

Artificial Intelligence as a Strategic Tool: Adoption and Impact on Indian Business Management Practices

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ABSTRACT

Artificial Intelligence has rapidly moved from a set of experimental tools to a central strategic capability in Indian businesses. Its influence now extends far beyond automation, reshaping managerial decision-making, organizational design, human-resource practices, operations, supply chains, platform ecosystems, and sustainability initiatives. This paper examines how AI adoption is evolving across sectors and firm sizes in India, highlighting the opportunities created by India's digital public infrastructure but also the constraints due to uneven data quality, workforce readiness, and regulatory uncertainty. The study, based on contemporary research, outlines how AI changes managerial roles, enhances analytical depth, supports new business models, and strengthens ESG performance. It discusses issues such as the risks of bias, over-reliance on algorithms, and concentration of digital power. It concludes with strategic and policy implications for Indian firms looking to embed AI into core management practice and suggest promising directions for future research.

Keywords: Artificial Intelligence Adoption, Digital Transformation, AI-Driven Decision, Human Capital and Organisational Change.

Introduction

In Indian business, AI has moved on from scattered pilots to a strategic lever that reshapes decision-making, organisation design, and capabilities. Its impact is less dependent on algorithms but rather on how leaders integrate AI into strategy, data governance, work design, and sustainability agendas.

Strategic Roles of AI in Indian Firms

• From Efficiency to Transformation

Indian firms typically progress through three overlapping phases:

- **Automation and efficiency** – RPA, chatbots, and basic predictive models to lower cost and error.
- **Analytics-driven decision support** – AI models embedded in pricing, risk, supply chain, and marketing decisions.
- **Business-model and capability transformation** – data- and platform-centric models, personalised services, ecosystem plays built around digital public infrastructure.

Evidence from other contexts shows that a clear AI focus is associated with higher net profitability and operating efficiency, including better returns on marketing spend and even job creation[1]. Digital service innovation that is inextricably linked to AI-enabled learning from customer data tends to improve business performance, again underlining the need to consider AI as part of an integrated strategic architecture rather than as discrete tools[2].

- **Sectoral and Size Patterns in India**

- **IT/ITeS, GCCs, and digital-first firms** are at the frontier, often exporting AI-enabled services and importing global practices.
- **BFSI, telecom, e-commerce, and large manufacturing** use AI in credit, fraud, dynamic pricing, demand forecast, quality inspection, and predictive maintenance.
- **Healthcare, education, agriculture, and public services** probably see more pilot projects and startup activities than scaled institutional adoptions
- **MSMEs** are mostly users of "AI by proxy", meaning through platforms(e-commerce, payments, SaaS), raise questions of dependence and bargaining power.

This dual economy corresponds to recent calls in operations management to investigate how perception, usefulness, and organizational conditions drive AI adoption and value creation in supply chains and operations[3].

AI and the Transformation of Management Practices

- **Decision-making structures and managerial roles**

As Indian firms embed AI into pricing, credit, claims, inventory, and HR decisions, decisions become more data-intensive and model-mediated. Research on decision structures suggests three archetypes for combining human and AI inputs: full delegation to AI, sequential human–AI decision making, and aggregated human AI decisions, each suited to different levels of interpretability, speed, and risk[4].

For Indian managers this implies:

- Designing human in the loop processes for high stakes areas: credit, health, safety.
- Training managers to interrogate, rather than simply accept, model outputs.
- Clearer understanding of the escalation paths when AI recommendations contradict expert judgments.

Generative AI adds further complexity: hallucinations, data training issues, IP conflicts, and bias require organisations to introduce specific governance mechanisms-model validation, content risk policies, audit trails-to keep in line with emerging regulatory expectations regarding data governance and accountability [5].

- **Human capital, HR, and organisational learning**

AI adoption is changing how Indian firms manage human capital:

- AI can enable talent management, performance management, change management, and strategic workforce planning, and these AI-enabled HCD disciplines create perceived net benefits that in turn drive further AI adoption, moderated by organizational culture [6].
- When AI is implemented in HR, it is the strategic intent and strategic HRM practices that serve as the main conduits between the AI tools and improvements in employee engagement and experience, suggesting that HR leaders must frame AI initiatives within the context of a larger strategy and redesign HR processes-not simply install technology[7].

For Indian organisations, this means:

- Building cross-functional "translation" roles linking domain experts, data scientists, and HR.
- Investing in continuous learning platforms and internal academies to keep skills current
- Specific recommendations include clear communications about job losses, and employee involvement in workflow redesign.

- **Communication, collaboration, and hybrid work**

AI-enabled communication and collaboration tools are at the heart of managing distributed workforces in India. Advanced communication technologies' studies show that effective remote coordination depends on how users enact the affordances of communication platforms and that HR and IT must jointly define the rules and norms of use to support timely, accurate problem-solving interaction [8].

In Indian firms, this translates into:

- Choosing integrated collaboration suites, embedding AI features for summarization, translation, meeting analytics, and more into standard workflows.

- Tailor communication norms to job characteristics so that high interdependence, highly creative work benefits most from AI-supported collaboration.

AI in Operations, Supply Chains, and Platforms

• **Operational Excellence and Supply Chain Performance**

Indian firms are increasingly using AI in predictive maintenance, routing, inventory optimisation, and quality control. Artificial intelligence-enabled collaborative models can considerably enhance coordination, transparency, and profitability in fragmented agrarian supply chains. This is demonstrated in tea industry supply chains, where AI works on enhancing predictive analytics, reducing intermediaries, and improving sustainability [9].

For Indian operations managers, key design choices include:

- Where to centralize AI capabilities versus distribute them to the business units.
- How to share data and insights with supply chain partners without eroding competitive advantage.
- How to integrate AI with existing lean, TPM, or quality management systems.

• **Platforms, digital public infrastructure, and ecosystems**

Indian digital public infrastructure-Aadhaar, UPI, Account Aggregators, ONDC, Agriculture and Health Stacks-offer a bouquet of unparalleled opportunities to firms for:

- Build or join platforms that leverage shared identity, payments, and consent rails.
- Convert "by product" operational data into new services using AI: credit scoring for MSMEs, usage-based insurance, and precision advisory services.

Strategic questions for the management include: whether to be a platform owner or complementor, what data to share into public private architectures, and how to navigate evolving data protection and consent regimes.

AI, Sustainability, and ESG-Oriented Management

AI is increasingly part of Indian firms' sustainability and ESG strategies, rather than only an operational tool.

- Firm-level evidence shows that AI adoption can facilitate improvements in environmental, social, and governance performance by mitigating financing constraints, enhancing information transparency, and improving innovation[10].
- AI use is positively associated with green investment as it partly curbs managerial myopia and expands technological options, in particular under younger, better educated, globally exposed CEOs [11].
- Conceptual work on "AI for sustainability" underlines that operational enablement (e.g., energy optimization, waste reduction) and technical capability are needed in concert with clearly defined sustainability objectives and combined with reliable data management and system integration.

For Indian companies grappling with net zero commitments and ESG disclosures, coupled with increasing stakeholder scrutiny, this means:

- Integrating AI into sustainability analytics: carbon accounting, scenario analysis, supply chain risk.
- Embed ESG metrics into AI-driven decision support, such as supplier selection and capital budgeting.
- Ensuring AI-enabled scoring of credit, hiring, and risk does not deepen social inequities.

Opportunities and Constraints Specific to India

• **Structural opportunities**

- Large domestic digital user base and transaction data, augmented with public digital rails.
- Deep IT and analytics talent through IT services, startups, and GCCs.
- Government initiatives on AI missions, sandboxes, and sectoral stacks that the firms can leverage.

These conditions make it possible to use AI as a lever for inclusive growth, for example, by supporting smallholder farmers or MSMEs through AI-enabled credit and advisory services, provided models are adapted to local data and contexts.

- **Structural Constraints**

- Heterogeneous digital infrastructure and skills across regions and firm sizes.
- Fragmented, low-quality data in many legacy organizations.
- Limited investible surplus and risk appetite in MSMEs.
- Regulatory uncertainty due to data localisation, privacy, and sector-specific AI rules.

These constraints reinforce the need for AI-as-a-service and platform models, but in so doing carry other risks, particularly deepening dependency on a small set of large technology and platform providers, both domestic and global.

Managerial and Policy Implications

- **Implications for Indian Business Leaders**

- Anchor AI in clear strategic problems. Start from value pools - margin compression, risk, inclusion, customer experience - and work back to AI use cases, instead of piloting technologies in search of a problem.
- Invest first in data and governance: ownership, standards, processes for data quality, access, privacy, and security; poor data cannot be compensated for by sophisticated models.
- Redefine jobs and responsibilities: Clearly spell out how AI alters tasks, authority, and skills. Deploy AI to enhance human judgment and free people for relational, creative, and integrative work.
- Embed ethics, explainability, and inclusion. Use bias detection, explainability tools, and grievance mechanisms in the design of AI systems, with particular attention to credit, hiring, health, and policing.
- Measure impact and iterate: track financial, operational, ESG, and human capital outcomes of AI initiatives; treat deployments as ongoing learning processes, not one-time IT projects.

- **Implications for policymakers and ecosystem actors**

- Provide sector-specific guidance on high-risk AI uses, and allow regulatory sandboxes.
- Support MSMEs with shared AI infrastructure, open standards, and capability building programmes.
- Align AI policy with data protection, competition and labour market objectives: including safeguards against the potentially excessive concentration of capabilities in AI
- Encourage interdisciplinary education and research that links AI to management, operations, law, and public policy.

Directions for Future Research in the Indian Context

Key avenues for scholarly work include:

- Causal estimates on the impact of AI on productivity, profitability, employment structure, and innovation in Indian firms
- How AI reshapes power, autonomy, and control in Indian organizations, particularly in family businesses and public sector undertakings.
- Distributional effects of AI-mediated decisions on gender, caste, region, and firm size, such as MSMEs in credit algorithms.
- Comparative studies of AI adoption trajectories between India and other emerging economies, and between AI-rich platforms and AI-dependent smaller firms.

Indeed, AI in India is better thought of as a strategic management tool than a discrete technology investment. Its long-term value depends on how effectively Indian firms-and the surrounding policy ecosystem-align AI with strategy, data governance, human capital, and sustainability, while managing new forms of risk and inequality.

Conclusion

No longer an optional technology, the emerging role of Artificial Intelligence has become a decisive strategic tool in shaping competitiveness, organisational capability, and long-term growth for Indian firms. The analysis shows that AI's real value does not lie merely in advanced algorithms but in how leaders integrate AI effectively with strategy, data governance, human capital, work design, and sustainability goals. Accordingly, Indian businesses that treat AI as a part of a broader organisational transformation, rather than just an IT upgrade, show deeper decision-making capability, operational resilience, innovation capacity, and improved ESG outcomes. Meanwhile, fragmented data, skills gaps, ethical risks, and platform dependence bring into light the need for careful governance and thoughtful implementation. Simultaneously, the coexistence of world-class digital infrastructure and uneven digital readiness creates a dual pathway for India: AI-rich firms capable of global competitiveness and AI-dependent MSMEs that may require supportive policies and shared infrastructure. As AI becomes pervasive across sectors in the economy, policymakers will need to strike a balance between innovation and safeguards on privacy, fairness, and competition. Further research is desired on distributional effects, causal productivity impacts, and the changing human-AI relationship in Indian organisational settings. The future trajectory of AI in Indian business management will be decided by how well firms and institutions integrate technological possibilities with human judgment, ethical responsibility, and inclusive development.

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