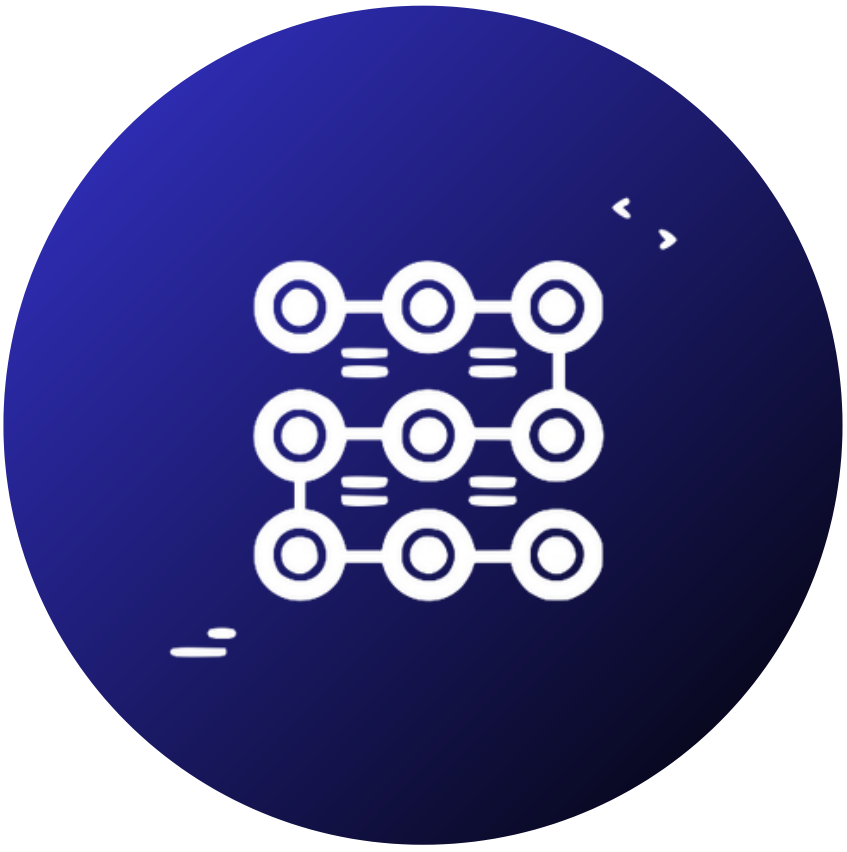
A Values Canvas Case study

DATA GOVERNANCE: THE PATH TO AI SUCCESS



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GETTING STARTED WITH RESPONSIBLE AI

Embracing AI is no longer an option, it is an expectation. However, AI is known to be risky business, as it comes with significant investment requirements, up to 93% failure rates, and a concerning lack of confidence in today's context of countless AI mishaps. There are many ways that AI can go wrong, but in a world demanding the adoption of this cutting-edge tool, how can companies ensure it goes right?

This is where Responsible AI & Ethics comes in. The only way to consistently grow customer trust, mitigate unnecessary harmful risks, and get the most out of an investment in this technology, Responsible AI practices are quickly becoming the standard of operations for success in AI.

So, where do you start?

Originating from the book *Responsible AI* by Olivia Gambelin, **the Values Canvas** is a holistic management template for developing Responsible AI strategies and documenting existing ethics efforts. Designed to drive success in developing and using AI responsibly, it brings clarity on where to start and if something is missing in a company's journey to becoming Responsible AI-enabled.

THE VALUES CANVAS

The Values Canvas is made up of three pillars: **People**, **Process**, and **Technology**.

People looks at who is building or using AI, Process is focused on how AI is being built or used, and Technology is about what AI is being built or used. Each pillar is broken down into three elements, with each element capturing a specific need that your Responsible AI initiatives must fill. Another way to think about this is that the elements highlight the impact points in which you can translate your ethical values into reality for your company and technology through strategic solutions. You can hone in and work on a single element solution, or zoom out to understand how all the element solutions work together to create an efficient and effective Responsible AI strategy. In the case of the Technology pillar, the three elements are **Data**, **Document** and **Domain**.

In this case study we focus on the first of the three Technology elements: **Data**. In this element, we are looking to fill the need to align data lifecycle management with ethical values so that AI is being built on an ethically sound foundation. A Data solution is any technique or method for embedding ethical values into the data that is being used to train and/or test an AI model.

This case study is six of a nine-part series on the Values Canvas. To explore the Values Canvas, access the full case study series, and discover further resources, visit ***www.thevaluescanvas.com****.*

THE NEED

Introducing Metaphysic

Metaphysic is at the forefront of creating groundbreaking AI content across various entertainment mediums, including Hollywood films, TV, music, live performances, and advertising. By leveraging proprietary AI tools, Metaphysic disrupts the traditional CGI world, offering scalable, high-quality, and immersive content experiences. The company is renowned for its innovative approach, using advanced AI to generate realistic and engaging content that captivates audiences and enhances storytelling.

Maintaining Data Integrity and Quality at Scale

As Metaphysic scales its operations, the primary challenge it faces is maintaining strict data governance in its content creation pipelines. The chaotic nature of data use in the market poses significant risks to accountability and privacy, potentially undermining the company's ethical commitments. The volume and variety of data involved in AI content creation are immense, and without proper governance, there is a risk of data misuse, breaches, and loss of control over sensitive information. This problem is compounded by the rapid pace of technological advancement and the increasing complexity of AI models, which demand rigorous oversight and management.

The need for stringent data governance is intrinsically tied to how data is handled within Metaphysic's AI pipelines. Effective data governance involves creating systems that can securely store, process, and audit data, ensuring that all operations are transparent and accountable. Privacy measures must also be implemented to protect sensitive information and comply with data protection regulations. This includes establishing clear policies for data collection, storage, and sharing, as well as implementing advanced encryption and access controls to safeguard data integrity and confidentiality.

In order to manage the vast amounts of data involved in AI content creation, Metaphysic needed to establish a robust framework for data governance that would ensure both accountability and privacy. Specifically, Metaphysic needed a framework that would require systems and processes that could:

- Ensure Data Integrity: Maintain the accuracy and consistency of data throughout its lifecycle.
- Enhance Data Security: Protect data from unauthorized access, breaches, and other security threats.
- Provide Transparency: Enable clear tracking and documentation of data use and modifications.
- Support Compliance: Align with relevant data protection regulations and industry standards.
- Uphold Ethical Standards: Ensure that data practices reflect the company's commitment to ethical AI development.

Without a strong data governance framework, Metaphysic risked facing several critical issues.

- **Loss of Trust**: Stakeholders, including clients and audiences, might lose trust if data governance practices are not transparent and accountable. Trust is a crucial asset in the entertainment industry, and any perception of data mishandling could damage Metaphysic's reputation.
- **Regulatory Non-compliance**: Inadequate data governance could lead to non-compliance with data protection laws, such as GDPR or CCPA, resulting in legal penalties and reputational damage. Non-compliance can also restrict Metaphysic's ability to operate in certain markets or collaborate with partners who require stringent data handling standards.
- **Operational Inefficiencies**: Chaotic data handling can lead to inefficiencies, increasing the risk of errors and inconsistencies in content production. This can slow down project timelines, inflate costs, and compromise the quality of the final output.
- **Ethical Breaches**: Failure to uphold ethical standards in data use could undermine Metaphysic's core values, impacting its brand and market position. Ethical breaches can also lead to public backlash and erosion of consumer confidence, making it harder to attract and retain clients.

Metaphysic's Needs:

Short-term:

- Establish a robust data governance framework to ensure data integrity, security, and transparency.
- Implement privacy measures and compliance policies to protect sensitive information and adhere to data protection regulations.

Mid-term:

- Scale data governance systems to manage increasing data volume and complexity.
- Enhance operational efficiencies by streamlining data handling processes to reduce errors and inconsistencies.
- Continuously update and improve AI models while maintaining strict data oversight and management.

Long-term:

- Maintain and strengthen stakeholder trust through transparent and accountable data practices.
- Ensure ongoing compliance with evolving data protection laws and industry standards.
- Uphold ethical standards in AI development, reinforcing Metaphysic's reputation and market position.

THE SOLUTION

Metaphysic recognized the critical need to ensure data governance that would align with its ethical commitments and the evolving demands of the market. To address this, the company embarked on a comprehensive process to determine, design, develop, and deploy a robust data governance solution. In other words, Metaphysic was in need of a Data solution. Data, the first of the Technology Pillar elements in creating responsible AI, which means the solution for Data is a technique or method for embedding ethical values into the data that is being used to train and/or test an AI model.

A Data solution statement looks like the following:

"_____ will be embedded ____ in the data lifecycle using ___ technique/method."

value *when* *what*

Given its pioneering role in AI content creation, Metaphysic sought a solution that would not only secure data but also enhance the transparency and accountability of its operations. The initial step towards such a solution involved a thorough assessment of the existing data handling processes, identifying vulnerabilities and areas for improvement.

Once the initial assessment was complete, Metaphysic saw the opportunity to integrate the Coalition for Content Provenance and Authenticity (C2PA) into it's practices. As one of the first contributors to the C2PA initiative, Metaphysic was deeply invested in leveraging this framework to establish robust provenance and authentication mechanisms. The C2PA framework provides an open standard for certifying the source and authenticity of digital content, making it an ideal foundation for Metaphysic's needs.

With this framework in mind, Metaphysic was able to identify key decision factors that needed to influence the selection and design of the data governance solution:

Ethical Alignment
The solution needed to uphold Metaphysic's ethical standards, ensuring data privacy, accountability, and transparency.

Regulatory Compliance
The solution had to comply with global data protection regulations, such as GDPR and CCPA, to avoid legal risks and ensure seamless international operations.

Technological Compatibility
The chosen framework had to integrate smoothly with existing proprietary technologies and workflows used by Metaphysic.

Scalability
As Metaphysic continues to grow, the solution needs to be scalable to handle increasing volumes of data and complex AI models.

Provenance and Authentication
Leveraging the C2PA framework was crucial for establishing a reliable system for verifying the source and authenticity of digital content, a core requirement for maintaining trust and integrity.

Having identified key features needed for the data governance framework, Metaphysic began the design process which focused on integrating the C2PA standards with proprietary technology to create a comprehensive data governance solution. This involved extensive collaboration between Metaphysic's technical and ethical teams to ensure the system not only met technical requirements but also adhered to the company's ethical standards.

With the design of the solution completed, Metaphysic then set about deployment, executing in a phased manner, ensuring minimal disruption to ongoing projects. The development phase saw the creation of custom tools and protocols built on top of the C2PA framework, designed to secure both the provenance and authentication of all data handled by Metaphysic.

The final data solution at Metaphysic is a sophisticated and robust system built on the C2PA framework, enhanced with proprietary technologies tailored to the company's specific needs. This hybrid solution ensures comprehensive data governance, encompassing data security, provenance, and authentication. The rollout included rigorous testing and validation phases to guarantee the system's reliability and effectiveness.

Details of How It Works

The system operates through several key components:

- **C2PA Integration**: At its core, the solution utilizes the C2PA standards to embed secure provenance and authentication metadata within all digital content. This ensures that every piece of content created or modified by Metaphysic can be traced back to its origin, verifying its authenticity.
- **Proprietary Enhancements:** Building on the C2PA framework, Metaphysic has developed proprietary tools that provide additional layers of security and functionality. These tools include advanced encryption techniques, access controls, and real-time monitoring to protect data integrity and confidentiality.
- **Audit Trails**: The system maintains detailed audit trails for all data transactions, providing a transparent record of data usage and modifications. This not only supports accountability but also aids in compliance with regulatory requirements.
- **Scalability Features:** The solution is designed to scale with Metaphysic's operations, capable of handling large volumes of data and complex AI models without compromising performance or security.
- **User Interface**: A user-friendly interface allows Metaphysic's teams to interact with the system easily, accessing provenance and authentication information, managing data permissions, and generating compliance reports.

If Metaphysic were filling out the Values Canvas, their Data solution statement would look something like the following:

Ethical standards will be embedded at **every stage** in the data lifecycle using r**obust data governance and privacy measures.**

THE OUTCOME

As Metaphysic continues to implement the data governance solution, the integration of the C2PA framework has already demonstrated significant success in certain areas. The primary focus has been on ensuring provenance and traceability of data, both of which are critical for maintaining transparency and accountability in AI content creation.

The solution works by embedding secure provenance and authentication metadata within all digital content using the C2PA standards. This enables Metaphysic to trace every piece of content back to its origin, ensuring its authenticity and integrity. Proprietary enhancements have been added to the C2PA framework to provide additional layers of security and functionality, including advanced encryption techniques, access controls, and real-time monitoring.

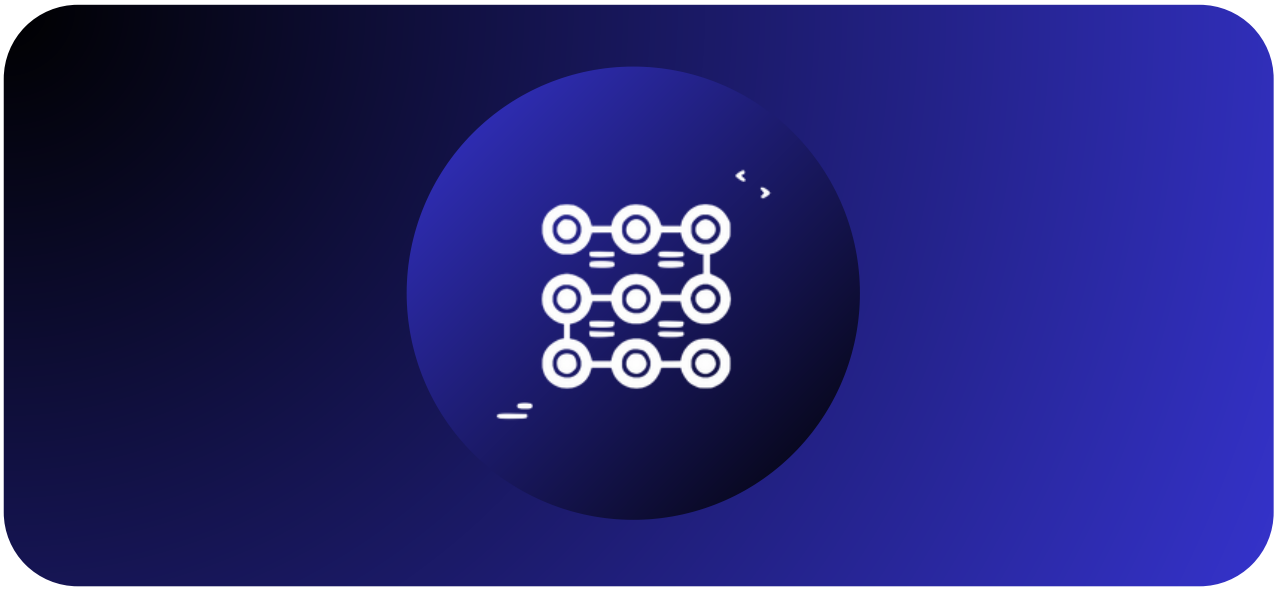
While the solution is still being fully implemented, initial testing phases have provided valuable insights. Rigorous scientific methods are being employed to test various postulates and validate the effectiveness of the solution. The phased deployment strategy ensures that each component is thoroughly evaluated before full-scale implementation.

Feedback from the ongoing implementation has been overwhelmingly positive, particularly concerning data provenance and traceability. Key indicators of success include:

- I**mproved Data Traceability**: The ability to trace content back to its source has significantly enhanced transparency, allowing for better accountability.
- **Enhanced Data Security**: Advanced encryption and access controls have reduced the risk of data breaches and unauthorized access.
- **Compliance with Regulations**: The system's alignment with global data protection regulations has been validated, ensuring legal compliance and mitigating risks.

The primary blocker Metaphysic faced was the chaotic nature of data handling in the market, which posed risks to accountability and privacy. By implementing the C2PA framework and proprietary enhancements, the company has made significant strides in addressing these issues.

- **Enhanced Accountability**: The secure provenance and traceability mechanisms have ensured that every piece of content can be accurately traced back to its source, thereby enhancing accountability.
- **Improved Transparency**: The system's ability to log and audit data transactions has improved transparency, making it easier to identify and rectify issues.
- **Regulatory Compliance**: Aligning with data protection regulations has mitigated legal risks and ensured that Metaphysic can operate seamlessly across different markets.
- **Data Security**: Advanced encryption and access controls have protected data integrity and confidentiality, reducing the risk of breaches.



THE AUTHORS

Beni Beeri Issembert

Beni Beeri Issembert is a technology ethicist and high-tech entrepreneur with experience in both academia and industry. He is the Head of AI Research and Ethics at Metaphysic.ai, where he has been pivotal in establishing ethical standards in AI and technology sectors. He pursued PhD studies in History and Philosophy of Science and Technology at The Johns Hopkins University. Beni Beeri has also held roles such as Group CMO at Concordium and Managing Director at JJF Media LTD.

Born and raised in France, Beni Beeri has lived in Israel for 30 years. He is adept at converting fundamental research into practical applications, particularly in AI, ML, and DLT. A published author, Beni Beeri champions ethical AI development, ensuring technology advances align with societal values and principles.

Olivia Gambelin

One of the first movers in Responsible AI, Olivia is a world-renowned expert in AI Ethics whose experience in utilizing ethics-by-design has empowered hundreds of business leaders to achieve their desired impact on the cutting edge of technological innovation. As the founder of Ethical Intelligence, the world's largest network of Responsible AI practitioners, Olivia offers unparalleled insight into how leaders can embrace the strength of human values to drive holistic business success. She is also the author of the book *Responsible AI: Implement an Ethical Approach in Your Organization* with Kogan Page Publishing, and the creator of The Values Canvas, which can be found at www.thevaluescanvas.com.

To access the Values Canvas download and further case studies, visit:

www.thevaluescanvas.com

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To learn more about why, how and when to use the Values Canvas, read:

Responsible AI: Implement an Ethical Approach in Your Organization