International Journal of IJTM Technology & Modeling

INTERNATIONAL JOURNAL OF TECHNOLOGY AND MODELING
Volume 3 Issue 3 Year 2024 Pages 138 - 151
e–ISSN 2964-6847
Url: https://ijtm.my.id

Exploring Emerging Trends in AI-Driven Technological Advancements

***Arya Patil, Shweta Yadav, Manish Pandey**
Department of Computer Engineering, Savitribai Phule Pune University, Pune, India

*Correspondence to: *aryapatil@unipune.ac.in*

Abstract: The rapid evolution of Artificial Intelligence (AI) has catalyzed a transformative wave across diverse technological landscapes. This study explores emerging trends in AI-driven technological advancements with a focus on developments within the Indian context. Through a mixed-methods approach combining literature analysis, expert interviews, and case studies from India's tech ecosystem, this research identifies key innovation patterns, adoption drivers, and sector-specific applications of AI technologies. Findings reveal significant momentum in areas such as healthcare diagnostics, smart agriculture, fintech automation, and personalized education, fueled by governmental initiatives, startup growth, and increased academic-industry collaboration. Additionally, the study highlights the challenges of ethical governance, data privacy, and digital divide that accompany rapid AI integration. By mapping the trajectory of AI's evolution in India, this research contributes to a deeper understanding of global AI dynamics and offers strategic insights for policymakers, researchers, and technology developers worldwide.

Keywords: Artificial Intelligence; Emerging Technologies; Digital Transformation; Ethical AI; Innovation Trends.

Article info: Date Submitted: 26/09/2024 | Date Revised: 17/12/2024 | Date Accepted: 27/12/2024

INTRODUCTION

The 21st century has witnessed a profound transformation in the relationship between technology and society, largely driven by rapid advances in Artificial Intelligence (AI)[1][2][3]. As the engine of the Fourth Industrial Revolution[4][5], AI has emerged not merely as a technological tool but as a disruptive force that is fundamentally reshaping economies[6], industries[7], governance systems[8], and everyday human experiences[9]. From autonomous vehicles and intelligent healthcare systems to predictive financial models and personalized educational platforms[10], AI has become a defining feature of contemporary innovation. Its integration across sectors marks a turning point in how societies operate and interact with technology, prompting new discussions on the ethics, governance, and socio-economic consequences of its use.

https://doi.org/10.63876/ijtm.v3i3.140

In the global race for AI leadership, countries are investing heavily in research, development, and implementation strategies[11]. While developed nations such as the United States, China, and members of the European Union dominate global AI benchmarks, emerging economies like India have shown remarkable progress in adapting AI technologies to local challenges. India, with its vast and diverse population, a rapidly expanding digital infrastructure, and a robust innovation ecosystem, represents a unique landscape for studying the application and evolution of AI. Government initiatives like Digital India[12], Startup India, and the National Strategy for Artificial Intelligence have laid the foundation for inclusive and sustainable AI development. Furthermore, India's strategic push to integrate AI in key sectors such as healthcare, agriculture, education, and financial services reflects a vision to harness technology not only for economic growth but also for addressing deep-rooted social inequalities[13].

Several unique factors position India as an emerging leader in the global AI arena. The country's demographic advantage[14] home to one of the youngest and most digitally connected populations in the world creates a massive user base and data ecosystem ideal for AI training and deployment[15]. This is further amplified by the surge of AI-driven startups, particularly in cities like Bengaluru, Hyderabad, and Pune, where tech innovation thrives in synergy with academic research and corporate investment. Prestigious institutions like the Indian Institutes of Technology (IITs)[16] and Indian Institutes of Information Technology (IIITs) have become central hubs for AI research and talent development. Moreover, international partnerships and public-private collaborations have accelerated the pace of AI experimentation, yielding context-specific solutions for complex local problems.

Despite these promising developments, a comprehensive academic exploration of emerging trends in AI within the Indian context remains limited. Much of the existing literature tends to focus on global AI advancements without adequate attention to regional variations or socio-technical dynamics in developing countries. When Indian cases are examined, they are often isolated or sector-specific, lacking a broader analysis of systemic forces driving AI innovation and adoption. Consequently, there is a critical need to investigate how AI technologies are evolving within India's unique socio-economic framework, what trends are emerging across sectors, and what opportunities and challenges lie ahead.

This paper seeks to address that gap by offering a multidimensional analysis of the emerging trends in AI-driven technological advancements in India. It explores how AI is being adopted and innovated across various sectors, identifies the primary drivers—policy frameworks, economic incentives, human capital development, and infrastructural investments—and interrogates the broader implications for society. The study also examines challenges associated with AI adoption, including ethical concerns, data privacy, algorithmic bias, and the digital divide, which remain significant hurdles in ensuring equitable and responsible AI development[17].

To achieve these objectives, this research employs a mixed-methods approach. A systematic literature review forms the basis of the study, supplemented by qualitative interviews with AI experts, policymakers, and industry practitioners. In addition, a series of case studies from sectors such as agriculture, healthcare, education, and fintech provide grounded insights into how AI technologies are being applied to solve real-world problems in India. This methodological triangulation allows for a holistic understanding of the technological, institutional, and societal dimensions of AI evolution[18].

https://doi.org/10.63876/ijtm.v3i3.140

The importance of this research extends beyond national borders. As AI continues to globalize, understanding its development in emerging economies like India is vital to forming a more inclusive and balanced global AI narrative. India's experience can offer valuable lessons for other countries grappling with similar developmental challenges, especially in the Global South. By examining India's approach to AI—its strategies, successes, and setbacks—this study contributes to the broader discourse on how AI can be leveraged for inclusive growth and sustainable development[19].

The insights presented in this paper aim to inform a wide audience, including policymakers, technologists, researchers, and civil society stakeholders, who are engaged in shaping the future of AI. As AI continues to evolve at an unprecedented pace, grounding its development in contextual realities and inclusive practices will be key to ensuring that technological progress translates into meaningful human advancement. This paper, by mapping the emerging contours of AI in India, aspires to support that goal and stimulate further research and policy innovation in this critical domain.

RELATED WORKS

Artificial Intelligence (AI) has emerged as a pivotal technology with the potential to transform industries, societies, and national economies. Over the past decade, numerous studies have explored the trajectory of AI development globally, identifying key trends, challenges, and sectoral applications. A significant body of literature has examined the integration of AI in sectors such as healthcare, agriculture, education, and finance, with a growing focus on the implications for emerging economies.

On a global scale, Brynjolfsson and McAfee highlighted how AI, alongside machine learning and automation, is driving digital transformation across industries and reshaping labor markets [20]. Similarly, Russel and Norvig's foundational work on intelligent agents has laid the theoretical groundwork for understanding AI system capabilities and constraints [21]. Other scholars have emphasized the growing use of AI in automating decision-making processes, data analysis, and user interaction across both public and private sectors [22].

In recent years, the literature has increasingly shifted toward context-specific analyses, recognizing that AI adoption and impact are significantly shaped by regional socio-economic, political, and infrastructural factors. For instance, Floridi et al. investigated ethical implications and governance challenges associated with AI technologies, emphasizing the need for localized regulatory frameworks [23]. Jobin et al. conducted a comparative analysis of AI ethics guidelines and observed significant variability in values, priorities, and enforcement mechanisms across regions [24].

Within the Indian context, scholarly attention toward AI has been growing, particularly in response to national initiatives and the country's burgeoning digital ecosystem. According to the NITI Aayog report, India's national strategy for AI emphasizes inclusive development through AI applications in agriculture, healthcare, education, smart mobility, and governance [25]. This policy-driven agenda has prompted empirical studies on how AI is being localized to meet the country's developmental needs.

https://doi.org/10.63876/ijtm.v3i3.140

For example, Sharma and Kshetri explored the deployment of AI in Indian agriculture, showing how machine learning models are helping improve crop yields and reduce resource usage through predictive analytics [26]. In the healthcare sector, Gupta et al. analyzed the use of AI in diagnostic imaging and disease prediction, demonstrating its potential in bridging gaps in rural health infrastructure [27]. In education, adaptive learning platforms have been examined for their role in personalizing instruction and expanding access to quality content in underserved regions [28].

Several studies have also examined the entrepreneurial and industrial dimensions of AI in India. Sengupta and Mishra reviewed the Indian startup ecosystem and found that AI-focused startups have proliferated across sectors, supported by increased venture capital and government incubator programs [29]. Other research has focused on public-private partnerships, highlighting how collaboration between tech companies, research institutions, and government bodies is accelerating AI research and deployment [30].

However, a notable gap in the existing literature is the lack of an integrated, trend-based analysis of AI development in India. Most research efforts to date have focused on individual sectors or isolated case studies, with limited attention to the broader ecosystem of innovation, policy, and ethical challenges. Additionally, while India's AI strategy is often discussed at the policy level, fewer empirical studies have systematically mapped the actual trends and on-the-ground realities of AI adoption across the country. This gap underscores the need for a more holistic understanding of how AI is evolving in India, what trends are emerging, and how these trends compare with global patterns.

This study seeks to build upon and expand the existing body of knowledge by offering a comprehensive analysis of emerging trends in AI-driven technological advancements in India. By integrating findings from multiple sectors and sources, and applying a multidisciplinary lens, it aims to provide a broader understanding of the opportunities and risks associated with AI development in an emerging economy context.

METHODS

To investigate the emerging trends in AI-driven technological advancements within the Indian context, this study adopts a mixed-methods research design. This approach enables the integration of qualitative and quantitative data to provide a comprehensive and multi-layered understanding of how AI technologies are evolving and being implemented across sectors in India. The methodology comprises three main components: a systematic literature review, semi-structured expert interviews, and sectoral case studies.

The systematic literature review was conducted to establish a foundational understanding of global and local developments in AI. Academic databases such as IEEE Xplore, Scopus, SpringerLink, and Google Scholar were used to source peer-reviewed articles published between 2015 and 2024. Keywords such as "artificial intelligence," "AI in India," "AI trends," "AI adoption," and "emerging technologies" were used in various combinations. Government policy reports, industry white papers, and documents published by Indian think tanks such as NITI Aayog and MeitY were also included to supplement academic findings. Inclusion criteria focused on articles that discussed sectoral applications of AI, AI policy frameworks, and regional case studies relevant to the Indian socio-economic context. The literature review

https://doi.org/10.63876/ijtm.v3i3.140

served not only as a conceptual backdrop but also informed the design of the interview protocol and case study selection.

The second phase involved semi-structured interviews with key stakeholders in the Indian AI ecosystem. A purposive sampling strategy was employed to ensure a diverse pool of participants representing academia, industry, government, and non-profit sectors. A total of 18 interviews were conducted with AI researchers, technology entrepreneurs, policymakers, and executives from AI startups and large tech firms. Interviews were conducted either in person or via video conferencing platforms between November 2023 and February 2024. Each interview lasted between 45 and 60 minutes and followed a flexible guide covering topics such as current AI initiatives, perceived opportunities and challenges, sector-specific use cases, and ethical concerns. All interviews were recorded (with participant consent) and transcribed verbatim. Thematic analysis was then used to code the transcripts and extract recurring patterns, insights, and divergences.

The third component of the methodology involved in-depth case studies of AI applications in four priority sectors identified by the Indian government and corroborated through literature and interviews: agriculture, healthcare, education, and financial technology (fintech). These sectors were chosen due to their high relevance in the Indian development context and the noticeable growth in AI deployments. Each case study focused on a specific organization, project, or initiative using AI technology to solve a defined problem. For example, the case study in agriculture analyzed the use of AI-powered crop advisory systems deployed by Indian agri-tech startups, while the fintech case explored credit scoring models using AI among underserved populations. Data for the case studies were collected through project documentation, interviews with project leads, user feedback, and publicly available impact assessments.

https://doi.org/10.63876/ijtm.v3i3.140

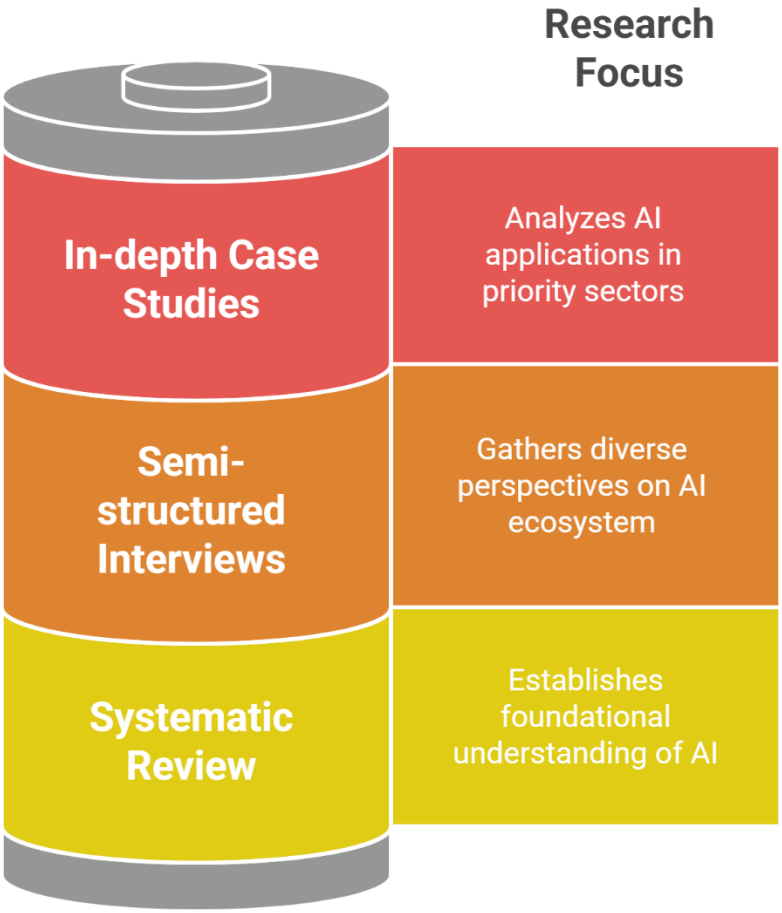

Figure 1. AI research method range from broad to specific focus

Data from all three components—literature, interviews, and case studies—were triangulated to identify overarching trends and contextual factors shaping AI development in India. This integrative approach ensures that findings are not only theoretically grounded but also empirically validated through real-world observations and practitioner insights.

In terms of ethical considerations, informed consent was obtained from all interview participants, and data were anonymized to protect identities. The study adheres to institutional guidelines for ethical research and has received approval from the ethics review board of the lead author's academic institution.

This methodology enables a comprehensive exploration of the Indian AI landscape, providing both macro-level insights and micro-level illustrations of how AI is being applied, adapted, and scaled in a rapidly evolving technological and socio-economic environment.

RESULT AND DISCUSSION

This section presents the key findings from the literature review, expert interviews, and sectoral case studies, followed by a discussion that interprets these results within the broader socio-technical and policy context of India. The insights are organized around five major themes: (1) Sectoral Adoption of AI Technologies, (2) Innovation Ecosystems and Startup Activity, (3)

https://doi.org/10.63876/ijtm.v3i3.140

Role of Policy and Governance, (4) Ethical and Societal Challenges, and (5) Emerging Trends and Future Outlook.

Sectoral Adoption of AI Technologies

The analysis reveals that AI adoption in India is rapidly expanding across critical sectors, with agriculture, healthcare, education, and financial technology leading in deployment. In agriculture, AI is being utilized for crop disease detection, yield prediction, and precision farming. Startups like CropIn and SatSure are using satellite imagery combined with AI algorithms to provide real-time insights to farmers, leading to measurable improvements in productivity and risk mitigation. In healthcare, AI-driven diagnostic tools—such as those used in radiology and pathology—are enhancing the accuracy and speed of diagnoses, particularly in resource-scarce rural areas. Companies like Qure.ai and Niramai are deploying AI solutions for early detection of diseases such as tuberculosis and breast cancer, often at a fraction of the cost of traditional diagnostics.

In education, AI is driving the personalization of learning through adaptive platforms that cater to individual student needs. EdTech firms such as BYJU'S and Embibe are integrating AI to analyze learning behavior and recommend tailored content, thereby improving student engagement and retention. Meanwhile, in the fintech sector, AI is playing a transformative role in financial inclusion. Startups like CreditVidya and PaySense are leveraging alternative data and machine learning to assess creditworthiness, enabling access to microloans for individuals without formal financial histories.

Table 1. Sectoral Adoption of AI Technologies in India: Key Applications, Players, and Impacts

Sector	**Key AI Applications**	**Notable Companies/Startups**	**Impact**
Agriculture	Crop disease detection, yield prediction, precision farming using satellite imagery & AI algorithms	CropIn, SatSure	Improved productivity & reduced risks for farmers
Healthcare	AI-driven diagnostics in radiology & pathology, early detection of TB and breast cancer	Qure.ai, Niramai	Faster, low-cost diagnoses in rural and urban areas
Education	Personalized learning via adaptive platforms, AI-driven behavior analysis for content recommendation	BYJU'S, Embibe	Higher engagement & better learning retention
Fintech	Credit scoring with alternative data, microloan enablement for unbanked populations	CreditVidya, PaySense	Expanded financial inclusion & access to credit

These sector-specific deployments highlight AI's potential in addressing structural challenges unique to the Indian context—such as low infrastructure penetration, income inequality, and educational disparity—while also underscoring the need for scalable, localized innovation.

https://doi.org/10.63876/ijtm.v3i3.140

Innovation Ecosystems and Startup Activity

India's AI innovation ecosystem is being propelled by a vibrant startup culture and increasing availability of venture capital. Data from the Ministry of Electronics and Information Technology (MeitY) shows that the number of AI-focused startups in India has grown by over 50% between 2018 and 2023. Bengaluru, Hyderabad, and Pune are emerging as key hubs for AI innovation, supported by access to engineering talent and proximity to major academic and research institutions.

Table 2. India's AI Innovation Ecosystem: Growth Trends, Hubs, and Key Challenges

Aspect	Details & Data	Implication
Growth of AI Startups	Over **50% increase** in AI-focused startups between 2018–2023 (MeitY data).	Indicates strong momentum in AI entrepreneurship.
Key Innovation Hubs	**Bengaluru, Hyderabad, Pune** – driven by engineering talent, VC presence, and academic proximity.	Regional clustering accelerates innovation and networking.
Academia–Industry Links	Many startups spun out from IITs and IIITs research labs; collaborations increasing.	Strengthens R&D and tech transfer to market.
Challenges	Limited access to quality datasets, high-end computational infrastructure, and late-stage funding.	Early-stage ideas risk stalling before commercialization.

Interview data reveals that collaboration between academia and industry has intensified, with several startups originating from research labs within Indian Institutes of Technology (IITs) and Indian Institutes of Information Technology (IIITs). However, challenges remain in terms of access to quality datasets, computational infrastructure, and mentorship. Many early-stage ventures struggle to move from prototype to scalable product due to limited support in later-stage funding and regulatory navigation.

Role of Policy and Governance

Policy frameworks have played a critical role in enabling AI development in India. The National Strategy for Artificial Intelligence—coined as #AIforAll by NITI Aayog—prioritizes inclusive growth, identifying five key sectors for intervention: healthcare, agriculture, education, smart mobility, and smart cities. Several pilot projects funded under this strategy have provided valuable models for AI integration in public service delivery.

https://doi.org/10.63876/ijtm.v3i3.140

Table 3. Policy and Governance Landscape for AI Development in India

Policy/Framework Aspect	Details	Implication
National Strategy for AI (#AIforAll)	Led by NITI Aayog; prioritizes 5 sectors: healthcare, agriculture, education, smart mobility, and smart cities.	Establishes clear national priorities for AI adoption.
Pilot Projects	Government-funded pilots demonstrate AI integration in public services (e.g., precision farming, telemedicine).	Provides models for scalable implementation.
Regulatory Gaps	Lack of unified framework for AI ethics, safety, and accountability; MeitY guidelines exist but enforcement is fragmented.	Risk of inconsistent standards and public trust issues.
Coordination Challenges	Misalignment between central and state-level initiatives limits equitable distribution of AI benefits.	Need for cohesive, multi-level governance approach.

However, stakeholders interviewed for this study expressed concern over the lack of a unified regulatory framework specific to AI ethics, safety, and accountability. While guidelines on responsible AI have been issued by MeitY, enforcement remains fragmented, and policy often lags behind technological advancement. There is also an urgent need to bridge the gap between central and state-level initiatives, ensuring that AI benefits are equitably distributed across India's diverse regions.

Ethical and Societal Challenges

Despite its promise, AI adoption in India is accompanied by pressing ethical and societal challenges. A recurring theme across interviews was the concern over data privacy, especially in healthcare and fintech applications. Many users are unaware of how their data is collected, stored, and used by AI systems, highlighting a critical gap in digital literacy and informed consent.

Table 4. Ethical and Societal Challenges in AI Adoption in India

Challenge	Details	Implication
Data Privacy	Users, particularly in healthcare and fintech, lack awareness of how their data is collected, stored, and used by AI systems.	Highlights need for stronger privacy regulations and digital literacy programs.
Algorithmic Bias	Bias in credit scoring and recruitment tools may reinforce social or caste inequities due to non-diverse or imported datasets.	Necessitates creation of localized, inclusive training datasets.
Digital Divide	Limited access to internet, smartphones, and AI services in rural or marginalized communities.	Risks widening socio-economic inequalities despite AI expansion.
Informed Consent Gap	Many users do not fully understand or consent to data practices underpinning AI systems.	Calls for clearer guidelines and awareness campaigns on user rights.

https://doi.org/10.63876/ijtm.v3i3.140

Another key concern is algorithmic bias, particularly in credit scoring and recruitment tools, which may inadvertently reinforce social or caste-based inequities. The lack of diversity in AI training datasets—many of which are imported or insufficiently localized—further compounds this problem. Moreover, the growing digital divide remains a systemic barrier. While AI-enabled solutions are expanding, access to the internet, smartphones, and AI-enhanced services is still limited in many rural and economically marginalized areas, risking a widening of existing inequalities.

Emerging Trends and Future Outlook

The analysis indicates several key trends that are shaping the future trajectory of AI in India:

- Hybrid AI Models: Indian developers are increasingly combining symbolic reasoning with machine learning to improve interpretability and domain adaptation in AI systems, especially in healthcare and legal-tech.
- Edge AI and Low-Cost Solutions: Given infrastructure constraints, there is growing emphasis on deploying AI on low-power devices at the edge, enabling real-time analytics without dependence on cloud connectivity.
- Multilingual AI: Projects such as Bhashini (a government-led initiative) are investing in natural language processing (NLP) for Indian languages, addressing linguistic diversity and enhancing access to AI-powered services for non-English speakers.
- Responsible AI Frameworks: Both government and private sector actors are working toward embedding ethical principles in AI system design. There is increasing discussion around explainable AI (XAI), fairness audits, and the development of sector-specific ethical guidelines.

Table 5. Emerging AI Trends and Future Outlook for India's AI Ecosystem

Trend	**Description**	**Implication for Future AI Development**
Hybrid AI Models	Combines symbolic reasoning with machine learning for better interpretability and domain adaptation (notably in healthcare & legal-tech).	Improves trust, explainability, and sector-specific usability.
Edge AI & Low-Cost Solutions	AI deployed on low-power devices to enable real-time analytics without cloud dependency.	Expands AI access in areas with limited infrastructure.
Multilingual AI	Initiatives like **Bhashini** focus on NLP for Indian languages to address linguistic diversity.	Enhances inclusivity and reach of AI services for non-English speakers.
Responsible AI Frameworks	Efforts toward embedding ethics, explainable AI (XAI), and fairness audits into AI design.	Builds public trust and ensures ethical deployment across sectors.

https://doi.org/10.63876/ijtm.v3i3.140

Collectively, these trends point to a maturing AI ecosystem in India—one that is increasingly localized, socially conscious, and innovation-driven. Yet, the successful realization of AI's potential will depend on sustained investment in digital infrastructure, human capital, and regulatory coherence.

CONCLUSION

This study has explored the multifaceted landscape of AI-driven technological advancements in India, revealing a dynamic interplay between innovation, policy, and socio-economic imperatives. By employing a mixed-methods approach that integrates systematic literature review, expert interviews, and sectoral case studies, the research provides a comprehensive overview of how artificial intelligence is being adopted, localized, and scaled across key sectors such as agriculture, healthcare, education, and fintech. Findings indicate that India is witnessing a rapid and sectorally diverse adoption of AI technologies, driven by a combination of entrepreneurial energy, government initiatives, and pressing development needs. Startups and established enterprises are increasingly utilizing AI to address systemic inefficiencies, enhance service delivery, and promote inclusive growth. At the same time, policy frameworks—such as NITI Aayog's National AI Strategy—have played an enabling role in shaping a forward-looking AI ecosystem, although challenges remain in regulatory consistency and ethical oversight. The study also uncovers critical concerns that merit immediate and sustained attention. Issues such as data privacy, algorithmic bias, infrastructural disparities, and the digital divide pose significant barriers to the equitable deployment of AI solutions. Without proactive measures to address these challenges, the transformative potential of AI risks being unevenly distributed, thereby reinforcing existing social and economic inequities. Emerging trends such as edge AI, hybrid models, multilingual NLP, and responsible AI frameworks suggest that the Indian AI landscape is evolving toward greater contextual sensitivity and ethical awareness. These trends not only reflect technological advancement but also a growing recognition of the need to align innovation with the country's diverse and complex socio-cultural fabric.

REFERENCES

[1] X. Zhong, J. She, and X. Wu, "Tech for social good: Artificial intelligence and workplace safety," *Technol. Soc.*, vol. 79, p. 102745, Dec. 2024, doi: https://doi.org/10.1016/j.techsoc.2024.102745.

[2] J. wang, A. Wang, K. Luo, and Y. Nie, "Can artificial intelligence improve enterprise environmental performance: Evidence from China," *J. Environ. Manage.*, vol. 370, p. 123079, Nov. 2024, doi: https://doi.org/10.1016/j.jenvman.2024.123079.

[3] M. Tao, "Digital brains, green gains: Artificial intelligence's path to sustainable transformation," *J. Environ. Manage.*, vol. 370, p. 122679, Nov. 2024, doi: https://doi.org/10.1016/j.jenvman.2024.122679.

[4] J. C. Brada and J. Park, "The fourth industrial revolution: Implications for the global economy and for the strategic competition between the United States and China," *Asia Glob. Econ.*, vol. 4, no. 2, p. 100097, Jul. 2024, doi: https://doi.org/10.1016/j.aglobe.2024.100097.

[5] H. R. Matjokana and O. O. David, “The effects of the fourth industrial revolution on employment in South Africa: Variance decomposition analysis,” *Technol. Soc.*, vol. 77, p. 102522, Jun. 2024, doi: https://doi.org/10.1016/j.techsoc.2024.102522.

[6] Y. Qu and S. Fan, “Is there a ‘Machine Substitution’? How does the digital economy reshape the employment structure in emerging market countries,” *Econ. Syst.*, vol. 48, no. 4, p. 101237, Dec. 2024, doi: https://doi.org/10.1016/j.ecosys.2024.101237.

[7] J. Schoales, “Competing in the creative industries: Two-sided networks and the case of Hollywood,” *City, Cult. Soc.*, vol. 28, p. 100439, Mar. 2022, doi: https://doi.org/10.1016/j.ccs.2021.100439.

[8] C. M. Fumero-Andreu, M. J. Zetina-Rejón, J. A. Zepeda-Domínguez, M. Rodríguez-Fuentes, and L. C. Kluger, “Resilience of the governance systems of two MSC certified fisheries in northwestern Mexico,” *Ocean Coast. Manag.*, vol. 255, p. 107238, Sep. 2024, doi: https://doi.org/10.1016/j.ocecoaman.2024.107238.

[9] Z. N. González-Flores and M. Organista, “Exploring the interactions between society, wellbeing and urban spaces: An investigation of safety and morphological attributes focusing on human experiences,” *Wellbeing, Sp. Soc.*, vol. 8, p. 100246, Jun. 2025, doi: https://doi.org/10.1016/j.wss.2025.100246.

[10] L. DuBose *et al.*, “Development and Evaluation of a Web-Based Platform for Personalized Educational and Professional Assistance for Dementia Caregivers: Proposal for a Mixed Methods Study,” *JMIR Res. Protoc.*, vol. 13, p. e64127, Aug. 2024, doi: https://doi.org/10.2196/64127.

[11] S. Ghosh, “Developing artificial intelligence (AI) capabilities for data-driven business model innovation: Roles of organizational adaptability and leadership,” *J. Eng. Technol. Manag.*, vol. 75, p. 101851, Jan. 2025, doi: https://doi.org/10.1016/j.jengtecman.2024.101851.

[12] N. Saini and R. Kharb, “Empowering sustainable development through digital transformation: insights from digital India,” *J. Asia Bus. Stud.*, vol. 19, no. 3, pp. 606–634, Jun. 2025, doi: https://doi.org/10.1108/JABS-07-2024-0408.

[13] T. Zhao, “Mind the Gap: Understanding Gender Inequality in Movie Industry using Social Network Analysis and Machine Learning,” in *2019 International Conference on Information Technology and Computer Application (ITCA)*, IEEE, Dec. 2019, pp. 100–106. doi: https://doi.org/10.1109/ITCA49981.2019.00030.

[14] R. Sarwal, H. Bhargav, and B. Narayanan Gopalakrishnan, “Export of evidence-based wellness services: An opportunity to actualize India’s demographic dividend,” *J. Ayurveda Integr. Med.*, vol. 16, no. 3, p. 101153, May 2025, doi: https://doi.org/10.1016/j.jaim.2025.101153.

[15] P. Pandey, “Digital Sovereignty and AI: Developing India’s National AI Stack for Strategic Autonomy,” *Procedia Comput. Sci.*, vol. 254, pp. 250–259, 2025, doi: https://doi.org/10.1016/j.procs.2025.02.084.

[16] P. Choudhury, I. Ganguli, and P. Gaulé, “Top Talent, Elite Colleges, and Migration: Evidence from the Indian Institutes of Technology,” *J. Dev. Econ.*, vol. 164, p. 103120, Sep. 2023, doi: https://doi.org/10.1016/j.jdeveco.2023.103120.

[17] P. Zhang, K. Jayakar, R. Taylor, and C. Liu, “Same goal, different paths: Contrasting

approaches to AI regulation in China and India," *Telecomm. Policy*, p. 103019, Jun. 2025, doi: https://doi.org/10.1016/j.telpol.2025.103019.

[18] B. Wei, "A Comparative review of Symbolism and Connectionism in AI&Law: Tracing evolution and exploring integration," *Comput. Law Secur. Rev.*, vol. 58, p. 106166, Sep. 2025, doi: https://doi.org/10.1016/j.clsr.2025.106166.

[19] M. Zaqout, F. Martins, M. Koch, M. Hansford, and P. Parikh, "Engineering knowledge: the Institution of Civil Engineers and the UN Sustainable Development Goals," *Proc. Inst. Civ. Eng. - Civ. Eng.*, pp. 1–12, Jun. 2025, doi: https://doi.org/10.1680/jcien.25.00004.

[20] W. N. Lekfuangfu and V. Nakavachara, "Reshaping Thailand's labor market: The intertwined forces of technology advancements and shifting supply chains," *Econ. Model.*, vol. 102, p. 105561, Sep. 2021, doi: https://doi.org/10.1016/j.econmod.2021.105561.

[21] L. Peng *et al.*, "Human-AI collaboration: Unraveling the effects of user proficiency and AI agent capability in intelligent decision support systems," *Int. J. Ind. Ergon.*, vol. 103, p. 103629, Sep. 2024, doi: https://doi.org/10.1016/j.ergon.2024.103629.

[22] O. Agbabiaka, A. Ojo, and N. Connolly, "Requirements for trustworthy AI-enabled automated decision-making in the public sector: A systematic review," *Technol. Forecast. Soc. Change*, vol. 215, p. 124076, Jun. 2025, doi: https://doi.org/10.1016/j.techfore.2025.124076.

[23] A. Shahiwala, "AI in personalized medicine: Bridging ethical and regulatory gaps in resource-limited settings," *Heal. Policy Technol.*, vol. 14, no. 5, p. 101052, Sep. 2025, doi: https://doi.org/10.1016/j.hlpt.2025.101052.

[24] Y. Xu, F. Deng, and Q. Feng, "The effect of tax enforcement digitalization on corporate digital transformation: Evidence from China's listed companies," *Econ. Anal. Policy*, vol. 85, pp. 1105–1134, Mar. 2025, doi: https://doi.org/10.1016/j.eap.2025.01.008.

[25] K. Xi and X. Shao, "Impact of AI applications on corporate green innovation," *Int. Rev. Econ. Financ.*, vol. 99, p. 104007, Apr. 2025, doi: https://doi.org/10.1016/j.iref.2025.104007.

[26] S. Albahli, "Predictive Analytics for Diabetic Patient Care: Leveraging AI to Forecast Readmission and Hospital Stays," *Comput. Model. Eng. Sci.*, vol. 143, no. 1, pp. 1095–1128, 2025, doi: https://doi.org/10.32604/cmes.2025.058821.

[27] A. M. Magnus and P. Advincula, "Those who go without: an ethnographic analysis of the lived experiences of rural mental health and healthcare infrastructure," *J. Rural Stud.*, vol. 83, pp. 37–49, Apr. 2021, doi: https://doi.org/10.1016/j.jrurstud.2021.02.019.

[28] E. Tharalson, M. Morgan, D. Ilchak, D. Sebbens, and L. Shurson, "Innovative Digital Pedagogy: Adaptive Learning Platform Integration in Nurse Practitioner Curriculum," *J. Nurse Pract.*, vol. 19, no. 10, p. 104773, Nov. 2023, doi: https://doi.org/10.1016/j.nurpra.2023.104773.

[29] M. B. Imerman and F. J. Fabozzi, "Quantifying disruption in the age of AI: An AI-based approach to evaluating startup innovation and investment potential," *Financ.*

Res. Lett., vol. 82, p. 107491, Sep. 2025, doi: https://doi.org/10.1016/j.frl.2025.107491.

[30] M. Farzadmehr, V. Carlan, and T. Vanelslander, "AI project portfolio ranking in port and maritime industries: a novel framework for assessing deployment complexity," *Transp. Eng.*, vol. 21, p. 100370, Sep. 2025, doi: https://doi.org/10.1016/j.treng.2025.100370.

https://doi.org/10.63876/ijtm.v3i3.140