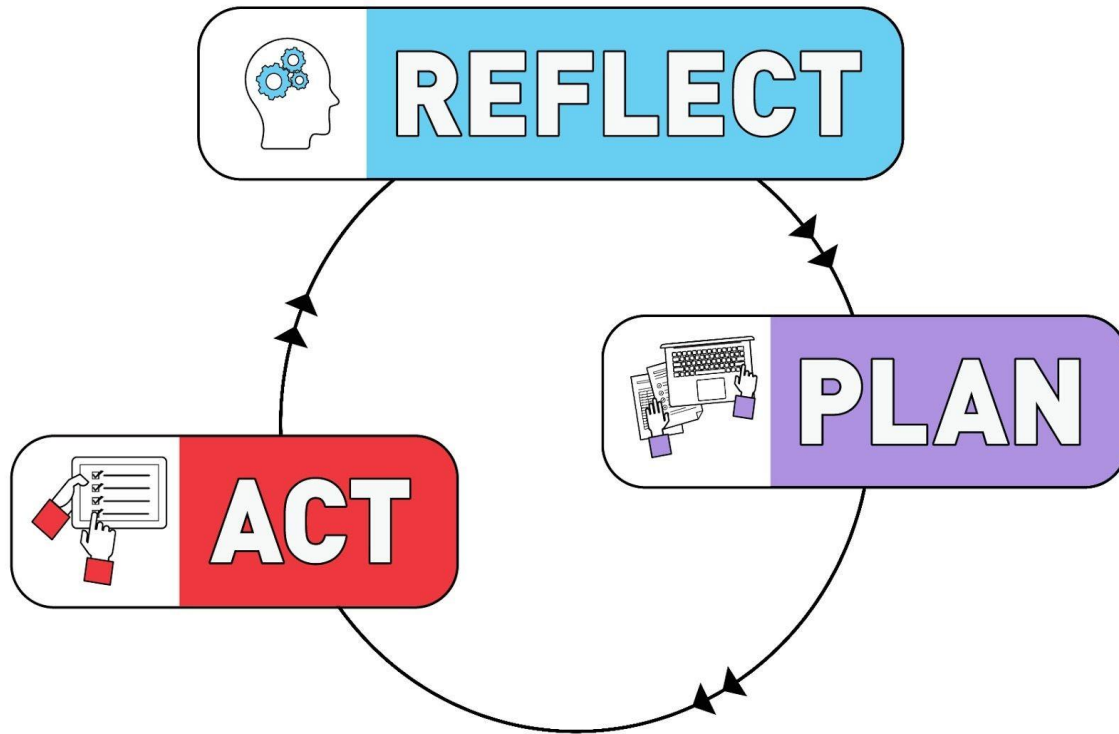
- Implementing these strategies and techniques collectively helps organisations develop AI systems that are fair, unbiased, and aligned with ethical principles.

- Bias mitigation is an ongoing process, and a commitment to continuous improvement and vigilance is essential to address evolving challenges related to bias in AI.

AI GOVERNANCE IS A GLOBAL CONCERN

Global AI Legislation Tracker

This map shows which jurisdictions are in focus and covered by this tracker. It does not represent the extent to which jurisdictions around the world are active on AI governance legislation.

Jurisdictions in focus

Australia | Brazil | Canada | China | EU | India | Israel | Japan | New Zealand
Saudi Arabia | Singapore | South Korea | United Arab Emirates | U.K. | U.S.

Click on the country names above to navigate to its location in the tracker.

FIRST STEPS

- *Before a company can devise a generative A.I. strategy, it must first have a data strategy. When a leading fast-moving consumer goods company was beginning its A.I. transformation, 80% of the company's own consumer data didn't even exist in digital form, requiring a painstaking, months-long data excavation to locate and digitize hard copies of years of payment records. The value and importance of such high-quality data is only increasing. A growing volume of research literature suggests that clean, carefully selected data, even on smaller models such as Falcon and BloombergGPT, can outperform larger models trained on everything from the internet.*

Source: Fortune.com

THANK YOU

fedelmagood@btconnect.com

Data Protection and Digital Information Bill: Guidance and Next Steps for Marketers

Department for Science, Innovation and Technology

Our Ambition

Better data access and use is at the heart of our mission to **grow the economy**, **improve the lives** of everyone in the UK, and make us the **most innovative society in the world** through science, and technology.

Establishing a UK data protection regime that works for more **people and businesses**, while maintaining **high standards of data protection**.

Making it easier for British **scientists** to complete ground-breaking research, reduce burdens on **businesses** and support international trade.

We all want to feel confident that information about us is being used responsibility and in ways we understand

Data Protection and Digital Information (No.2) Bill

Overview of the Bill

The Data Protection and Digital Information (No.2) Bill takes advantage of our status outside the EU to reform certain aspects of the UK GDPR - an evolution, not a revolution.

boosts the economy by **£4.7bn**

reduces burdens on businesses (especially SMEs)

provides clarity for researchers

enables innovations in science and technology that advance the health and prosperity of society

Maintains **high standards** we have in the UK for personal data use

strengthens and **modernises** the regulator (the Information Commissioner's Office)

maintains the key **data protection principles** so that businesses can trade freely with global partners, including the EU

Benefits of the Bill

BUSINESS

- Organisations will have greater flexibility about how they manage risk (whilst maintaining high data protection standards)

- Record-keeping and impact assessments will only be required in relation to high risk processing activities.

- Greater legal certainty when sharing data for public interest reasons, e.g. to prevent crime

MARKETERS

- Allowing organisations to measure audience members to websites for the purposes of improving their service by removing consent requirements for the least intrusive cookies.

- Confirming that the use of personal data for direct marketing purposes can be a legitimate interest for the purposes.

EVERYONE

- Public confidence in AI technologies will be increased by clarifying the circumstances where safeguards apply to automated decision-making

- Rogue firms hounding people with nuisance calls will face tougher fines

- Reduction in need to click through consent banners in relation to non-intrusive cookies

Next steps

November 2023

Commons Committee stage concluded on 23 May. The next parliamentary session begins on the 8th November.

The Bill will continue Parliamentary passage in due course and will be carried into the next session. Next stage is Commons Report and Third reading on dates to be confirmed.

Next Steps: Implementation

How we will support sectors.

How the law is affecting each sector and how we can improve.

Assess business readiness and **support them in preparing for the reforms.**

We will produce **factsheets and tables that outline key changes in the bill and address FAQs,** which will be publicly disseminated by December 2023.

We will also coordinate with the ICO and other departments involved in the Bill to ensure important information is disseminated at the appropriate time.

Post DPDI (No.2) Bill: Monitoring and Evaluation

Upon confirmation of commencement dates, we will subsequently align our monitoring and evaluation activities.

Monitoring	Evaluation
• We are preparing a baseline report on the data protection regime, which will be published in Spring 2024. • From now until December 2023, policy leads and analysts will work to identify stakeholders who are most likely to be affected by the Bill. .	• The baseline report, will inform evaluation activities • This includes using a high-level logical model to evaluate change causation. • Evaluation will occur (i) after Royal Assent, to assess business readiness; and (ii) after commencement to inform the Post-Implementation Review in 2028.

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Closing Comments

Chris Combemale, CEO, DMA

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Feedback Link