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Artificial intelligence as a strategic inflection point: Implications for firms, industries, and global competitiveness

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INTRODUCTION: AI AS A STRATEGIC INFLECTION POINT

This essay departs from the view of Artificial Intelligence (AI) as a mere technical upgrade, framing it instead as a strategic inflection point for firms, industries, and global competitiveness, our focus is squarely on the rise of generative and emerging agentic AI systems. The discussion is built around five interrelated questions: (1) how AI is fundamentally reshaping managerial processes; (2) the real-world geography of current AI investments; (3) the infrastructure and institutional gaps that threaten to fragment regional competitiveness; (4) an identification of the players currently operating at the technological and organizational frontier; and (5) the strategic hurdles global corporations face as generative and agentic AI rewrite the rules of competitive advantage and governance. Drawing on recent evidence from international organisations, academic research, and policy institutions, the essay argues that AI should be understood not merely as a productivity-enhancing technology, but as a general-purpose strategic infrastructure that reconfigures the very nature of managerial cognition and organizational design.

The past decade has marked a profound shift: AI has evolved from a peripheral automation tool into a central pillar of corporate strategy. While early applications were largely confined to narrow back-office tasks, the explosion of machine learning and agentic systems has radically altered how firms sense market opportunities, allocate resources, and compete globally.

The paper concludes by outlining a research agenda for strategic management and highlighting the need for managers to integrate AI into corporate strategy, governance, and institutional alignment.

Over the past decade, artificial intelligence (AI) has evolved from a peripheral automation tool into a central pillar of corporate strategy and industrial transformation. Early applications of AI were largely confined to narrow automation tasks and decision-support systems embedded in operational and back-office functions. Today, however, the rapid diffusion of machine learning, deep learning, and – more recently – generative and agentic AI systems has fundamentally altered how firms sense opportunities, allocate resources, design organisational processes, and compete across global markets.

This transformation is anything but incremental. AI now exhibits the hallmarks of a general-purpose technology – much like electricity or digitalization – with effects that strike at the foundations of managerial decision-making. The advent of Generative AI has further accelerated this disruption: the ability to generate code, text, and synthetic data at scale has slashed the cost of experimentation. More importantly, emerging agentic systems go beyond content creation to plan and execute tasks with semi-autonomous precision. It is here that the boundary between human judgment and algorithmic action begins to blur, raising urgent strategic questions. Together, these developments challenge established boundaries between human judgment and algorithmic action, raising new strategic, organisational, and ethical questions.

At the same time, AI diffusion is highly uneven. Investment volumes, access to computational infrastructure, availability of specialised talent, and institutional readiness differ markedly across regions and industries. The United States has emerged as the dominant hub of private AI investment and platform development. The European Union has pursued a distinctive path emphasising regulatory leadership and trustworthy AI, while Asian economies display heterogeneous trajectories ranging from large-scale state-supported deployment to highly specialised industrial integration. These divergences are reshaping patterns of global competitiveness and industrial leadership.

Against this backdrop, this introductory essay addresses five interrelated research questions that frame the contributions of this special issue:

What is the actual impact on internal managerial processes? How are global investment volumes truly distributed across regions? What capability gaps risk leaving certain sectors behind? Which firms are genuinely defining the frontier of AI implementation? What strategic challenges should global corporations brace for as these technologies evolve?

By addressing these questions, the essay provides a conceptual and empirical foundation for the papers in this special issue, situating AI at the intersection of strategic management, organisational theory, and institutional analysis.

AI AND THE TRANSFORMATION OF MANAGERIAL PROCESSES

The first research question concerns the impact of AI on managerial processes within firms. Strategic management has long been concerned with how managers process information, form expectations, and make deci-

sions under uncertainty. AI shakes these micro-foundations, reshaping strategy through augmented analytics and new models of human-machine collaboration.

Augmented decision-making and analytics-driven strategy.

AI dramatically expands the scope and speed of managerial analytics. Traditional business intelligence systems primarily supported descriptive and diagnostic analysis, often relying on structured data and retrospective reporting. Contemporary AI systems enable predictive and prescriptive analytics across high-dimensional datasets that include unstructured text, images, audio, and sensor data. Managers can increasingly simulate alternative strategic scenarios, stress-test assumptions, and explore counterfactuals in near real time.

Generative AI further enhances these capabilities by automating cognitive tasks such as drafting strategic documents, summarising large information sets, generating alternative business models, or prototyping marketing and product concepts. Rather than replacing managerial judgment, these tools reshape it. Strategic work shifts from information generation to framing, validation, and interpretation. This evolution supports what may be described as simulation-rich, analytics-driven strategy, in which managerial intuition is systematically complemented – and in some domains challenged – by algorithmic insights.

Workflow reconfiguration and task redistribution.

The adoption of AI is rarely neutral with respect to organisational structure. AI systems redistribute tasks between humans and machines and often require deep re-engineering of workflows rather than simple automation of existing routines. In banking, for example, AI-based credit scoring and anti-money laundering systems alter interactions between risk officers, relationship managers, and compliance teams. In healthcare, AI-assisted diagnostics reshape professional roles, decision rights, and accountability structures among clinicians, radiologists, and support staff.

Empirical evidence suggests that productivity gains from AI depend critically on workflow redesign and organisational learning. AI systems tend to deliver the greatest benefits when integrated into end-to-end processes with clear human oversight, feedback loops, and accountability mechanisms. From a dynamic capabilities perspective, firms that capture sustained value from AI are those that reconfigure routines, governance structures, and incentive systems alongside technological deployment.

Managerial roles and the rise of agentic AI.

AI also transforms the role of managers themselves. By automating routine cognitive tasks – such as report-

ing, scheduling, and documentation – AI can free managerial time for higher-order activities including sense-making, coordination, and stakeholder engagement. At the same time, AI systems increasingly contest managerial judgment, particularly in domains where algorithmic predictions outperform human intuition.

The emergence of agentic AI intensifies these dynamics. Systems capable of planning and executing sequences of actions across digital environments introduce new opportunities for efficiency and scale, but also new risks related to error propagation, accountability, and control. Managers must therefore develop new competencies in AI literacy, model governance, and ethical oversight. Strategic leadership in the AI era increasingly entails the ability to design human–AI systems that balance autonomy and control.

THE GLOBAL INVESTMENT LANDSCAPE: SCALE, GEOGRAPHY, AND CAPABILITY GAPS

The second and third research questions concern the scale and geography of AI investment and the capability gaps that shape regional competitiveness. From a strategic management perspective, these questions cannot be reduced to aggregate spending figures alone. Rather, they concern the co-evolution of capital allocation, computational infrastructure, talent formation, and institutional frameworks.

Institutional datasets consistently show that global AI investment has entered a phase of rapid acceleration combined with strong geographic concentration. Evidence from the Stanford AI Index indicates that private AI investment reached unprecedented levels in 2024 and 2025, with the United States accounting for the dominant share. Investment in generative AI has grown particularly rapidly, reflecting the strategic importance attributed to foundation models and platform-based AI ecosystems.

From a macroeconomic perspective, this is not just a bubble; it is the hallmark of AI's transition into a general-purpose enabling infrastructure. Such technologies are notorious for exhibiting increasing returns, path dependence, and cumulative advantage. In this high-stakes environment, early leaders can consolidate durable advantages through scale effects – leveraging a virtuous cycle of data, compute capacity, talent attraction, and the organizational capabilities needed to exploit them.

The regional map of these investments reveals innovation ecosystems that couldn't be more different. The United States benefits from a unique alignment of deep

capital markets, frontier AI firms, hyperscale cloud providers, and top-tier research universities. This tight coupling between research and entrepreneurship is what allows for the rapid scaling of AI. Europe's landscape, by contrast, remains frustratingly fragmented. Despite a formidable scientific base, private investment continues to lag, while chronic constraints in scale-up financing and access to high-performance computing stifle growth. While Europe has carved out a role as a global leader in AI governance, this regulatory focus raises uncomfortable questions about its ability to scale industrially.

Asia, meanwhile, offers a far more heterogeneous picture. China has solidified its position as a major AI destination, fuelled by state coordination and large-scale deployment. Other advanced Asian economies have opted for a more surgical approach, integrating AI directly into manufacturing, robotics, and smart infrastructure. These trajectories prove that there is more than one way to achieve AI competitiveness, often relying more on domain-specific integration than on frontier foundation models.

Looking across these regions, three capability gaps stand out as critical bottlenecks. First, the concentration of computational infrastructure and chips has created a dangerous dependency on a handful of providers. Second, the acute shortage of specialized AI talent is directly constraining organizational growth. Finally, the divergent institutional and regulatory frameworks are now the primary drivers of the risk–return profile for AI, ultimately dictating where and how firms choose to deploy these technologies.

Looking at global players competition, historically, the trajectory of AI mirrors the early evolution of the automotive industry in the early 1900s or the personal computer revolution of the 1980s, where the sheer scale of investment became the ultimate arbiter of competitive success. In these capital-intensive industries, firm size is not just an advantage – it is a prerequisite. We are seeing this pattern repeat today: while the initial sparks of AGI development ignited within agile startups, the 'gravity' of scale has seen global giants – Google, Microsoft, Apple, Nvidia, IBM, Oracle, and Amazon – swiftly move in. Through a sophisticated mix of equity stakes, strategic alliances, and deep technological integrations, these global players have effectively absorbed AI innovations, embedding them into the core of their competitive models. Ultimately, economies of scale in AI development are now so strategic that only those with the vastest computational and financial resources can realistically define the frontier, turning AI from a startup disruption into a consolidated pillar of corporate dominance.

SECTORAL FRONTIERS: INDUSTRIES AT THE LEADING EDGE

The fourth research question asks which industries and firms are currently at the frontier of AI implementation. While AI adoption is observable across most sectors, evidence suggests that a subset of industries is disproportionately advanced in deploying AI at scale.

Banking, financial services, and insurance represent a leading frontier. AI is deeply embedded in core processes such as credit assessment, fraud detection, compliance, and customer service. Importantly, institutional and supervisory evidence shows that the strategic challenge in this sector is no longer adoption per se, but governance capacity. Firms that can integrate AI within robust risk management, model validation, and accountability frameworks are better positioned to capture value while maintaining trust and regulatory compliance.

Healthcare is another frontier sector, characterised by high potential benefits and stringent constraints related to data quality, safety, and accountability. AI applications span diagnostics, clinical decision support, pharmaceutical research, and hospital operations. However, the effective scaling of AI depends critically on the digital maturity of health systems, data interoperability, and institutional governance. These conditions shape both performance outcomes and liability exposure.

Across sectors, AI adoption tends to be highest in data-rich, knowledge-intensive industries such as software, financial services, and healthcare. Manufacturing and logistics increasingly adopt AI for optimisation and predictive maintenance, while more fragmented and less digitised sectors lag behind. These patterns reinforce the view that AI is complementary to intangible assets such as data, analytics capabilities, and modular IT architectures.

ETHICAL, REGULATORY, AND SOCIETAL CHALLENGES

No serious analysis of AI as a strategic inflection point can avoid the minefield of ethical, regulatory, and societal challenges. These are not externalities; they are core business risks. AI systems can replicate and *amplify* existing biases, spark serious concerns about privacy and surveillance, and introduce dangerous forms of systemic risk. These issues cut straight to the heart of strategic management, directly shaping reputational risk, stakeholder trust, and regulatory exposure.

Around the world, a patchwork of risk-based regulatory frameworks is emerging. The European Union, notably, is trying to balance innovation with the ironclad

protection of fundamental rights. Such frameworks are imposing tough new obligations: transparency, accountability, and stringent human oversight, especially for high-risk systems. For global firms, this is where strategy gets complicated. Regulatory fragmentation across jurisdictions creates immense friction, demanding highly differentiated deployment and governance strategies.

Beyond the boardroom, AI poses existential questions about the future of work. While AI clearly has the power to supercharge productivity and spawn entirely new roles, its effects are brutally uneven across occupations and regions. Firms face strategic choices regarding large-scale reskilling and workforce redesign – choices that will ultimately shape not just their competitiveness, but their very social legitimacy.

FUTURE COMPETITIVENESS IN THE AGE OF GENERATIVE AND AGENTIC AI

The fifth research question concerns the strategic challenges global corporations face as generative and agentic AI evolve. These technologies reshape sources of competitive advantage by lowering entry barriers in some domains while reinforcing scale and platform effects in others.

On the one hand, generative and agentic AI enable new forms of differentiation through proprietary data, domain-specific fine-tuning, and tightly integrated human-AI systems. On the other, widely accessible AI platforms and open-source models commoditise certain capabilities. Firms must therefore make strategic choices about where to build proprietary AI assets and where to rely on external platforms.

Ecosystem dynamics become central. A small number of platform providers control critical AI infrastructures, while downstream firms integrate these capabilities into sector-specific applications. This creates new dependencies and bargaining power asymmetries, alongside opportunities for collaboration and co-innovation. Managing these relationships is a core strategic task.

Agentic AI also introduces new risks related to reliability, security, and systemic dependence. Firms must develop resilience strategies that include diversified suppliers, continuous monitoring, and integration of AI risks into enterprise risk management.

MANAGERIAL AND RESEARCH IMPLICATIONS

Revisiting the five research questions highlights a common theme: AI should be treated as a core strategic

and organisational domain rather than as a technical project. For managers, long-term competitiveness depends on aligning AI investment with organisational capabilities, governance structures, and institutional contexts.

For scholars of strategic management, AI offers a rich research agenda. Future studies can examine how AI reshapes managerial cognition and dynamic capabilities; the conditions under which AI investments generate sustained advantage; the governance of AI ecosystems; and the long-term societal implications of pervasive AI adoption.

By integrating AI into the core concerns of strategic management, this special issue aims to contribute to a deeper, more nuanced understanding of how AI is transforming firms, industries, and global competition.

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