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How should Data Management adapt to ensure compliant & ethical Artificial Intelligence?

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Artificial Intelligence (AI) is revolutionary and here to stay, but how can firms make sure they use it to drive sustainable growth rather than create a future regulatory and ethical nightmare? Consultants from inside Kubrick's specialist Data Management (DM) practice explore how a DM-centric approach can help businesses embrace AI with trust and confidence.

INTRODUCTION

UNDERSTANDING DATA MANAGEMENT

The value that businesses can unlock by harnessing AI is virtually unlimited, but the associated risks of AI technology are an ongoing challenge to its implementation. Thus, for the organisations who are confident in its safety and reliability by prioritising ethics and compliance, organisations have the potential to outperform competitors by embracing responsible AI practices from the outset. In fact, recent report by Accenture identified numerous high-performing organisations, who, on average saw a 50% revenue increase compared to their competitors, by leveraging responsible AI. To realise this potential, whilst simultaneously promoting ethical best practice and ensuring regulatory compliance, organisations should examine the strength of their DM processes. It is there that they will find the capability to ensure the data that feeds their AI solutions will achieve the desired outcomes. This article will dive deeper into some of the factors organisations should consider regarding ethical and compliance issues in AI and explore potential DM solutions.

So, what do we mean by 'Data Management'? To frame the approach, the DAMA Data Management Body of Knowledge (a key text for all DM professionals) definition provides useful context:

> **Data Management is the development, execution, and supervision of plans, policies, programs, and practices that deliver, control, protect, and enhance the value of data and information assets throughout their lifecycles.**
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> DAMA DATA MANAGEMENT BODY OF KNOWLEDGE

1 WHAT ARE THE BIGGEST ETHICAL AND COMPLIANCE ISSUES IN AI?

It is important, when developing or using AI, to recognise the associated ethical and compliance-based issues it may cause. By instigating clear dialogue around these issues, organisations can effectively put into place guidelines and frameworks to minimise the impact they may have.

Ownership

A particularly nuanced area of debate is the matter of AI ownership. The self-learning nature of AI tools means they require large amounts of training data to establish a base to produce their output from. If an individual or corporation owns the training data used, do they own the output? Alternatively, if the training data is public, can any corporation claim ownership of resultant AI output? Since the widespread use of AI is a recent advancement, limited precedent exists to answer such questions and thus each scenario must be evaluated on a case-by-case basis. Notable law firms recommend establishing AI output ownership rights in specific contracts, with the organisation that operates the AI generally claiming output ownership.

Bias

In the era of AI-driven decision-making, from AI enhanced insurance pricing to AI assessed loan applications, it is crucial the algorithms and data we rely on are free from bias and promote fairness. Unchecked biases in AI systems can lead to discriminatory outcomes, reinforce societal inequalities, and erode trust in AI technologies and the organisations using them. Whilst numerous types of bias may exist in AI models, the two most crucial to ensuring an ethical and compliant AI model are sample and historical bias. Sample bias arises when AI training data does not accurately represent the real-world usage of the model. For example, the Apple speech to text AI is almost half as effective on black voices compared to white voices because it was trained using audio book recordings, predominantly read by white males. Historical bias occurs when biased training data is present in the AI model. This was seen in the Amazon CV AI, created to select applicants with promising CVs. The model was trained on past successful applicants, who were predominantly male. This led to an actively discriminatory process against women.

Regulatory Compliance

Data is intrinsic to the creation and maintenance of an AI model, and this may contain personal data. To ensure ethical behaviour and regulatory compliance, data usage consent, data privacy and transparency must all be considered. Despite, at the time of writing, a lack of AI regulatory frameworks, the impending European Union (EU) AI act seeks to govern the future development of AI systems within the EU. Whilst the strength of the Brussels effect previously allowed organisations outside of the EU to use impending EU regulation as an indicator of worldwide regulation, geo-political shifts mean this may no longer be the case. Consequently, it is difficult to predict what worldwide standards could look like and therefore, without solid resources, it will be challenging to prepare effectively for forthcoming regulatory compliance. Statistics collected by Accenture from 850 C-suite executives highlight a desire for AI regulation, as 43% believe it would improve their ability to industrialise and scale AI, and 36% believe it will be a source of competitive advantage. Despite this desire from organisations, the lack of industry AI standards makes ethical and compliant AI models an unrealistic expectation, demanding a strengthened DM process.

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Issue Interdependency

These three issues have been approached in an isolated manner, without emphasis on their interdependencies, however corporations must understand that ethical and compliant AI requires a holistic approach. These issues must not be seen separately, but as one. For example, without clearly establishing ownership, how can a company identify those responsible for a biased AI model? A clear directive surrounding AI ownership, supported by a comprehensive body of regulation, will drive corporations towards the reduction of AI bias and ensure ethical and compliant AI.

2 AI TAILORED DATA MANAGEMENT SOLUTIONS

Despite the sophistication of the technology driving AI, it is more than a purely technical area. A DM process, which hinges on specialist domain knowledge and skills, is critical to ensuring ethical best practice, and regulatory compliance which drive responsible AI use. The outcome of a strong DM process with AI at its centre will be stakeholder trust in AI insights and solutions, resulting in an increase in competitive advantage. In particular, we explore three symbiotic DM measures which promote ethical and compliant AI practice.

Algorithmic Impact Assessment (AIA)

An AIA is a technical evaluation supporting the identification and resolution of potential risks and unintended consequences associated with AI systems. An AIA's purpose is to garner internal and external trust, establish an iterative process for AI decision-making within the development stage, and create a source of accountability within the currently unregulated AI space.

The AIA process prioritises identified areas of concern based upon their level of risk and detrimental impact for end users. Once priorities have been established, the identified concerns undergo qualitative and quantitative checks tailored to different stages of AI development. This is an iterative process, providing the opportunity for external feedback on AI models from wider members of the project team not involved in development of the AI tool. Within an organisation, there should be an established reliable AIA process, with the capability to assess AI projects undertaken by organisations prior to implementation. Organisations can look to leverage an existing AIA, such as an example developed by the Canadian Government or within the private sector, AIAs created by tech companies. For instance, the Ada Lovelace Institute's pioneering work for the NHS AI Lab led to the introduction of the first known methodical assessment tool for AI in healthcare. The institute promotes the view that an AIA is the best approach for risk and impact assessment regarding AI development. Their AIA user guide can be found here.

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Data Strategy and Data Management Measures

While AIAs tackle AI head-on, organisations should also assess their DM frameworks for potential upgrades. This involves establishing or evaluating their data strategy, including processes, policies, and technologies to effectively use data and achieve organisational goals. This strategy should outline data requirements, objectives, and priorities for data acquisition and management – all of which are essential to understanding data use across a business and identify possible shortcomings when it comes to the ethics and compliance of involving AI.

A privacy and security first approach especially surrounding personal data, is fundamental. For enterprise-wide governance, this requires the development of policies and standards, addressing regulatory compliance, and identifying and mitigating ethics and compliance risks through consistent monitoring and reporting. For instance, organisations should outline their position on staff using generative AI technology such as ChatGPT in the workplace, and the correct practices to follow if allowed. Strengthening compliance with existing regulations, such as GDPR, but also consolidating approaches for introduction or adjustment of regulation, such as specific obligations for AI users and providers of high-risk systems, is essential.

The success of these steps, however, hinges on data culture and training; business users must have the correct understanding and appreciation of best practices, and the importance and value of responsible AI. The responsibility to build the culture falls to the DM professionals who have both the domain and technical knowledge to act as intermediaries between technical and business units, as well as the communication skills to educate and influence effectively when delivering credible training. In a field that so often values technical capability over communication skills, the risks of poor understanding of the importance of ethics and compliance responsibilities include regulatory compliance failures, accompanied by reputational damage, and loss of trust amongst customers and partners.

Cross-functional Approach to Data Management

AI presents unique challenges due to its expanding commercial uses coupled with a relatively limited supply of available AI experts. These issues are multi-faceted, concerning numerous groups within an organisation, including the compliance and risk team, the legal team, and the data team. Thus, AI DM must involve technical teams, users, and business leaders in the DM process to ensure responsible ethical practices and not become siloed to be governed by a data team. Cross functional teams are crucial to develop an AI DM strategy that addresses the previously discussed key issues and their respective preventative measures. This may be a significant journey from an organisations current state, where siloes between technical and business teams often prevail. Hence, the aforementioned business conduit skills of a DM professional are invaluable in the immediate AI landscape. Their technical knowledge, communication skills and stakeholder management abilities will enable them to facilitate productive dialogue between opposing sides of a business. It is essential the chosen approach is coherent with the overall organisational data strategy.

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3 CONCLUDING REMARKS

As the hype – and number of viable use cases – grows, it is important that organisations start working on small test AI projects now to foster enthusiasm and ensure adherence to its governance and management as it settles. This is true particularly with organisations with customer focused applications: building and testing internally before scaling is key to embracing AI which is suitable for technical and cultural adoption.

Organisations will likely have concerns over their readiness to adopt and integrate AI, and consequently their capabilities to satisfy a suitable regulatory framework, when one is established. The EU AI act represents a credible step towards such a framework, and organisations will be aware of the challenges faced regarding GDPR compliance and the processes involved after its introduction. As a result, ensuring organisations have effective DM frameworks and structures in place, and their AI activities are rooted in solid DM foundations to foster responsible AI use, will make integration into regulatory frameworks a less daunting prospect.

DM undoubtedly has a crucial role to play in ensuring ethical and compliant AI. This is best achieved through a multifaceted approach incorporating technical elements such as an AIA, and established DM elements, such as the adoption of an enterprise-wide data strategy, and policies, principles, and standards to ensure organisational data governance. It is only through this DM-centric process, where the data itself facilitates responsible AI, that organisations will be best placed to reap the full rewards of AI.

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