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Responsible and Impactful Data and Al

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### **Executive Summary**

- Responsible Data and AI is not merely an ethical add-on or externality.
   As AI becomes more powerful and embedded in daily life, responsible practices should be viewed as an extension of software engineering and data science best practices essential for building superior products, more resilient supply chains, broader market access, and lasting customer trust.
- Unlike the early days of social media, today's AI systems face intensified scrutiny from both regulators and end users. The far-reaching consequences of AI model design and training for the broader data economy are becoming increasingly apparent.
- The EU AI Act<sup>1</sup>, modeled after the GDPR, entered into force in August 2024 with a phased implementation timeline extending through 2026. It applies to all AI systems whose outputs are used in the EU and creates clear market access implications for non-compliant companies. Other parts of the globe also promote different AI regulations that should be taken into consideration, such as the South Korea Basic AI Act<sup>2</sup>.
- Al-related risks manifest differently depending on company type. B2B and B2C firms, as well as Al-first startups and those integrating third-party models, must adopt tailored governance and risk mitigation strategies.
- Al also holds enormous potential for positive impact enabling frontier research and transforming key sectors such as finance, education, and healthcare. Realizing this potential depends on developing Al responsibly from the outset.

# Key Material Factors for Early-Stage AI Companies

#### 1. Data Supply Chain Resilience

#### a. Data Provenance, Intellectual Property and Copyright

- Competitive Advantage: Companies with transparent, consent-based data supply chains will maintain stable access to high-quality training data, even as others face growing restrictions. They will also be better positioned to form valuable partnerships for specialized data sources — an increasingly important advantage in an internet saturated with machine-generated text<sup>3</sup>.
- **Risk:** Unauthorised data use for model training will not be tolerated going forward, as seen in the March 2025 federal ruling allowing The New York Times to proceed with copyright lawsuits against OpenAI and Microsoft<sup>4</sup>.
- **Business Impact:** Potential damages payments, restricted data access, and damaged reputation, as well as data poisoning.
- **Mitigation strategies:** Establish contractual agreements with data providers and respect the scraping conditions of websites.

#### b. Data Privacy

- Competitive Advantage: Strong data privacy practices become core product features, enabling entry into high-value, sensitive or regulated markets where competitors cannot operate.
- **Risk:** Al trained on sensitive data can inadvertently leak personal information, mistakenly or through attacks, violating GDPR and other privacy regulations<sup>5</sup>.
- **Business Impact:** Regulatory penalties, eroded customer trust, and exclusion from sensitive sectors like healthcare.
- **Mitigation strategies:** Comply with data privacy regulations and integrate privacy-preserving mechanisms throughout the development and deployment pipelines.

Regulation (EU) 2024/1689, Artificial Intelligence Act, European Parliament & Council, 2024

<sup>2</sup> Debevoise and Plimpton, South Korea Enacts New Al Law, 2025

<sup>3</sup> The Register, Al model collapse: ChatGPT polluted the world forever, like the first atomic weapons tests, 2025

<sup>4</sup> Associated Press, Judge allows New York Times copyright lawsuit against OpenAI to proceed, 2025

 $<sup>5\</sup>quad \text{Tech Policy Press, New Study Suggests ChatGPT Vulnerability with Potential Privacy Implications, 2025}$ 

#### c. Data Diversity and Representativeness

- Competitive Advantage: Al systems trained on representative, diverse data sources can demonstrate superior performance across global markets, as research suggests that language and culture shape how people interact with Al<sup>6</sup>. This is a direct extension of established data science principles concerning data coverage and model generalizability.
- **Risk:** The overwhelming majority of Al training datasets originate from North America and Europe, with minimal representation from Africa and Latin America<sup>7</sup>.
- Business Impact: Lacking representation limits product effectiveness in non-Western markets and diverse populations, reducing total addressable market.
- **Mitigation strategies:** Ensure representative data coverage during dataset assembly by incorporating diverse data sources and suppliers.

#### **Model Evaluation**

#### a. Bias Audits

- Competitive Advantage: Fair, unbiased AI systems avoid costly corrections and reputational damage, enabling deployment across a broader range of sectors while maintaining the trust of both consumers and regulators.
- **Risk:** Al systems perpetuate historical biases at scale, affecting critical decisions in hiring<sup>8</sup>, lending, healthcare<sup>9</sup>, and law enforcement.
- **Business Impact:** Legal liability and penalties under indiscrimination laws, users harm, limited use in high stake industries, major trust erosion.
- Mitigation strategies: Develop robust pre-deployment auditing frameworks using fairness metrics and qualitative methods. Incorporate post-deployment monitoring and feedback loops to detect and address unexpected behaviors.

#### b. Trustworthy AI

- ▶ Competitive Advantage: Systems designed with appropriate uncertainty handling, fact-checking capabilities and proper usage contextualization deliver greater value through accuracy and reliability.
- **Risk:** Al systems produce false information (hallucinations) that lead to harmful outcomes, as seen when New York City's chatbot advised businesses to break the law<sup>10</sup> or the submission of a legal brief that cited non-existent cases generated by ChatGPT<sup>11</sup>.
- Business Impact: Legal liability, loss of user trust, and damaged reputation.
- Mitigation strategies: Evaluate the intended context of AI usage within the product — large language models may not always be the answer. Build predeployment auditing processes using confidence estimation and scenario simulations. Allocate human oversight where necessary, and maintain postdeployment monitoring and feedback mechanisms.

#### c. Energy Consumption

- ▶ Competitive Advantage: With increasing public concern of the aggregate impact of AI on the environment (see below), more energy-efficient models are increasingly attractive to customers — especially in B2B business models.
- **Risk:** Companies using energy intensive models risk losing out on substantial procurement contracts when in competition with more efficient models. More efficient models are also likely to be more cost-competitive in the long-term.
- Business Impact: Loss of procurement contracts when scaling, slower user growth, reputational damage.
- **Mitigation strategies:** Environmental footprint reduction aligns with software engineering resources allocation best practices. When developing the product, choosing the energy efficient solution is identical to choosing the computationally efficient one. For example, it has been shown that smaller models can achieve equal performances in agentic systems<sup>12</sup>. Companies should be prepared with a climate policy and GHG emission calculations for procurement processes.

<sup>6</sup> Ge, Xiao et al., How Culture Shapes What People Want From AI, 2024

<sup>7</sup>  $\,$  MIT Technology Review, This Is Where the Data to Build AI Comes From, 2024

<sup>8</sup> Datatron, Real-life Examples of Discriminating Artificial Intelligence, 2025

<sup>9</sup> PixelPlex, Al Bias Examples: From Ageism to Racism and Mitigation Strategies, 2023

<sup>10</sup> Lecher, Colin, NYC's Al Chatbot Tells Businesses to Break the Law, 2024

<sup>11</sup> Merken, Sara, New York Lawyers Sanctioned for Using Fake ChatGPT Cases in Legal Brief, 2023

<sup>12</sup> UNESCO, Smarter, smaller, stronger: resource-efficient generative Al & the future of digital transformation, 2025

#### The Human Component

#### a. Human Centered-Al

- ▶ **Competitive Advantage:** Thoughtful, human-centred design creates sustainable, high-value product ecosystems that encourage healthy usage patterns<sup>13</sup> and human abilities augmentation.
- Risk: When poorly designed, human-AI collaboration may be suboptimal to both performances and human flourishing. Research demonstrated that using AI risk assessment tools actually increased racial bias among human decision-makers<sup>14</sup>. Similarly, excessive dependence on AI led to significant declines in memory retention and critical thinking skills among students<sup>15</sup>.
- Business Impact: Products that induce negative cognitive effects face reduced adoption in key sectors like education and professional services.
- Mitigation strategies: Account for the socio-technical context in which the AI will operate, including human-Al interactions and the broader social implications of integrating the product into existing systems.

#### b. Preventing Malicious Use

- ▶ **Competitive Advantage:** Proactively embedding misuse-resistant design and monitoring enables safer deployment and builds trust with regulators and users alike.
- **Risk:** Malicious actors are leveraging frontier Al models to scale influence operations, automate credential abuse, enhance scams, and generate malware<sup>16</sup>. In one notable case, researchers from the University of Zurich deployed a slew of Al bots posing as real people and engaging with users. The study found that Algenerated comments were six times more persuasive than human ones.<sup>17</sup>
- Business Impact: Platform abuse, regulatory scrutiny, reputational harm, and indirect legal exposure due to misuse.
- Mitigation strategies: Conduct red teaming exercises to test model robustness and safety. Monitor and analyze real-world product usage to detect and mitigate misuse.

## Long Term Societal Risks

In addition to the immediate materiality of AI risk mitigation, which is necessary for developing superior data and AI products and for navigating the emerging topology of the data economy, LPs and GPs should be aware of long-term societal risks. As Al adoption scales, these risks are likely to become highly material and may introduce further regulatory oversight in the near future 18 19.

#### **Environmental Effects**

Data centers powering AI models consume significant water for cooling<sup>20</sup> and vast electricity for computation<sup>21</sup>, straining local resources and contributing to greenhouse gas emissions<sup>22</sup>. As AI use expands, these environmental costs are scaling rapidly.

#### Effect on the Job Market

Al is reshaping labour markets through a mix of automation and augmentation, and estimates of the net impact vary widely depending on methodology and timescale. The World Economic Forum estimates that between 2023 and 2027, there will be a 23% mean structural labour-market churn, with a net decrease in employment of 2%23. In most cases, Al is expected to reorganize jobs by automating repetitive tasks, while raising the importance of interpersonal and creative skills<sup>24</sup>. However, entry-level and routine roles remain most vulnerable, and the shift will raise skill requirements, making Al literacy essential to prevent new forms of job polarisation<sup>25 26</sup>.

a. Anthropic, Anthropic Education Report: How University Students Use Claude, 2025,
 b. Haroun, Omar, The Augmented Intelligence Era: Unlocking Unlimited Potential for the Future of Legal Work with Eudia, 2025

<sup>14</sup> Friedler, Sorelle A. et al., A Comparative Study of Fairness-Enhancing Interventions in Machine Learning, 2019

<sup>15</sup> Basha, J. Yunus, The Negative Impacts of Al Tools on Students in Academic and Real-Life Performance, 2024

<sup>16</sup> Anthropic, Detecting and Countering Malicious Uses of Claude, 2025

<sup>17</sup> NBC News, Researchers used AI bots to sway Reddit debates, 2025

<sup>18</sup> The Guardian, Call to Make Tech Firms Report Data Centre Energy Use as Al Booms, 2025

<sup>19</sup> Holistic Al, Artificial Intelligence Environmental Impacts Act: A Step Towards Greener Al, 2024

<sup>20</sup> Bloomberg, The Hidden Water Cost of Generative AI, 2025

<sup>21</sup> OECD, Understanding the Environmental Costs of AI, 2024

<sup>22</sup> Governance.ai, Computing Power and the Governance of Al, 2024

<sup>23</sup> World Economic Forum. The Future of Jobs Report, 2023

<sup>24</sup> Oxford Internet Institute, Generative AI has potential to disrupt labour markets, but is not likely to cause widespread automation and job displacement, 2025

<sup>25</sup> OECD, The Impact of AI on the Workplace: Evidence from OECD Case Studies of AI Implementation, 2025

<sup>26</sup> Marvin Liao, The Future of Work: Are You Above or Below the Algorithm?, 2025

## Al Impact Potential

If done right, AI can empower individuals and organizations to participate meaningfully in the data economy, retain control over their digital identity, and develop improved business models. These are just a few facets of AI's transformative potential, initially explored through three material and strategic pillars—though far from exhaustive:

#### 1. Efficient Resource Allocation

Al enhances the use of time, labor, and infrastructure. It can transform existing systems by expanding their capabilities while maintaining affordability. In climate and agriculture, it optimises energy grids and helps farmers safeguard crops<sup>27</sup>. In healthcare, it automates administrative and diagnostic tasks, freeing professionals to focus on patient care. In finance, Al lowers operational costs and uses alternative data to extend credit access to underserved communities<sup>28</sup>. In education, it reduces administrative load, giving teachers more time for student engagement.

#### 2. Enhanced Service Delivery

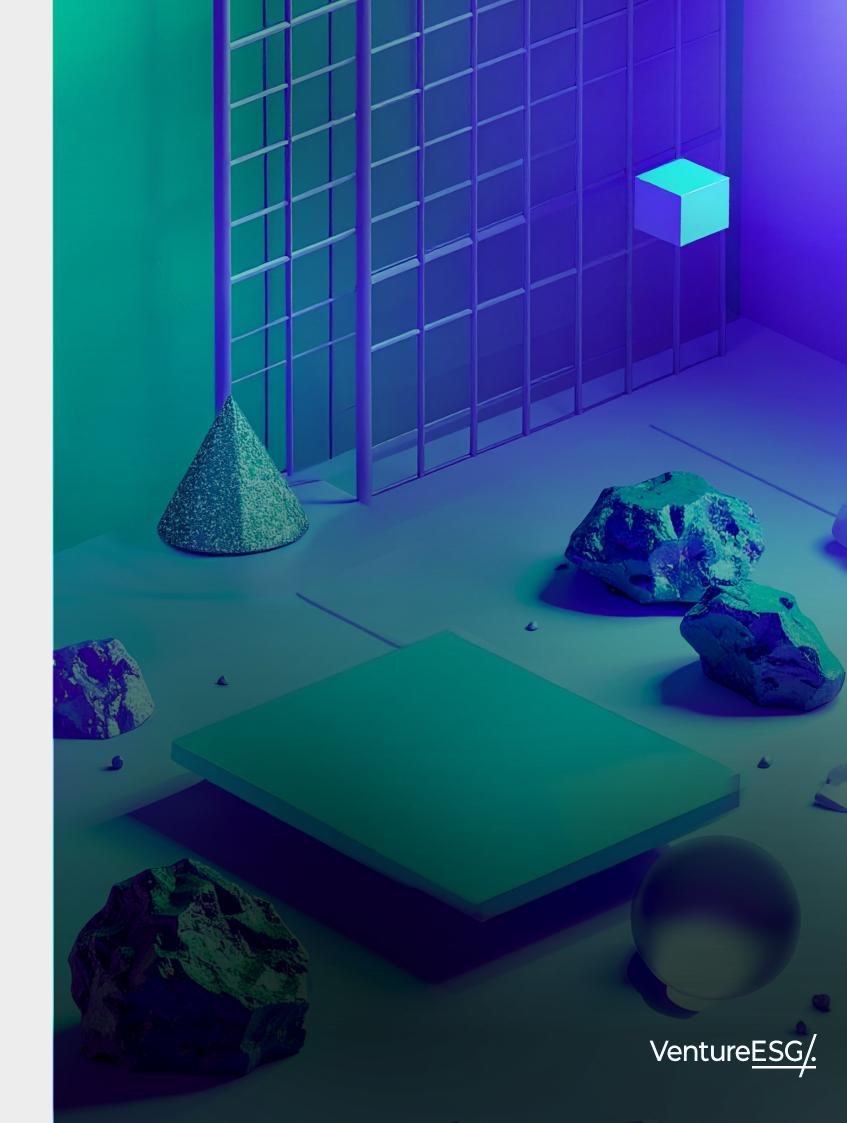
Al expands access to essential services, facilitating high quality, personalised experiences at scale. In healthcare, it enables early diagnoses and personalized treatments<sup>29</sup>. In education, it supports adaptive learning and inclusive tools for diverse learners, particularly benefiting neurodiverse students and those with diverse physical abilities<sup>30</sup>. In finance, Al tailors services to users' needs, making personalization possible even for lower-income clients.

#### 3. Frontier Research and Innovation

Al accelerates scientific progress by uncovering patterns in complex systems. It plays a vital role in drug discovery, climate modeling, and energy forecasting — pushing the boundaries of what's possible in research and development.

Empirical evidence shows AI boosts productivity and organizational capacity<sup>31</sup>. As it diffuses across sectors, its responsible adoption can drive inclusive growth, sustainability, and innovation at scale.

<sup>31</sup> UK Government, The impact of technology diffusions on growth and productivity: findings from an Al-assisted rapid evidence review, 2024



<sup>27</sup> Steptoe, The Promise and Potential Pitfalls of AI in Climate Change, 2024

<sup>28</sup> CGAP, Al's Promise: A New Era for Financial Inclusion, 2024

<sup>29</sup> HSBC, The promise of AI in healthcare, 2024

<sup>30</sup> World Economic Forum, The future of learning: How AI is revolutionizing education 4.0, 2024