

Artificial Intelligence (AI) Leadership: A Research Agenda

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Abstract: Artificial intelligence (AI) is encroaching on human societies and transforming economies around the world. AI Leadership (AIL) responds to the vast impact AI has on human labor, economic markets and society. AIL pays homage to the many benefits AI brings – ranging from efficiency gains, computational ease and longevity. AIL also addresses potential downfalls, risks and costs arising with AI being used to take over human decision-making widespreadly. This article presents three leadership credentials that will become more important in the wake of AI. AIL then makes the case of leadership in AI focusing on three accounts: leadership being enhanced by AI; humans staying on top of AI; and AI being used for governance over time. AI-enhanced human leadership, AI-human oversight as well as AI governance through outsourcing democratic decision making to algorithms will be covered by the costs and benefits of AI for consumers, producers and governance. In a Law & Economics analysis, the advantages and disadvantages of AI will be compared in order to present a framework to harvest the benefits but also vigilantly prepare for coping with the downsides of AI. The discussion offers concrete ways how to enact AIL in the digital millennium.

Keywords: Artificial Intelligence, Costs & Benefits, Cultural Transmission, Ethics, Law & Economics, Public Policy, Workforce Evolution

1. Introduction

Artificial intelligence (AI) refers to computational systems designed to perform tasks that typically require human intelligence – such as learning, reasoning, perception and decision-making (Russell & Norvig, 2021). Advances in machine learning, particularly deep learning, have enabled AI systems to process large-scale data and achieve high performance across domains ranging from healthcare and finance to education and public governance (Brynjolfsson & McAfee, 2017). At the same time, the diffusion of AI raises significant ethical, legal and societal concerns, including issues of bias, transparency, accountability and the future of work and society (Floridi et al., 2018). International organizations emphasize the need for trustworthy and human-centered AI that aligns technological innovation with democratic values and sustainable development goals (OECD, 2019). Consequently, contemporary AI research increasingly integrates technical progress with interdisciplinary frameworks that address governance, ethics and long-term societal impact.

AI offers significant advantages by enhancing efficiency, accuracy and scalability across a wide range of applications, including healthcare diagnostics, financial forecasting, education and public administration (Brynjolfsson & McAfee, 2017). AI systems can process vast amounts of data at speeds beyond human capability, enabling improved decision-making, automation of routine tasks and the discovery of complex patterns that support innovation and productivity growth (Russell & Norvig, 2021). However, these benefits are accompanied by notable disadvantages and risks. AI systems may reinforce or amplify existing social biases when trained on unrepresentative or discriminatory data, raising concerns about fairness and equity (O’Neil, 2016). Furthermore, the data collection that goes into producing LLMs has been questioned with a critical eye on privacy infringement. Opacity of certain AI models challenges transparency and accountability, particularly in high-stakes contexts such as law enforcement and asset allocation (Floridi et al., 2018). Additional concerns include labor displacement due to automation and the concentration of technological power among a small number of firms and governments (OECD, 2019). As a result, the advantages of AI must be

carefully balanced against its potential societal, ethical and economic drawbacks through robust governance and human-centered design.

This paper conceptualizes the idea of AI leadership through three complementary accounts: AI-enhanced leadership, human-centered leadership over AI and AI-supported governance over time.

First, leadership can be enhanced by AI through data-driven decision support, predictive analytics, and automation of managerial tasks, enabling leaders to allocate attention to strategic, creative and relational functions (Brynjolfsson & McAfee, 2017). The possibilities to process information and analyze large data sets almost instantaneously for everyone heralds an unprecedented age of intellectual equality. For instance, studies have shown that ChatGPT use pushes up underperformers more than outperformers, branding it as an equalizer of opportunities within society (Zhang, 2025).

Second, a human-centered account emphasizes that humans must remain “on top of” AI by retaining moral judgment, accountability and contextual understanding – this being particularly important in high-stakes or value-laden decisions where algorithmic outputs alone are insufficient (Floridi et al., 2018). This perspective underscores the need to foster ethical oversight, explainability and leadership responsibility in guiding AI use rather than deferring authority to machines (Rahwan et al., 2019). The active and conscientious use of AI will determine future leadership credentials that need to be honed in today’s students.

Third, AI used for governance over time reshapes the temporal horizon of public decision-making by enabling anticipatory and adaptive policy design, while simultaneously raising profound challenges for democratic accountability, human judgment and value pluralism. AI can be used as a tool for governance over time by supporting long-term policy planning, risk management and institutional learning through continuous monitoring and scenario modeling (OECD, 2019). AI also has the advantage of being non-susceptible to bribery and classic agency problems politicians and policy makers may face (Miller, 2005; Puaschunder, 2022). Uncorrupt AI and the 24/7 availability of AI to dissect complex predicaments and make big data-driven democratic decisions predestine AI to become a vital alternative to contemporary political options and policymakers.

Together, these three accounts frame AI leadership not as a replacement of human authority, but as an evolving socio-technical arrangement in which AI augments leadership capacities, humans preserve normative control and governance structures adapt dynamically to technological change.

2. Artificial Intelligence (AI)

Today, Artificial Intelligence (AI) has permeated almost every sector of society, from medicine to finance, real estate, retail and education (Puaschunder, 2019a, b, c). Artificial Intelligence (AI) accounts for the most significant change of our lifetime. While academics and practitioners capture all sorts of AI features extensively, the idea of AI leadership has not been covered sufficiently. With the European Union halting the 2024 AI Act implementation, the time has come to think through how humans can actively shape AI to stay on top of its multifaceted outcomes.

The idea of AI Leadership (AIL) now acknowledges the dominance of AI in all features of human life, in light of the AI technology revolution taking over human decision-making widespreadly and replacing traditional human labor massively. While there seems to be growing information online on how to use AI and benefit from it, AIL takes a pro-active stance by daring to ask how humans can actively shape and lead AI. At this crucial junction point in time, AIL invites to pose critical questions: What will it take for humans to stay on top of AI? What are key human traits and qualifications that are irreplaceable by AI? How can humans actively shape AI so that society benefit from and blossoms on AI? AIL is a call for research on how to spark AI progress we want to see implemented. AIL targets at breeding a

society that is unafraid to change AI in order to make it better. AIL can be illustrated through concrete examples corresponding to the three main accounts of AI leadership.

First, AI-enhanced leadership is evident in organizations where executives use AI-driven analytics to support strategic decision-making, such as hospitals employing AI systems to assist clinical leaders in resource allocation and diagnostic prioritization, thereby improving efficiency and outcomes while preserving human oversight (Topol, 2019). The resulting widespread efficiency push derived from AI implemented within all sorts of industries is projected to result in two dynamics: First, efficiency within markets will advance while human labor will be pushed towards leading AI and orchestrating AI tools throughout all sectors. In the orchestration, creativity must be maintained and cultivated, as already now we have evidence that creativity decreases with the intensive use of AI (Elgammal, 2026). At the same time, markets will offer financial investment potential as for heightened productivity and efficiency gains. Increasingly, therefore, remuneration will shift towards financial market investment benefits. People will be less likely interested in a corporate employment career but will become more financially investment-savvy to benefit from market efficiency percolating into financial investment profits. These dynamics have the following implications for human labor: First, human labor skills development will shift more into leading AI, adapting to the newest AI trends and orchestrating different AI tools to phase them into the economy. The human-AI harmonization will likely lead to people becoming more rational and normative as LLMs are compared to human traits and failures. AI on its end will likely become more human in being prone to errors and replicate some biases that are not weeded out of AI. Humans will also further explore financial literacy and self-management of financial revenue generation. The upsides of this prospective societal change will be the generation of more time available and the opportunity to follow one's own passion rather than getting instructions to perform repetitive tasks at work. Inequality in ability may be equaled as research already finds AI to be an equalizer of qualifications, given studies showing AI helping those less qualified more than those qualified (Zhang, 2025). The downsides of these developments will be that those with capital will have a natural advantage to reap financial benefits through strategic investments more likely than those who live on debt and cannot participate in financial investments. In this case, redistribution of some of the expected AI-productivity gains to everyone democratically can be enacted, but also targeted means – such as food stamps, poverty reduction programs – can be funded. Early education in financial literacy but also automatic retirement accounts created for each citizen could help spread the gains from the AI transition in the economy beyond traditional means.

Second, human-centered leadership over AI is exemplified by governance, firms and individuals. For instance, the United Nations (UN) has established a High-Level Advisory Body on AI composed of experts from governments, academia, tech, civil society and international organizations. The Advisory Body analyzes global AI risks, opportunities, and governance gaps in order to recommend strategies for international cooperation. The UN also aligns AI development with human rights and the Sustainable Development Goals (SDGs). The Global Digital Compact is a UN-led, non-binding framework adopted by member states that commits to responsible, inclusive use of digital technologies, including AI grounded in international law and human rights. It emphasizes cooperation, digital equity, and shared governance.

Another governance initiative is the European Union Artificial Intelligence Act (Regulation (EU) 2024/1689). This binding EU regulation entered into force on 1 August 2024, with provisions phased in over the next few years. It creates a legal framework to ensure AI systems in the EU are safe, trustworthy, transparent and respect fundamental rights. It is the first law of its kind globally and aims not only to govern AI risks but also to support innovation and investment within the EU single market.

As for company efforts, for instance, Microsoft and Google have established internal AI ethics boards and responsible AI principles to ensure that human leaders remain accountable for algorithmic decisions, particularly regarding fairness, transparency and social impact (Floridi et al., 2018). These initiatives reflect leadership practices that prioritize human judgment and ethical governance over automated outputs.

Third, AI used for governance over time refers to the deployment of algorithmic systems not merely for operational decision-making, but for anticipatory, strategic and longitudinal governance functions. Unlike real-time or transactional AI (e.g., eligibility screening, fraud detection), this form of AI operates at the temporal scale of policy cycles, shaping how governments understand futures, risks and trade-offs. AI used for governance over time can be observed in the public sector, where governments deploy AI for long-term policy planning and regulatory monitoring, such as using predictive models to assess climate risks, financial stability, or public health trends, thereby supporting adaptive and forward-looking governance (OECD, 2019).

The key advantages of algorithms leading are the longevity of AI, quick adaptability to new trends and the massive amount of data, in which decisions can be grounded, cost-reduction and efficiency-gains as well as anti-corruption opportunities to exhibit democratic will efficiently, effectively and ethically. Other potential governance applications of AI are anticipatory policy planning as governments increasingly use AI-driven forecasting and simulation models to project climate-related risks (flooding, heat stress, migration), anticipate demographic shifts (aging populations, labor shortages), model infrastructure needs and fiscal sustainability as well as simulate policy outcomes under different scenarios. These tools enable *ex ante* governance, shifting the state from reactive crisis management toward preventive and adaptive policy design. In regulatory monitoring and systemic risk oversight, AI supports continuous monitoring of complex systems where risks accumulate gradually, including financial markets and systemic instability, environmental degradation and emissions trajectories, supply-chain vulnerabilities and public health surveillance and epidemiological modeling. In this role, AI functions as an early-warning system, detecting weak signals that would be invisible to traditional bureaucratic reporting structures. AI governance structures also offer temporal extension opportunities. While being real-time updated based on big data insights, AI systems can inform decisions whose consequences unfold over years or decades. Governance benefits lie in the improved long-term policy coherence and adaptability based on real-time data tracking. Short-term political biases but also long-term intergenerational transfers can be calibrated and – once aligned – easily extended for a long-time at low costs.

Challenges lie in the ethical imperatives of who monitors the AI, demanding ethical leadership in the public sphere that is more trained in oversight and high-level critical thinking than actual implementation or political campaigning. Flexibility should be granted to avoid ending up on a path-dependent track or crowd out human judgment. Institutional design principles for responsible use to preserve legitimacy and human agency, AI used for governance over time should be embedded within human-in-the-loop oversight, especially for strategic decisions. Explainability requirements should be tailored to policymakers and the public. Scenario pluralism, avoiding single-forecast dominance but also clear attribution of responsibility, should prevent algorithmic dominance.

All these principles resonate with emerging frameworks in the EU AI Act, OECD AI Principles, and UN anticipatory governance discourse. Collectively, these examples demonstrate how AI leadership operates across organizational and institutional contexts by augmenting leaders' capacities, reinforcing human responsibility and enabling more resilient societies and governance structures over time.

3. AI Leadership: A research agenda

The future prospects of AIL point toward increasingly hybrid forms of authority in which human judgment and algorithmic intelligence are deeply intertwined. As AI systems become more capable of real-time learning, scenario forecasting and coordination across complex organizations, leaders are likely to rely on AI not only for operational efficiency but also for strategic foresight and risk management over long time horizons (Brynjolfsson & McAfee, 2017; OECD, 2019). At the same time, the central challenge for future AI leadership will be preserving human agency, ethical responsibility, and legitimacy in contexts where algorithmic recommendations may outperform individual decision-makers in speed or accuracy (Floridi et al., 2018). This tension suggests that effective AI leadership will increasingly depend on leaders' ability to interpret, question and govern AI systems rather than merely adopt them, reinforcing the importance of transparency, explainability and value alignment.

A forward-looking research agenda on AI leadership should therefore be interdisciplinary and multi-level. First, future research should examine how AI reshapes leadership roles, identities and power relations within organizations, including the conditions under which AI augments versus constrains human discretion (Rahwan et al., 2019). Second, scholars should investigate governance mechanisms that ensure accountability and ethical oversight in AI-assisted leadership, particularly in public-sector and high-stakes domains such as finance, healthcare and security. Third, longitudinal and comparative studies are needed to understand how AI-supported leadership affects institutional resilience, trust and societal outcomes over time, including intergenerational and sustainability considerations. Finally, methodological innovation – combining qualitative leadership studies with computational and experimental approaches – will be essential to capture the dynamic, evolving nature of AI leadership. Together, these research directions can help shape a normative and empirically-grounded understanding of AIL that aligns technological progress with human values and long-term societal goals.

4. Discussion

Although AI constitutes one of the most consequential innovations of our time, its implications for society are currently unfolding offering substantial benefits but also significant risks. In particular, the use of AI promises efficiency gains, personalized learning and broader access to knowledge, while simultaneously raising concerns about environmental externalities, ethical governance and long-term intergenerational impacts (Henriksen et al., 2024; Leal Filho et al., 2025). Against this background, this chapter addresses AIL. Future research may unravel the principal benefits and risks associated with the use of AI in order to derive systematic leadership implications. Further research should clarify which legal, regulatory and policy mechanisms are best suited to maximize AI's leadership potential and sustainability with human credentials. As for AI downsides, its environmental footprint, ethical challenges and burdens transferred to future generations should become an additional focal point of future investigations. By answering these questions, the AIL endeavors contribute to a more balanced and policy-relevant understanding of AI that aligns technological innovation with long-term societal welfare.

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