

Stewardship in Focus: Artificial Intelligence

Our approach

Our Stewardship Team is advancing its engagement with companies on Artificial intelligence (AI) risks and opportunities by identifying emerging best practices to enhance AI governance and promote long-term value creation

Why it matters

AI is evolving rapidly, making it critical for companies to balance innovation with prioritizing strong governing mechanisms, policies and green technologies, in order to support sustainable AI development

What we've done

In partnership with the fundamental analysts on our Capital Structure Research Team, we have established guidance for companies on AI governance, risk oversight and disclosure

Why is Artificial Intelligence a Material Issue for Investors?

AI is the key megatrend currently driving equity market performance and AI demand alone could require around \$5.2T in investments across the AI compute value chain by 2030.¹ Generative AI investments are at an extraordinarily high rate as hyperscaler, or large-scale data center, AI capex continues to boom.² AI is undeniably financially material, serving both as a key revenue driver and potential cost deflator for many firms across all industries. The key question is how companies can strategically harness these benefits while mitigating the operational, ethical, and regulatory risks that accompany AI adoption. Northern Trust Asset Management's (NTAM) stewardship approach prioritizes dialogue with companies on several key topics at a time when many firms are in early stages of AI implementation and development. Top of mind are governance and risk oversight; geopolitical considerations; monetization and return on investment; impact on natural capital and climate transition risks; and workforce changes. In this paper, we focus on our approach to AI corporate governance and risk management, including key business strategy principles for industries we believe are foundational to successful AI implementation. We also preview several climate and human capital considerations posed by AI, as an introduction to future publications on these topics. Exhibit 1 displays key financially material topics related to AI; we explore how NTAM evaluates both AI suppliers and consumers across these topics.

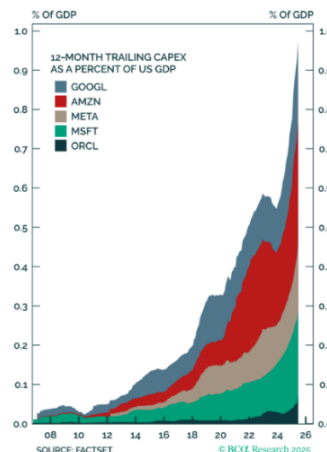
EXHIBIT 1:

AI Areas of Focus



EXHIBIT 2:

Hyperscaler AI Capex Soars²



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1 Source: McKinsey; The cost of compute: A \$7 trillion race to scale data centers

2 Source: BCA Research, Gen AI; The Disruptors and the Disrupted

What are NTAM's Views on AI Governance Risks and Opportunities?

NTAM employs a two-pronged approach when addressing governance and sustainability issues in our clients' portfolios. We combine bottom-up, data driven assessments identifying company-specific risk exposures with a targeted stewardship strategy. NTAM focuses engagements on themes that have the potential to disrupt businesses, industries and value chains.

The dynamic AI landscape requires investors to remain diligent stewards of capital and engage with companies on how they govern the rollout of AI technologies in business operations and client solutions. As AI increasingly performs tasks that historically required human intelligence, prudence in the implementation of these new technologies is imperative.

Currently, there are significant projected opportunities for AI adoption and use, but as the landscape continues to rapidly evolve we must be aware of the direction of travel when it comes to several key opportunities. Primarily, the sheer number of models available in the market – we believe this will move towards further consolidation, leading to fewer players having the opportunity to invent leading solutions. Additionally, we expect significant time spend, effort and costs to be associated with business process reengineering around AI opportunities. AI tools can be relatively affordable but true economic disruption and the potential for improved performance lie within a company's ability to properly oversee business redesign and transformation to leverage the benefits of AI.

Despite AI's ample opportunities, robust risk management must underpin company strategy. We expect companies to have clear AI risk frameworks and guiding principles, overseen by cross-functional management. Effective governance and oversight are essential for companies seeking to harness AI's transformative potential while managing its inherent risks. Through our research and engagement, we are not only looking to see what AI disclosures, including policies, a company has in place, but also to gain a clear understanding of how companies are then implementing those policies across the business.

Overarching all AI risks and opportunities are quickly emerging regulatory frameworks, namely in the U.K., EU, U.S. and China. As investors, we must carefully monitor the AI legal landscape and integrate it in our company analysis and engagement. Differences in regulatory requirements and strength can shape how multinational enterprises are doing business. For example, Apple had to delay the deployment of Apple Intelligence in the EU by nearly a year due to regulatory challenges relating to the EU's Digital Markets Act.

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NTAM's Guidance for Companies on AI Management

When evaluating a company's AI practices, we first seek to identify and understand key risk factors in its approach to AI. This initial phase of research allows us to identify areas of the business that may require additional oversight by management, the board and investors. We take a risk forward approach to identifying key governance areas, which investee companies should be managing. Exhibit 3 outlines material AI governance topics we are prioritizing throughout our company analysis and engagement practices.

EXHIBIT 3:

What are our Key Themes for Engagement on AI Governance?

| | NTAM ENGAGEMENT AREAS AND EXPECTATIONS |
|-----------------------------|--|
| Corporate Governance | <ul style="list-style-type: none"> • For companies where AI is highly material: AI expertise and oversight on the board, and executive management expertise • For companies where AI is material: AI expert within management who regularly reports to the board • Robust cybersecurity and data privacy measures in place, including regular system audits and stress testing, ISO certifications, and cybersecurity insurance • Controls around agentic AI use cases, especially in instances of end-to-end automation • Consideration of ethical, social and climate related impacts |
| Business Strategy | <ul style="list-style-type: none"> • Integration of AI in long term business strategy, models and operational plans • Clear cross-functional collaboration on AI strategy across management • Established AI Risk Framework which is transparent to shareholders and demonstrates thorough governance and assessments of high-risk models being implemented internally or sold to clients, particularly frontier AI models • When material (e.g. the use of AI robotics), detail policies and practices related to physical safety • Proper management of risks related to data consent (e.g. copyrighted content) • Levels or layers of encryption protocols that are in place around models • Tagging of data to classify what is sensitive and policies related to data sharing with third parties • Alignment of AI initiatives with measurable financial and sustainability goals • Assessment of AI competitive positioning |
| Global Policy | <ul style="list-style-type: none"> • Proactive adaptation to the different rapidly emerging regulatory frameworks, globally • Transparency around company participation in public policy efforts on AI • Focus on local community relations and impact assessments of data center construction locations • Clear understanding of potential tariff implications and ability to maintain a flexible supply chain where necessary • Navigation of increasingly restrictive export controls on key AI components • The global impact of US / China trade relations given restrictive regulations and the potential for competing technology infrastructures |
| Economics | <ul style="list-style-type: none"> • Capital investment requirements to develop, deploy and maintain AI solutions • ROI projections at scale • Monetization strategy that is well defined and supported by proper governance mechanisms • Aligning AI initiatives with customer needs and expectations • Clearly defined roadmaps and customer commitments • Macroeconomic implications of AI (e.g. workforce) |

A key risk we consider is data quality. The outcomes of AI utilizing good data has the potential to be revolutionary, however the risks of using poor quality data can be highly detrimental. Imagine a consulting firm is leveraging AI to make recommendations to clients on how they should execute a certain strategy, but the data being used is stale and/or lacking proper quality controls and AI outputs being produced are not reviewed

for hallucinations — such a scenario would produce poor client outcomes and potentially reputational risk.

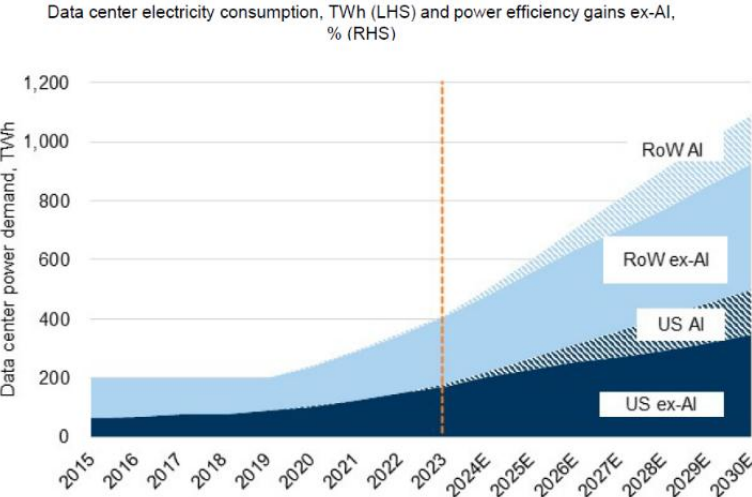
If we are speaking with a company that works with highly sensitive customer data (e.g., healthcare) or maintains critical intellectual property (e.g., software), we would seek further information through company disclosures and engagement on the data privacy and AI model production and review the controls that are in place. This includes implementing human controls throughout processes in order to assess and remedy errors that generative AI is capable of producing via hallucinations and inaccurate outputs.

A lack of data protection measures can lead to direct financial implications. One such example is the EU’s enforcement of General Data Protection Regulation (GDPR) as they are holding companies accountable with record high fines³. While AI infrastructure demand outpaces capacity, and thus an increasing appetite for cloud solutions, implementing and governing commensurate data protection and cybersecurity are of utmost importance.

What about Climate and Human Capital Management?

Current estimates for data center power demand indicate around 165% growth from 2024 to 2030, the equivalent of adding a new top 10 power consuming country⁴. The impact this will have on the current power grid capacity and on natural resources must be managed. We are encouraged by our dialogue with companies such as Microsoft where we discuss in-depth plans around deploying resource-conscious technologies such as liquid-cooling at the chip level to improve water conservation, and sustained commitments to align to a SBTi 1.5 degree future, regardless of increased AI demand. While some companies are exhibiting best in class practices around energy management, we recognize that engaging on environmental considerations with companies that are supplying AI is, and will continue to be, a top priority given the energy intensive nature of deploying this technology. Considering the sizable demand AI suppliers are facing, while they are operating within the current grid structure, we have also seen increasing reliability on diesel and other fossil fuels, as well as plans for nuclear expansion. The inevitable growth in power demand makes NTAM’s stewardship surrounding energy management a key priority, in order to steer companies towards meeting AI needs while still achieving environmental goals.

EXHIBIT 4:
Estimates of Growth in Data Center Power Demand ⁴



3 Source: European Data Protection Board GDPR Fine_2023

4 Source: Masanet et al. (2020), EIA, EMBER, IEA, Cisco, Goldman Sachs Global Investment Research

As for the impact of AI on society at large, particularly the workforce, NTAM is assessing the direction of travel and impact we believe AI will have on knowledge workers and labor forces. We continue to explore the implications of AI related job displacements and realized productivity gains. In an ideal scenario where AI is properly integrated within a workforce, the linearity between a company's hiring and revenue growth would decouple – making it so that increases in revenue would surpass increases in headcount. In order to realize productivity gains, we must look at how companies are training their employees to best utilize AI and incentivizing management to implement AI solutions. We know from engaging with companies that there are many use cases of generative AI being used in recruiting and customer service capacities – making the thoughtful implementation of AI an imperative where external stakeholders have exposure to AI.

While we only scratch the surface of the impact to our environment and global workforce from AI within this paper, future publications will delve further into these deeply important topics. We continue to engage with companies across the AI value chain on how they are managing significant environmental and social risks and will share those insights going forward.

Conclusion

As AI implementations scale over the next couple of years, we see the opportunity for both new revenue streams augmenting growth and lower costs on productivity enhancements driving improved profitability. Equity valuations are influenced by revenue growth rates and profitability levels, so there is potential for AI to generate material investor returns across industries. We see many issuers for whom early discussions on AI governance at the board level build off of the focus on data privacy and security over the last several years.

Many of the biggest spenders on AI infrastructure and related services are currently in the regulatory spotlight, and the popular press has highlighted the potential dangers of "super intelligence," resulting in an early focus on data governance, process management and board oversight in real time as the technology scales.

For technology companies that supply AI, NTAM has the expectation that business strategies are tightly governed so that the significant capital being deployed is backed by clearly defined roadmaps and customer commitments. For companies across sectors that are testing and utilizing AI in their operations, NTAM recognizes the challenges that come with deploying a successful AI strategy and will continue to engage with companies on their ability to navigate these challenges to create a culture of trustworthy AI implementation for their stakeholders. It is our perspective that strong corporate governance of AI is the base of success for any company that is involved in the space, particularly those that are driving some of the key AI technologies and solutions being utilized across the globe. Given that the use of AI may serve as an amplifier of risks, we look for the companies we invest in which are deploying or utilizing AI to have identified risks specific to their business and be able to clearly articulate oversight of those risks to shareholders. We have consistently seen indications that maintaining synchronized implementation of AI across a business, and increasingly sovereign entities, is an imperative. NTAM is prioritizing engagements to help us better ascertain best practices for a sustainable AI strategy and facilitate sharing those insights across investee companies.

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