

RESEARCH PAPER | AI STRATEGY

AI Governance

AI Strategy, Organization and Operational Lifecycle for Business Value Generation

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Fostering AI Governance to generate Continuous Business Value

In recent years, the adoption of Artificial Intelligence has accelerated at a speed never seen before. Market disruptors and tech giants, with a data-driven DNA, have shown the market how to leverage Artificial Intelligence to build outstanding business models, persona-centric experiences and operational competitiveness. The launch of brand-new AI-driven start-ups that hit the market with innovative products and services completes a new context where organizations need to leverage AI not just for differentiation, but for market survival.

Not that long ago, the key challenge for organizations was to design a data strategy, define a data governance framework, and integrate Big Data capabilities across the organization. However, the time to talk about AI governance has come, since squeezing the data to generate Business value now demands a sound orchestration across a variety of expertise and domains.

There are some key aspects to consider when developing a solid AI Governance:

1. **AI Strategy:** every organization aiming to lead the competitive race should design and rely on a sound business and technology strategic alignment, identifying business opportunity and assessing risk.
2. **Organization:** the AI-driven organization requires fostering hybrid capabilities, and expanding the AI culture through AI literacy, as well as defining a myriad of roles and responsibilities.
3. **AI Lifecycle:** transparency, reproducibility, and explicability of the processes are essential to properly manage AI at scale, being paramount to identify all requirements across the AI stages: from business opportunity to development, deployment and monitoring.

These three levers should help organizations continuously innovate by enabling fast experimentation, and foster AI-driven initiatives and go-to-market solutions with differentiated value.

Critical challenges arise for organizations when designing and implementing successful AI governance.

A key challenge is developing AI initiatives compliant with Ethical Principles such as Human Oversight, Transparency, Fairness, Diversity and Non-discrimination, Robustness of the systems, and Privacy.

In short, a positive impact of AI should create both business value and societal benefit. Organizations need to guarantee the development of responsible AI, complying with the regulation and trustworthy AI principles for contributing to the development of the communities where they operate, delivering positive impact to individuals and society.

Which Ethics principles are embedded in Responsible AI Governance?

Organizations might leverage AI Governance to translate AI ethics principles into practice by transforming the way AI is developed and implemented. Consistent, end-to-end AI Governance should enhance internal capabilities through methodologies and tools that address key ethical requirements such as:

- Accountability
- Fairness and Diversity
- Human Oversight
- Privacy
- Transparency
- Systems Robustness





Developing a sound AI Governance framework

AI STRATEGY

Achieving a successful AI impact and generating business value implies a need to wholly align the analytical and AI strategy with the corporate strategy, seeking to fulfill business objectives and respond to market opportunities while minimizing risks.

AI needs to be considered as a strategic lever for decision-making. This is paramount for organizations to enable synergies between business and technical departments through planning and coordination processes. Measuring Return on Artificial Intelligence (ROAI) becomes key to track the real impact of AI-driven initiatives across business domains.

Portfolio management and risk management methodologies are essential to address and solve the risks related to AI by using evaluation tools and controls, such as risk classification, risk evaluation, and risk control.

AI LIFECYCLE

To enable a fast, efficient and reliable response to business opportunities, AI Governance has evolved processes with enterprise-wide protocols and standards that are translated into operations by leveraging tools and procedures, guided by core principles.

In this way, organizations might ensure accountability for business decisions, reinforce systems' resiliency and automate its capacity to scale AI.

ORGANIZATION

The organizational model orchestrates the structure that connects all stakeholders involved in the definition, development and implementation of the AI activity. It is essential to correctly identify tasks and responsibilities for each of the roles, and define a common working methodology for the development of the projects, including documenting the initiatives.

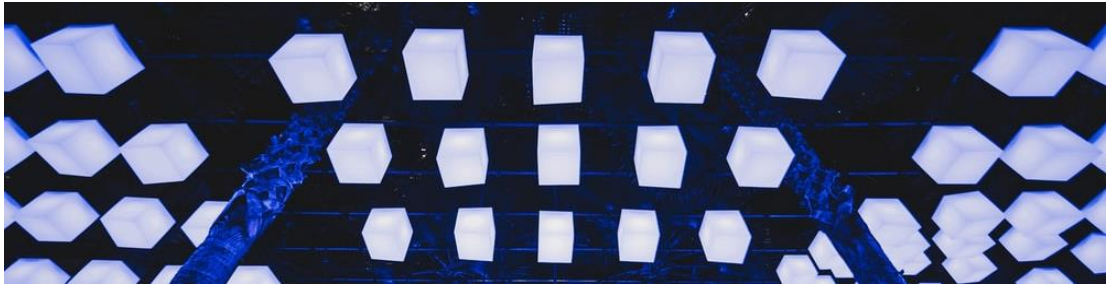
An organizational model fosters team building, promoting synergies between all the business areas and mitigating potential risks. Truly building the AI Driven Organization also relies on fostering a sound AI Culture, leveraged on both democratizing AI Literacy and engaging professionals through the appropriate talent management strategy.

RESPONSIBLE AI

Innovative solutions created by AI technologies are continuously evolving as the user experiences them. For that reason, transforming the market opportunity into new AI-driven initiatives must rely on fast development, testing, and industrialization.

It has been proven that supporting AI innovation by providing capabilities and mechanisms has a positive impact boosting the development of a more trustworthy and reliable AI.

Key Levers of AI Governance



As organizations evolve through their digital transformation path, they become increasingly aware of the need for translating the value of data into actionable and timely insights for decision-making. Yet, many organizations that have been actively building up their data science capabilities are finding themselves in analytical silos where scalability remains the main challenge.

AI Governance aims at unlocking the value of data insights by tackling siloed AI and fostering synergies across AI efforts. It focuses on centralizing current AI capabilities which tend to rely on operating models where experimentation is either isolated in labs or capabilities are scattered across business areas.

Considering the large impact AI has on organizations, digital transformation plans should allocate greater resources into developing AI maturity as a strategic objective through a structured and managed approach.

To deliver value across the organization, it's key to establish a strong baseline for AI governance sponsored at the executive level to get involvement from key stakeholders and engage them in core, across-teams subjects such as AI Ethics.

In the short term, AI governance should become a strategic pillar of the organization transformation building into its role of orchestrating the AI strategy definition and implementation, aligning stakeholders and overseeing AI operations.

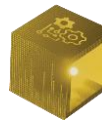
Strategy, Organization and Operational Lifecycle

AI Governance oversees the complete algorithm lifecycle, it cares for the end-to-end functional, operational and technological methods and procedures necessary to guarantee agile and continuous innovation and generation of business value through AI-driven initiatives.



AI Strategy: Outline Standards

- Achieve AI alignment with Business needs & Risk Appetite through strategic governance plans, focused on delivering value and trust.
- Define an AI Governance structure to manage and oversee processes delivering quality AI.



Organization: Orchestrate Teams

- Set an end-to-end accountability framework to operationalize a standardized development methodology.
- Foster AI Culture through continuous upskilling with AI Literacy addressing AI and non-AI profiles.



AI Lifecycle Oversee Performance

- Implement tools and develop procedures that serve as a lever for AI scalability.
- Translate AI Governance principles into MLOps solutions to achieve full control of the Algorithm's lifecycle.

Deploying AI Governance

In order to guide organizations into building the capabilities for deploying Responsible AI Governance, we've identified seven lines of action to address needs across three levels: Strategy, Organization and Operations.

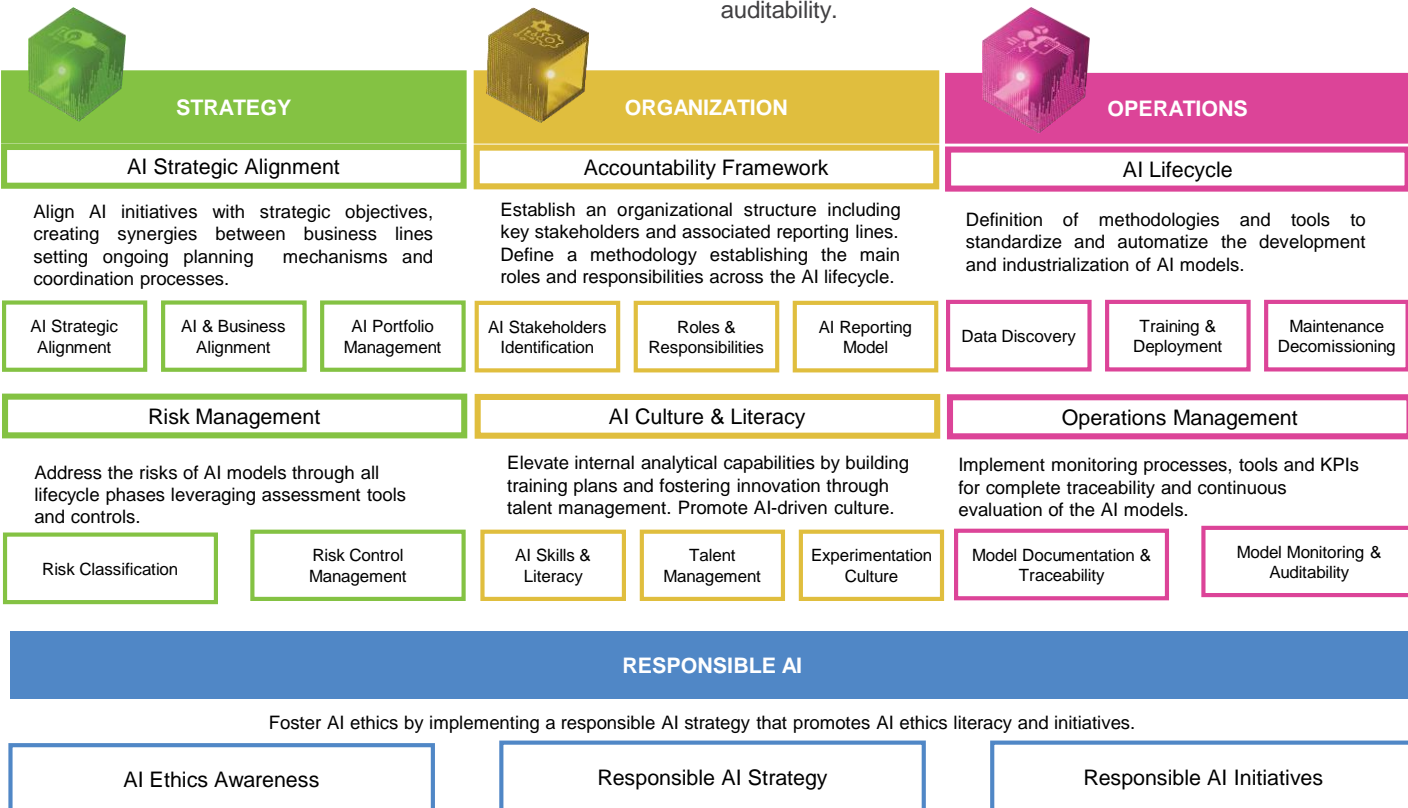
Building up an AI strategy requires ongoing alignment between the long-term strategic goals and also with day-to-day business needs. Furthermore, each decision should be assessed through the lens of potential AI risks and address the implications related to AI ethics across every development and implementation.

Organizations should pursue a model of human-centered and human-driven AI, relying on an accountability framework that guides teams and structures the relationship model across AI stakeholders.

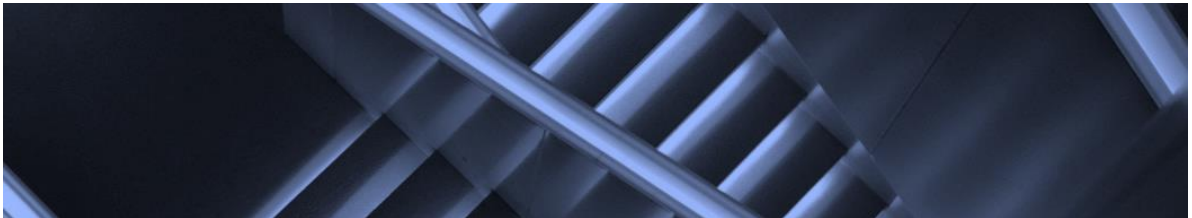
This is key that organizations foster transparency of the AI activity, caring on critical aspects such as AI Explainability, and being prepared to communicate what's behind automated decision making to diverse stakeholders.

Culture transformation is also impacted as AI Governance engages the organization in an experimentation culture that seeks to continuously innovate and elevate analytical capabilities.

Finally, in achieving the goal of scaling AI with agility and robustness, AI Governance needs to define and embed the processes and infrastructure needed through the AI lifecycle operations. This translates into MLOps practices and tools that reinforce capabilities in systems transparency, traceability, monitoring and auditability.



Orchestrating Value & Risk Governance



To achieve a successful AI Governance, organizations must align their analytical strategy with their corporate strategy, ensuring that ML developments address key business opportunities and mitigate potential risks.

This means understanding ML as a strategic lever for business decision making, which ensures both optimal business impact and accomplishment of the objectives.

The overall strategy has to be designed starting from defining the long-term goals, standards and processes in order to scale AI initiatives across the organization.

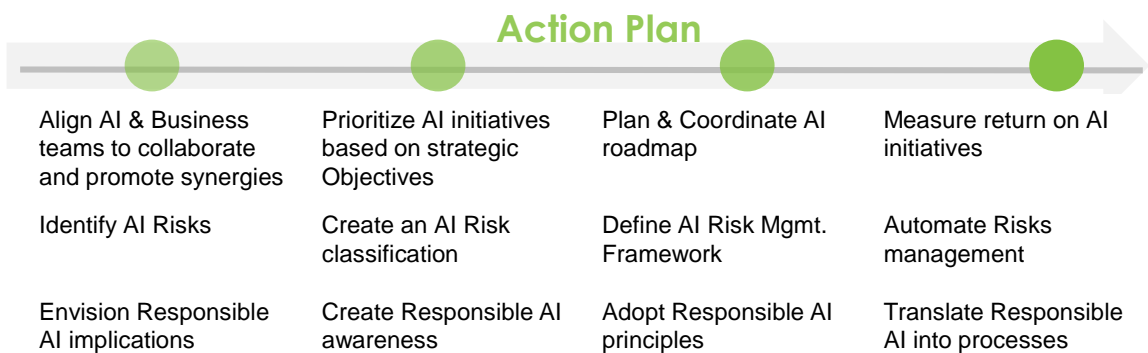
Successful AI driven organizations rely on a strong Governance Body to help business areas tackle their ML challenges, mitigate the risks, and foster a responsible AI.

Focus on addressing key business opportunities and mitigate potential risks to scale AI initiatives across the organization

What's the Value of my AI Strategy?

What's the Risk of my AI Strategy?

STRATEGIC OBJECTIVES	
Align AI initiatives with Business Value	Define Standards & Processes to Scale AI
Identify & Manage AI Risks	Foster Responsible AI



Defining the Accountability Framework, AI Literacy & Culture



The organization model orchestrates the structure that connects a variety of profiles that interact across Machine Learning development and industrialization, enabling ML governance and accountability.

Team building practices are encouraged across the organization in order to foster multidisciplinary teams and create innovative ways to grow internal talent.

A common working methodology for the development of the AI projects, including documentation of initiatives, in boosted from AI Centers of Excellence, which may centralize best practices and accelerate AI application.

Finally, the highly mature organization should pursue a Hub & Spoke model with strong orchestration across AI / Data Science teams and Business to accelerate the transformation process towards the AI-driven organization.

Foster AI Literacy and Culture across the organization, and strengthen market competitiveness by engaging best AI professionals.

Are we ensuring accountability on AI outcomes?
Do we have the required Know-how?

STRATEGIC OBJECTIVES	
Build an AI Accountability Framework	Democratize AI capabilities
Define Roles & Responsibilities across the AI lifecycle	Elevate the Organization through AI Literacy

Action Plan

Engage top & middle management into AI Governance	Define Structure & responsibilities to manage AI risk	Governance. processes are transversally applied to all AI use cases.	Streamline governance. processes with automation
Map out current AI lifecycle & stakeholders	Foster multidisciplinary teams to build AI	Build AI CoE to centralize-best practices	Dedicate AI experts to an AI Innovation Hub
Document in-house AI capabilities	Build learning paths to grow talent	Generate AI learning paths for non-AI teams	Generate area-specific AI literacy plans

AI Lifecycle for Operational Agility



Organizations require an action plan that enables operational agility and fosters standardized methods reducing time to market of AI applications.

When defining an action plan, it is important to tackle the reporting requirement of evolving governance from siloed AI developments to a more documented environment.

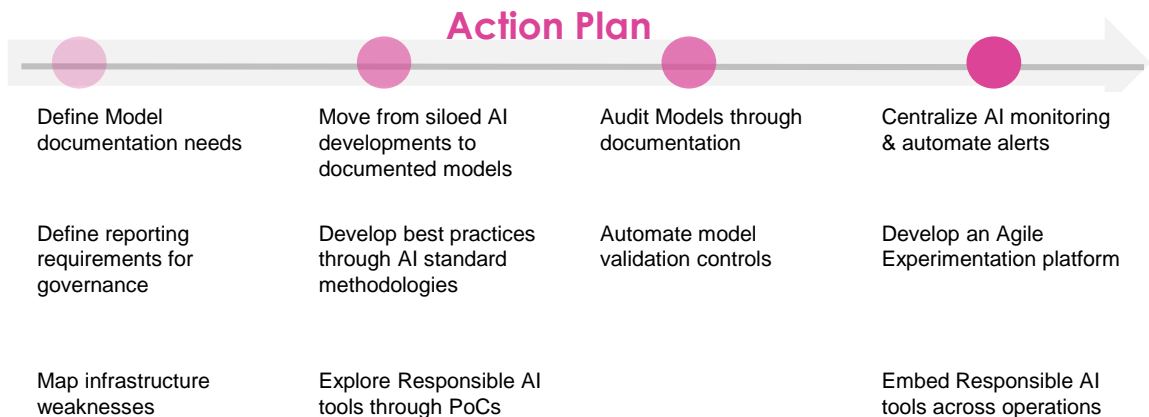
Being able to audit models, automate them and centralize AI monitoring becomes key to ensure the quality, homogeneity and consistency of AI initiatives.

Through automation and reproducibility of techniques and processes, the success of embedding responsible AI across operations guarantees higher quality.

Guarantee the quality, homogeneity and consistency of AI initiatives across the MLOps lifecycle.

Are AI applications delivering the expected value?
Are we controlling the risks of AI initiatives?

STRATEGIC OBJECTIVES	
Ensure Performance & AI Reliability	Deploy Control Mechanisms
Foster Trust through Transparency	Elevate AI Infrastructure for agile innovation





SILOED DEVELOPMENTS

Technical and analytical departments across the organization define strategies separated and isolated one to another, duplicating efforts and lowering visibility



ETHICAL CONCERNS

Organizations might seek both generating revenues and positive social impact with AI, caring for compliance with ethical principles on the development of AI activity.



TALENT SCARCITY VS. SKILLS SCARCITY

Understating how prolific AI technologies are becoming, the number of AI experts in the world is small, and competition to attract the best talent high.

Overcoming Challenges for an AI-Driven Organization

Translate AI-driven initiatives into business value eliminating shortfalls

Organizations need to tackle several challenges to become an AI-driven leader in their industry.

It is not uncommon for specific business areas to have taken the lead in developing their own AI applications. This results in a lack of visibility across the whole organization affecting potential efficiency gains from AI.

If not under control an increasing number of ungoverned AI applications will generate security concerns as systems interdependencies may cause unexpected problems putting business functions at risk.

AI decision-making systems may raise ethical challenges that have a direct impact on the business reputation and potential economic impact. Vulnerabilities on AI systems could lead to data privacy breaches, unfair outcomes or untrusted decisions.

In this sense, AI governance seeks to deal with ethical concerns as, or before, they appear in a principled manner rather than waiting until a problem surfaces and dealing with it in an ad hoc manner.

Organizations face scarcity of AI experts which creates bottlenecks along the development phases and limits organizations business growth. Moving towards democratizing AI requires elevating internal capabilities, leading to augmented decision-making as well as higher quality and confidence on AI systems by addressing the needs of business areas.

Developing an AI Governance across the organization helps to overcome talent and skills scarcity by fostering an AI Culture though continuous upskilling of the employees through AI literacy, as well as attracting top talent through purposefully defined programs.



Overcoming Challenges for an AI-Driven Organization

Translate AI-driven initiatives into business value eliminating shortfalls



ANTICIPATING REGULATION

Governments and International institutions are developing guides, policies and directives to regulate the use, development and deployment of AI initiatives.

Governments are moving rapidly into establishing a regulatory framework that translates into companies assuming greater responsibility and accountability over the outcomes of their AI systems. In this sense, governments and the private sector will need to coordinate in order to produce solid frameworks that regulate AI initiatives and establish AI accountability.

In light of the upcoming potential regulations, organizations have the opportunity to anticipate and establish structures, methodologies, tools to facilitate a responsible AI implementation.



INNOVATION: WINNER TAKES ALL

AI offers a limitless range of opportunities to thrive, allowing the best performers to rise to the top at the expense of the losers.

In recent years, organizations began realizing that robotics, AI, and ML are experiencing exponential growth, resulting in an infinite availability of AI opportunities, which translate into "winner-takes-all" chances.

Therefore, incumbent institutions must carefully establish innovation strategies articulated through agile and flexible experimentation methodologies to face challengers' rapid pace and take advantage of the AI opportunities.

In other words, it is essential that when an organization identifies market opportunities, it cannot only foresee profits, but design a coherent and solid strategy, using efficiently its internal resources to make the most of AI benefits and comply with polices and regulations

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Appoint an AI Leader

This can be someone who is already providing analytics to the business, but the person should be responsible for pulling AI activities together and providing direction for evaluating and governing algorithms.

Evaluate existing processes

and systems designed that may be deployed already in the company. Look specifically at those processes that are being used for evaluating risk. If you have a compliance council or a privacy council, evaluate what they are doing and how they are doing it. Don't invent a process if you have one that works.

Budget for AI Governance

It doesn't take a huge budget but you will need some funding for AI training both literacy for the business and specific technical upskilling.





