

The Bharatiya AI Model: Building India's Next Economic Revolution Through Ethical Artificial Intelligence, Integral Humanism, and Civilizational Values

Dr. Jay Dhruv

Academician, Innovator & Researcher

Email - jdhrv0@gmail.com

Address - Patan, North Gujarat, India. Pincode -384 265

Abstract

Background: India's move to artificial intelligence is part of a wider digital tech transformation of enhanced public digital infrastructure, platform-based finance, widening connectivity, and fast-growing technology services base. India's challenge is not just to enhance productivity. It is also to make sure that algorithmic systems advance dignity, inclusion, fairness, transparency and democratic accountability. This article presents a Bharatiya AI Model of human-centric economic development by engaging ethical artificial intelligence with the normative framework of Integral Humanism. The methodology of the study is based on mixed secondary research comprising literature-based conceptual analysis, secondary data extraction, descriptive statistics, CAGR estimation, comparative indexing, limited correlation analysis, and scenario-based projection. Public reports and databases from MeitY, IndiaAI, NITI Aayog, TRAI, NPCI, RBI, World Bank, ILO, OECD, UNESCO, NIST, Stanford HAI, and NASSCOM will be the key data sources. According to the findings, the volume of UPI transactions increased from about 12.5 billion in FY2020 to 185.8 billion in FY2025. In the same period, total internet subscribers grew from 743.19 million in March 2020 to 969.10 million in March 2025. The analysis shows that the best AI opportunity for India is the one where AI is a public capability and not only a private automator. Simultaneously, the need for auditability, explainability, grievance redressal, and humans in the loop is necessary for high-risk domains such as healthcare, welfare delivery, finance, and public administration. The case for an AI pathway to help India effectively provide innovation but maintaining data sovereignty; help re-skill workers; hold institutions accountable; keep various sectors safe; and remain Antyodaya-oriented in inclusion. The Bharatiya AI Model being proposed, values development logic in which technological advancement is assessed in terms of its contribution towards fulfilment of human dignity, social

justice, productivity and sustainable national self-reliance.

Keywords

Ethical Artificial Intelligence; Integral Humanism; Bharatiya AI Model; India's Digital Economy; Responsible AI; Human-Centric Development; AI Governance.

1. Introduction

Artificial intelligence is a general-purpose technology that has moved from a specialist IT sector to the ability to change production, exchange, public administration and everyday decision-making. In India, this change is occurring alongside a proliferation of digital public infrastructure, biometric identity, mobile connectivity, interoperable payments, and cloud services, and an increasingly data-intensive state. As a result, a single technology diffusion is not the entire policy significance. AI might alter the distribution of credit and welfare, advice farmers on agriculture and allocation of medical attention. If such systems are not designed and deployed are not governed responsibly, they may also intensify inequality, automate exclusion, reproduce data bias, displace tasks, erode privacy and weaken accountability (NITI Aayog, 2021a; UNESCO, 2021).

When it comes to artificial intelligence (AI), the Indian question is not whether we need to adopt it but rather what kind of AI we must adopt, who will adopt it, for what purposes, and under which moral and institutional constraints? According to a report by National Institute of Standards and Technology (NIST), discussions on global governance of AI increasingly focus on trustworthy AI alongside risk management, accountability, transparency, privacy, safety and fairness. (2023) Organisation for Economic Co-operation and Development (OECD), (2024). According to the authors, the principles in emphasis, such as the right to a being, freedom of expression, the need to draw the line at the inciting of intergroup hatred, and protecting national security and territorial integrity, are necessary to secure democracy and human rights in India. But this is not sufficient for the country unless they are connected with social realities – Linguistic diversity; rural-urban divides; informal employment; uneven digital capability; regional inequality; need for last-mile delivery of public goods etc. If the development of A.I. technology is purely market led, certain sectors could raise productivity without regard for those that do not have data visibility, bargaining power or digital literacy.

The paper argues that Integral Humanism can offer a culture-based philosophical and conceptual framework for imagining AI-led development. The idea of development must not be reduced to income growth, consumer choice, technological power alone. According to Upadhyaya (1965/2014), the whole person must be considered and the ethical interdependence of individual, society, nature, and nation. The Bharatiya AI

Model that we propose here does not reject global standards. It instead offers a translation of responsible AI, development oriented towards dignity, Antyodaya, social justice, data trust, innovation and sustainable self-reliance. The core argument is that the next twenty years of economic growth of India should be fostered by human-centric AI and not automation whereby people are thought of as residual variables.

2. Context and Justification

Digital transformation is key to India's economic transformation. Public digital infrastructure enables identity verification, direct benefit transfers, digital payments, platform-based service delivery and new forms of data-driven entrepreneurship. As per MeitY's estimation, India's digital economy has reached around 11.74 percent of the national income in 2022-23. With a size of Rs. 31.64 lakh crore, it is likely that the digital economy may become nearly one-fifth of the national income by 2029-30 (MeitY, 2025a). This AI foundation is developed by the expansion as AI needs data flows, interoperable systems, computing capability, institutional demand and skilled labour.

There has been an important policy shift from scattered adoption to ecosystem building with the IndiaAI Mission. The Indian government approved the mission at an outlay of more than Rs. 10,300 crore which covers compute capacity, datasets, application development, start-up financing, future skills, and safe & trusted AI components (MeitY, 2024a). The stated orientation of 'making AI in India' and 'making AI work for India', it is argued, is critical, as India's development needs differ from countries in which AI policy is largely framed around frontier model competition or consumer-platform regulation. India is in need of models for low-resource languages, agricultural extension, public health, climate adaptation, financial inclusion, and skilling.

First, there is no digital sovereignty without a model of autonomous underlying technology. The first feature is the way that AI is increasingly embedded in public and private decision-making impacting rights, livelihood and access to service. So its governance must safeguard constitutional values and procedural fairness. For India to avoid over-reliance on foreign platforms, strategic capacity is required in compute, datasets, talent and open innovation. The impact of AI on jobs will not be equal. For example, while generative AI could enhance many jobs, the technology is also able to reorganize clerical, service, data-entry, content-writing, compliance and analytical activities (International Labour Organisation [ILO], 2023; 2025). Fourth, AI's social legitimacy will hinge on whether ordinary citizens experience it as an instrument of empowerment rather than surveillance, exclusion, or opaque control. Through Integral Humanism, these arguments can be framed around two concepts. You have the dignity of the whole person and the welfare of

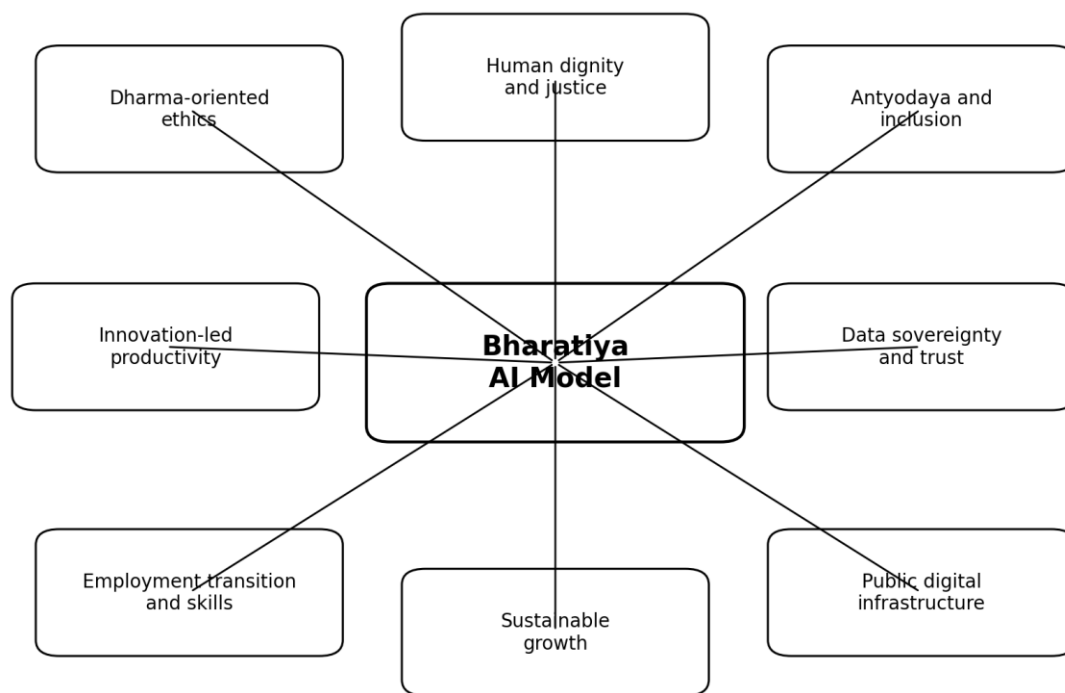
the last person.

3. Conceptual Framework of Bharatiya AI Model.

A prescribed mechanisation framework for realising human values in the AI-led economic transformation is unveiled through Bharatiya AI Model. It regards AI as a social technology with on-the-ground capabilities, given by institutions, law, market, community and ecological constraints. Their aim is not to conceive a nostalgic or closed-in model, but rather to formulate the ethical conditions by which the innovation becomes a development. The model draws on worldwide responsible AI principles while prioritizing development concerns of India—Antyodaya, pluralism, livelihood, accessibility, linguistic diversity, rural development, digital public goods and national capacity.

The first pillar is the ethical governance of dharma. In a policy context, dharma is interpreted not as sectarian doctrine but as duty, restraint, responsibility and public reason. Harm limitation, proportionality, accountability and safeguards against harm should be designed to AI systems with a legitimate purpose. The human dignity and social justice is the second pillar. Citizens should not become data points, and their rights should not be determined by a black box algorithm. The final component, Antyodaya, demands that AI includes the centre of its design and decision-making the poorest and most forsaken groups through local language interface, assistive design technologies, delivery of welfare, application in agriculture and health care, and more.

Innovation-led productivity is the fourth pillar. In order to achieve inclusive growth, India must raise productivity in manufacturing, services, agriculture and public administration. The fifth pillar of the framework envisages a secure governance of data and privacy for facilitating accountable data sharing arrangement under laws such as the Digital Personal Data Protection Act, 2023 (Government of India, 2023). The sixth pillar focuses on changing employment through skilling, thus ensuring that AI is treated as a complement to human capability. According to the seventh and eighth pillars social wellbeing must be allowed above sustainable growth. Collectively, these drivers make ethics a design condition, rather than an afterthought.



Ethics, innovation and human values as co-equal design requirements

Figure 1. Conceptual framework of the Bharatiya AI Model.

4. Review of Literature

4.1 Responsible and Ethical AI

The recent literature on AI governance indicates a transition from principles to mechanisms. According to UNESCO, (2021) “the Recommendation on the Ethics of Artificial Intelligence aims to put human rights at the heart of the governance of AI”. The revised principles laid out by the OECD place equal emphasis on inclusivity, human-centricity, transparency, robustness, and accountability, while calling attention to the risks of generative AI. The NIST AI Risk Management Framework defines useful concepts relevant to trustworthy AI, including validity, reliability, safety, resilience, privacy, fairness, explainability and accountability (NIST, 2023).

Implementation is a major gap in this literature. As per Schiff et al. 2020, many organizations endorse principles of responsible AI yet struggle to turn them into institutional practice. Dignum (2022) makes a similar argument that responsible artificial intelligence must consider the following: why systems are built, who is involved in their design and how they are embedded in society. Lu, Zhu, Xu, and Whittle (2022) argue

for the importance of system-level design patterns and not merely algorithmic fairness metrics for responsible AI. For India, it means that procurement standards, impact assessment, grievance mechanisms, audit trails and public participation should be part of ethical AI, and not just high-level ethical statements.

AI Governance in India

The dialogue for responsible AI policy in India evolved from NITI Aayog's AI for All approach and the further operationalisation discussion that followed it. As per NITI Aayog (2021a, 2021b), the principles of safety and reliability, equality and inclusivity, non-discrimination, privacy and security, transparency and accountability, protection of human autonomy. The 2022 Responsible AI for All document sought to move these principles towards adoption by public and private actors (NITI Aayog, 2022). The IndiaAI Mission applies this line of reasoning by investing in compute, datasets, applications, skilling and safe and trusted AI (MeitY 2024a). The 2025 issued guidelines on AI at India stress data management, algorithmic transparency, risk classification, responsible generative AI, safety testing, human oversight and grievance redressal (MeitY, 2025b).

India's AI governance is distinct from the EU's statute-centred regulatory architecture and the US' framework-led risk management orientation. The European Union Artificial Intelligence Act establishes a comprehensive risk-based legal framework for AI and came into force in 2024 (European Parliament and Council, 2024). NIST (2023) describes this document as voluntary and management-oriented. China has switched to a more state-centered regulatory approach that includes interim measures for generative AI services. India has not matured its architecture yet; this is an opportunity for policy to converge risk-based governance with public digital infrastructure and developmental outcomes.

AI and Economic Development as well as Labour.

According to the AI Index 2025, there has been a significant rise in AI investments and organisational adoption globally, including a significant increase in generative AI investment and use by firms (Maslej et al., 2025). According to NASSCOM and BCG, India's AI market could reach USD 17 billion by 2027. In that scenario, the market will be on a growth path of 25-35% per year, equipped with a large base of AI skilled workforce (NASSCOM & Boston Consulting Group [BCG], 2024). The economic potential is great but the labour-market effects must be treated with caution. According to studies by the International Labour Organization (2023, 2025), generative artificial intelligence (AI) is less likely to eliminate jobs and more likely to change job duties and enhance jobs. However, exposure is not uniform depending on occupation, gender, income group, and skill level.

A transition approach is supported by literature. India should not view AI simply as a job-destroying technology or a frictionless growth engine. The pertinent policy question is how workers, MSMEs, students, farmers and public sector employees will acquire AI-complementary capabilities. There is already an emerging public-private skilling infrastructure as highlighted by FutureSkills Prime and related skilling initiatives. Nonetheless, a stronger link between curricula, industry demand, public employment services and regional language learning systems are required for scale of transition (MeitY, 2025c; NASSCOM, 2025).

Integral Humanism and Human-Centric Development

Integral humanism offers philosophical views against the narrow economic thinking. Its emphasis on the whole person resists the tendency to evaluate development only through output, consumption or state power. When applied to Artificial Intelligence (AI), the term “good” suggests that technology should promote human flourishing, social cohesion and moral responsibility. The Antyodaya approach is especially pertinent, as any policy concerning AI must necessarily be evaluated by its impact on the last person, which includes rural households, informal workers, small entrepreneurs, linguistic minorities, and the digitally unskilled (Upadhyaya, 1965/2014).

Integral Humanism is not valuable in AI governance because it provides technical rules over model training or data architecture. It contributes to evaluation. It inquires whether AI systems open up new possibilities for human action, safeguard human dignity, lessen human vulnerabilities and strengthen social ties. While this outlook aligns with contemporary responsible AI, it also continues it by placing ethics in development. Consequently, the Bharatiya AI Model can be best understood as a bridge connecting international AI governance norms and Indian social philosophy.

5. Research Gap.

There are many principles of responsible AI already written about in the literature but relatively less is written about models for culturally specific development. International frameworks prescribe useful principles of fairness, transparency, privacy, accountability and safety, but these frameworks often assume institutional conditions and market structures that are different from India. Despite the recent formulation in National Policy on AI and other documents like Union Budget 2019 Speech, the idea of AI for All is not new. There is a lack of long term assessment of how AI led productivity will interact with employment transition, regional inclusion, rural transformation and public digital infrastructure in the next two decades.

The measurement concerns another gap. AI debates look at long-term scenarios and avoid referencing any

observable indicators. These may include Internet access, intensity of digital payments, digital-economy contribution, skilling capacity and governance readiness. On the contrary, the ultimate in-depth analysis of the digital economy usually does not examine the ethical and philosophical conditions under which growth becomes inclusive development. This study seeks to fill both these gaps by presenting an analysis of secondary data as well as a normative model that presents an ethical and human-centred AI.

6. Aims of your Project:

1. To investigate how ethical AI leads towards a long-term good future for India.
 2. Examining Integral Humanism in AI-based development will be important to realise the human being or Purna Manav.
 3. To assess sector-wise opportunities and risks of adopting AI in India.
 4. The objective is to perform secondary data analysis on indicators of AI, digital economy, employment and innovation.
 5. To put forward a Bharatiya AI Model for a development that is inclusive, ethical and innovation-driven.
 6. Policy recommendations for AI-led economic transformation in India over the next twenty years.
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7. Questions for Research.

- How will ethical AI help achieve India's long-term earning potential?
- How can Integral Humanism influence Artificial Intelligence Governance and Innovation?
- What are the significant threats and opportunities presented by AI adoption in India's priority sectors?
- How can India coordinate productivity, job creation, equity and technological innovation?
- What the core principles and policy mechanisms of a Bharatiya AI Model should be?
- How can public digital infrastructure make AI inclusionary rather than exclusionary?

8. Methodology of Research

The design of the study is mixed secondary research. The conceptual framework for responsible AI that will be used for this research study is developed through qualitative content analysis. The quantitative part of the process uses data from public sources for analysis using descriptive statistics, growth analysis, comparative indexing and modelling. Data from the primary survey is not utilized, and data from non-respondents is not generated. Where exact empirical data are not available, transparent assumptions about scenarios are made and explicitly labelled projections rather than observations.

According to the estimates of MeitY digital economy, documents for IndiaAI Mission, responsible AI documents of Niti Aayog, TRAI telecom performance indicators, NPCI UPI statistics, RBI yearly payment analysis, NASSCOM report for AI and technology sector, ILO labour exposure studies, Stanford AI Index, material of OECD which highlights AI policies, UNESCO recommendation on AI ethics, NIST AI Risk Management Framework, macro economic indicator of World Bank. The evidence base for 2020-2025 has been reviewed where possible. Older material utilized only for Integral Humanism and is considered as a philosophical base and not current evidence.

The statistical procedures comprise of percentage growth, CAGR, descriptive comparison, simple Pearson correlation between annual UPI volume and total internet subscribers, and scenario-based projection for the economy's GDP contribution through AI. The CAGR formula we used is: CAGR is equal to the ending value divided by beginning value raised to the power of $1/n-1$ times by 100. Correlation is taken with a pinch of salt as the yearly sample has only six paired observations and there is not enough to establish causation. The opportunity and risk index for the sector is an index constructed by the authors with comparative characteristics, based on the relevance of the policy, data intensity, adoption potential, impact on the public and exposure to the ethical risk; it is not an official government statistic.

9. Data Analysis and Statistical Interpretation

9.1 India's Digital Economy Indicators

Table 1. India's digital economy and AI policy baseline indicators

Indicator	Period	Value	Interpretation	Source
Digital economy share of national income	2022-23	11.74%	Reported estimate	MeitY digital economy report
Digital economy size	2022-23	Rs. 31.64 lakh crore	Approx. USD 402 billion	MeitY digital economy report

Employment in digital economy	2022-23	14.67 million workers	2.55% of workforce	MeitY digital economy report
Expected digital economy share	2029-30	Nearly 20%	Projection	MeitY/PIB summary
IndiaAI Mission outlay	2024-29	Over Rs. 10,300 crore	Policy outlay	MeitY/PIB approval
AI compute target	2024 onward	10,000+ GPUs	Public AI compute capacity	IndiaAI Mission

Note. Values are compiled from MeitY and IndiaAI public releases. Monetary figures are rounded as published in official summaries (MeitY, 2024a, 2025a).

Table 1 shows that the AI transition is not starting from a blank slate. India's digital economy already contributes a measurable share of national income and employment. The significance of the IndiaAI Mission is that it treats compute, datasets, skilling, startups and safety as complementary components of a national capability system rather than isolated policy schemes. This supports the paper's claim that AI governance must be integrated with digital industrial policy.

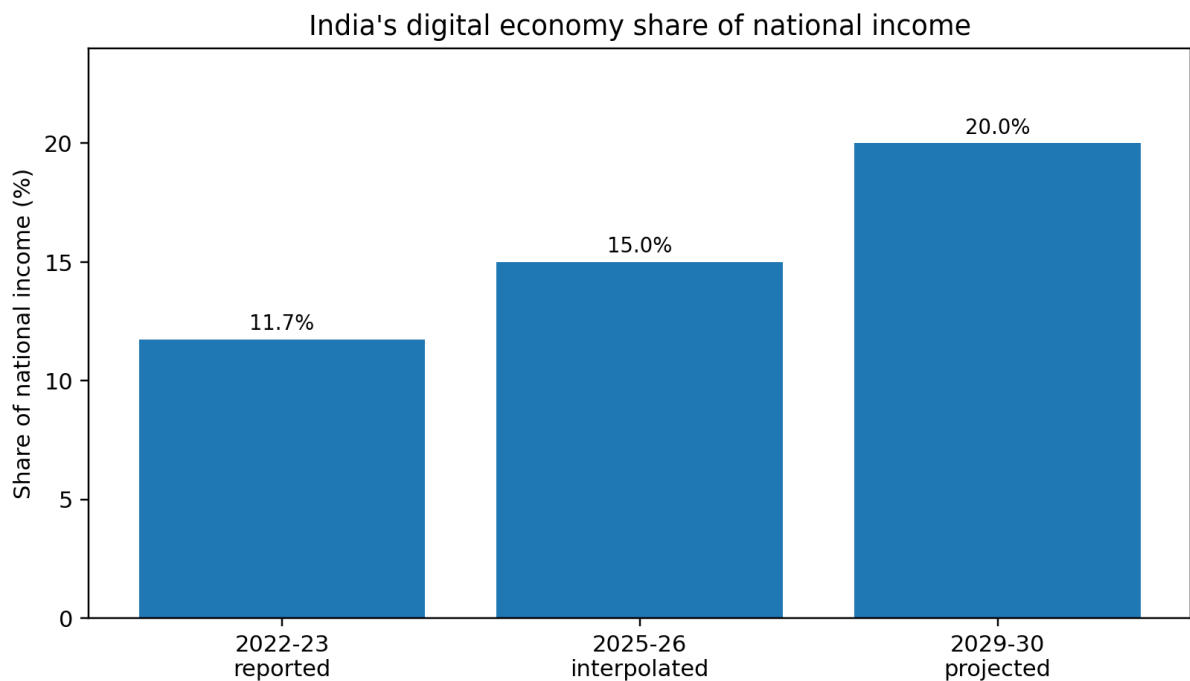


Figure 2. India's digital economy share of national income. The 2025-26 value is an interpolation only for visual continuity; the 2029-30 value reflects the official projection that the digital economy may approach nearly one-fifth of national income (MeitY, 2025a).

9.2 Growth of UPI and Digital Payment Infrastructure

Table 2. UPI transaction growth, FY2020-FY2025

Year	Volume (billion)	YoY volume growth	Value (INR lakh crore)	YoY value growth
FY2020	12.5	-	21.3	-
FY2021	22.3	78.4%	41.0	92.5%
FY2022	45.6	104.5%	84.2	105.4%
FY2023	83.8	83.8%	139.2	65.3%
FY2024	131.1	56.4%	200.0	43.7%
FY2025	185.8	41.7%	261.0	30.5%
FY2020-FY2025 CAGR	71.6%		65.1%	

Note. Annual totals are rounded from NPCI UPI product statistics and RBI payment summaries. FY2025 values reflect RBI Annual Report 2024-25 summaries citing 185.8 billion transactions and Rs. 261 lakh crore in value (NPCI, 2025; RBI, 2025).

UPI volume increased from about 12.5 billion transactions in FY2020 to 185.8 billion in FY2025. The five-year CAGR is approximately 71.6% for volume and 65.1% for value. This is not an AI statistic by itself, but it is highly relevant to AI-led development because digital payments create transaction data, identity-linked service histories, MSME credit trails and financial inclusion channels. Ethical AI in India will therefore be shaped by the governance of data generated through mass digital participation.

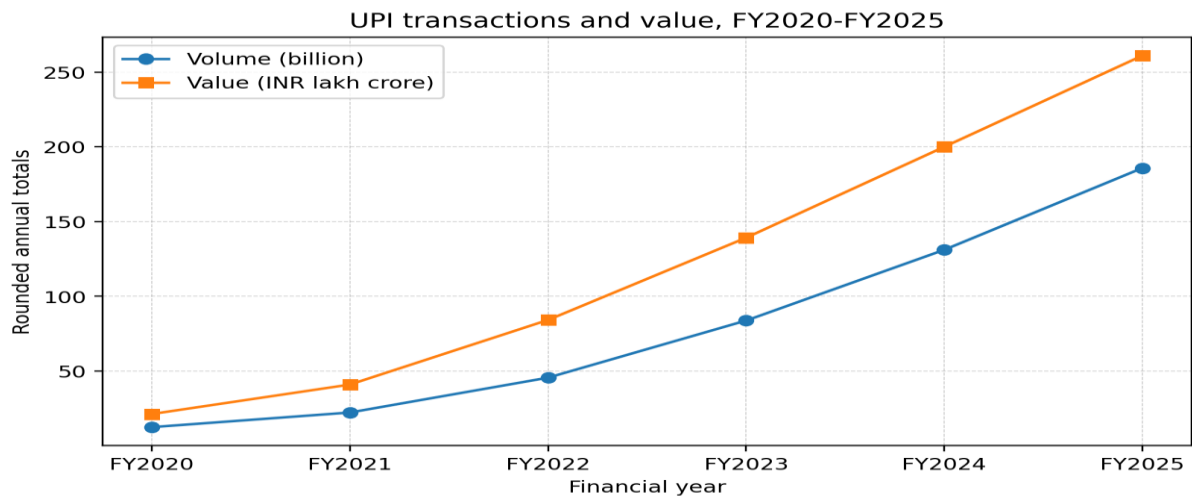


Figure 3. UPI transaction volume and value, FY2020-FY2025.

9.3 Connectivity and Digital Inclusion

Table 3. Internet subscribers in India, March 2020-March 2025

Period	Total subscribers (million)	Rural (million)	Urban (million)	Subscribers per 100 population
Mar 2020	743.19	285.97	457.23	55.12
Mar 2021	825.30	322.77	502.53	60.73
Mar 2022	824.89	331.81	493.08	60.00
Mar 2023	881.25	357.99	523.26	63.53
Mar 2024	954.40	398.35	556.05	68.19
Mar 2025	969.10	407.69	561.42	68.63
Mar 2020-Mar 2025 CAGR	5.45%			

Note. Compiled from TRAI annual and quarterly performance indicator reports. Values are rounded as reported by TRAI (TRAI, 2024, 2025).

Internet subscribers increased from 743.19 million in March 2020 to 969.10 million in March 2025, a CAGR of approximately 5.45%. Rural subscribers rose from 285.97 million to 407.69 million over the same period. The rural increase is significant for AI policy because agricultural advisory systems, telemedicine, vernacular learning tools and digital public services depend on connectivity. However, subscriber growth does not automatically mean effective digital capability. Device quality, affordability, language access, gender gaps and digital literacy remain decisive for inclusive AI.

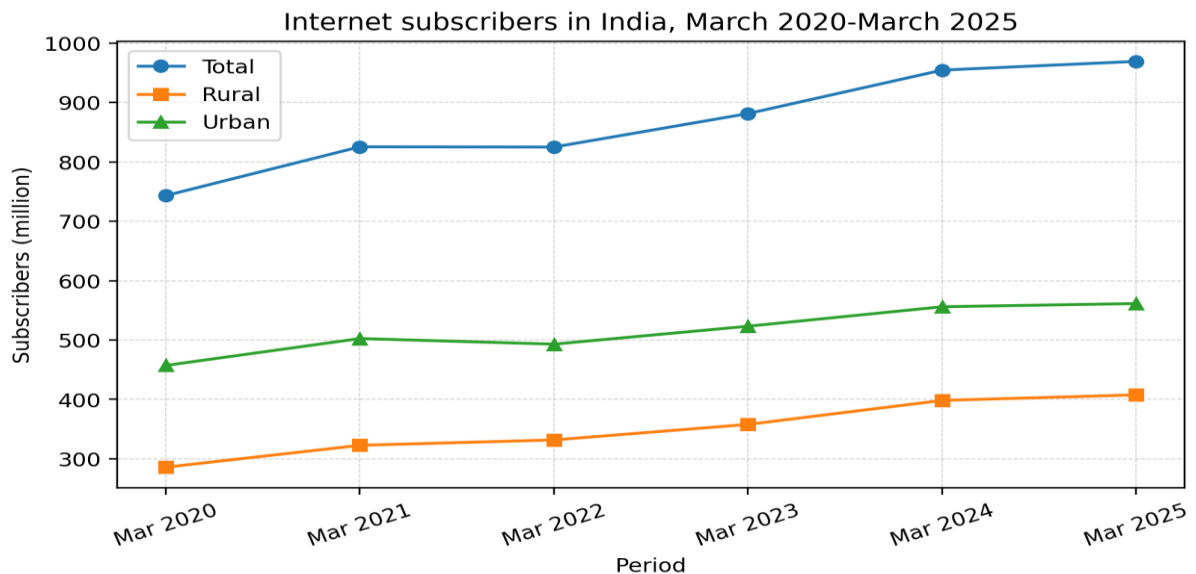


Figure 4. Internet subscribers in India, March 2020-March 2025.

9.4 AI Market, Talent and Innovation Ecosystem

Table 4. AI market and talent indicators

Indicator	Period	Value	Interpretation	Source
India AI market projection	2027	USD 17 billion	25-35% CAGR path	NASSCOM & BCG
AI-skilled workforce	2024	More than 420,000 employees	AI roles and skills base	NASSCOM & BCG
AI skill penetration	2024	High global ranking	India reported as a leading AI skill-penetration economy	NASSCOM/MeitY summary
FutureSkills Prime registrations	2025	18.56 lakh+ candidates	Digital skilling pipeline	MeitY
Technology sector value	2024-25	Approx. USD 283 billion	IT industry projection	NASSCOM/PIB
Technology exports	2024-25	Above USD 224 billion	Export-oriented services base	NASSCOM

Note. Values are compiled from NASSCOM, BCG and MeitY public summaries. They indicate market potential and skills capacity, not guaranteed inclusive outcomes (MeitY, 2025c; NASSCOM, 2025; NASSCOM & BCG, 2024).

The AI market and talent indicators suggest that India has a credible base for AI-led services, software, analytics and platform innovation. Yet the skills base is unevenly distributed and concentrated in formal technology labour markets. A Bharatiya AI strategy must therefore extend beyond elite AI talent to include AI literacy for teachers, nurses, farmers, local government officials, MSME owners, vocational students and informal workers. The economic value of AI will depend on diffusion capacity, not only frontier capability.

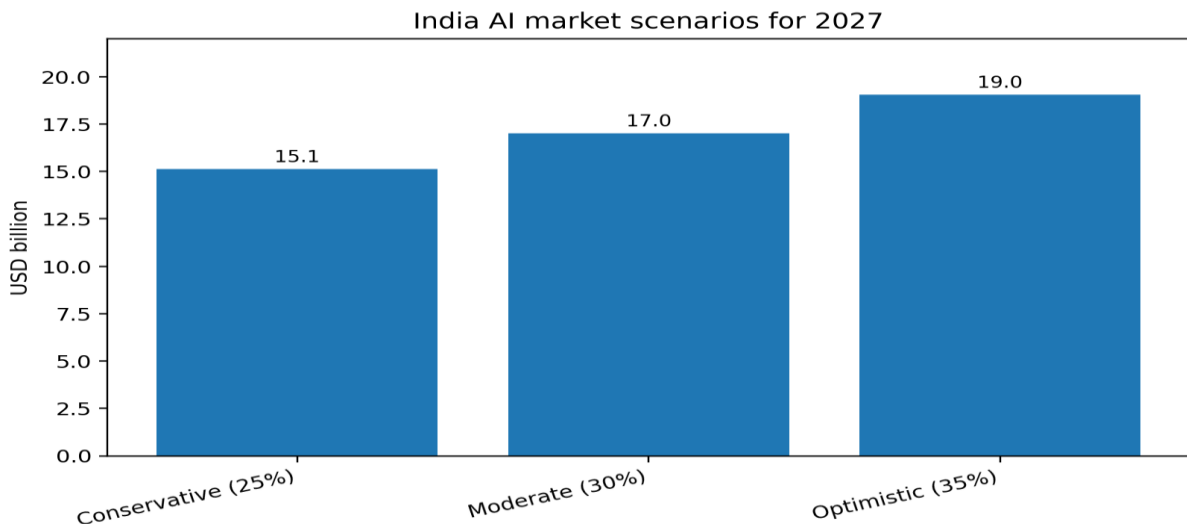


Figure 5. Scenario-based India AI market estimates for 2027. The moderate scenario reproduces the USD 17 billion projection; conservative and optimistic values apply the lower and upper CAGR assumptions transparently (NASSCOM & BCG, 2024).

9.5 Sector-Wise AI Adoption Potential and Ethical Risk

Table 5. Sector-wise AI opportunity and ethical risk index

Sector	Opportunity index	Ethical risk index	Policy priority
Finance and digital payments	92	78	Very high
Healthcare	88	86	Very high
Agriculture	84	72	High
Education and skilling	82	76	High
MSMEs and manufacturing	80	70	High
Public services	78	84	Moderate-high
Climate and energy	74	68	Moderate-high

Note. This is an author-constructed analytical index from 0 to 100 based on public-impact potential, data intensity, likely adoption, vulnerability of affected populations and need for safeguards. It is not an official adoption rate.

The index suggests that the sectors with the highest development promise may also be sectors with the greatest ethical risk. Healthcare AI can support triage, diagnostics and resource allocation, but errors, bias and lack of explainability can directly affect life and dignity. Finance and digital payments can improve credit inclusion, but opaque scoring can reproduce exclusion. Public-service AI can speed delivery, but welfare automation without grievance redressal can harm the most vulnerable. This confirms the central argument: India's AI model must treat governance and innovation as simultaneous requirements.

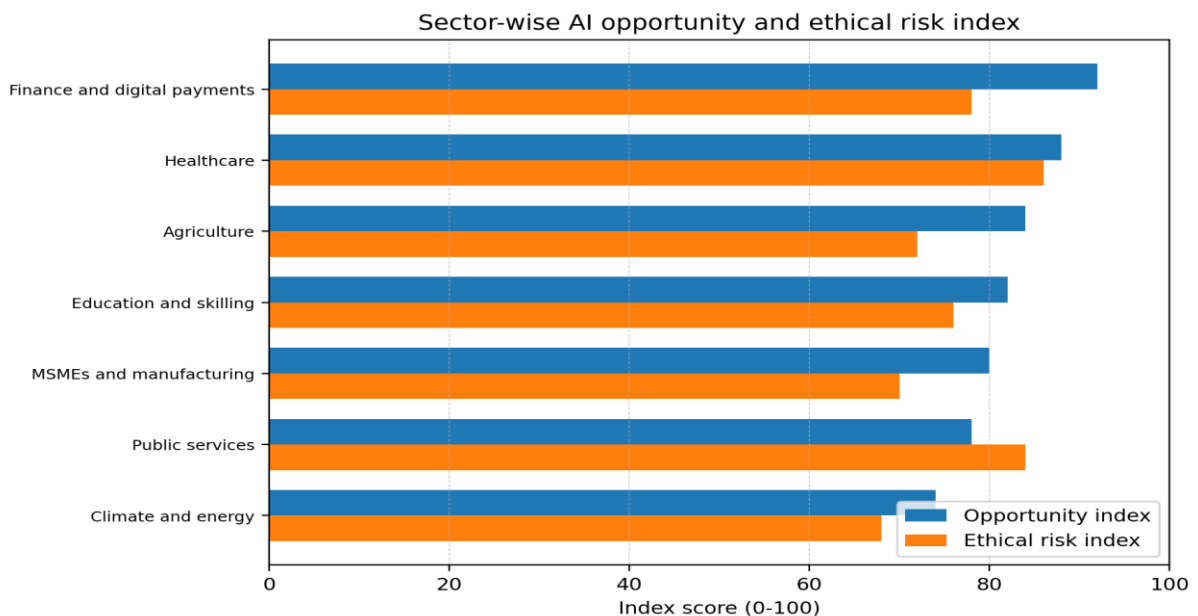


Figure 6. Sector-wise AI opportunity and ethical risk index.

9.6 Comparative Governance Models

Table 6. Comparative AI governance models

Jurisdiction/framework	Governance style	Core features	Analytical implication for India
India	Mission-led ecosystem building plus emerging guidelines	Compute, datasets, AI for All, skilling, safe and trusted AI	Development orientation; still needs enforceable audit architecture
European Union	Statutory risk-based regulation	EU AI Act; prohibited, high-risk and transparency categories	Strong legal certainty; compliance costs may be high
United States/NIST	Voluntary risk-management framework	AI RMF: govern, map, measure, manage	Flexible; depends on organisational adoption
OECD/UNESCO	Principle-based international norms	Human rights, inclusive growth, transparency, accountability	Global legitimacy; implementation varies
China	State-centred administrative regulation	Generative AI interim measures and content/service obligations	Strong state control; different balance of rights and innovation

Note. Comparison based on EU, NIST, OECD, UNESCO, IndiaAI/NITI Aayog and Chinese generative AI governance material (Cyberspace Administration of China, 2023; European Parliament and Council, 2024; MeitY, 2025b; NIST, 2023; OECD, 2024; UNESCO, 2021).

The comparison shows that India should not simply copy any single model. A statute-heavy approach can support rights protection, but may be too rigid for a fast-changing innovation ecosystem if implemented without regulatory capacity. A purely voluntary approach may encourage experimentation but could be weak in high-impact public and financial systems. A state-centred model may prioritise control but can be incompatible with open innovation and rights-based accountability. India's distinctive opportunity is to combine risk-based safeguards, public digital infrastructure, sectoral sandboxes, algorithmic audits and grievance redressal within a development-oriented framework.

9.7 Ethical Governance Components and Scenario Projection

The ethical governance pie chart in Figure 7 is a conceptual weighting, not a survey output. It shows that responsible AI cannot be reduced to one value such as transparency. Fairness, privacy, human oversight, reliability, explainability and accountability are interdependent. For example, transparency without grievance redressal may not help a citizen denied welfare benefits; privacy without security engineering may be formalistic; and fairness without representative data may remain rhetorical.

Conceptual weighting of ethical AI governance components

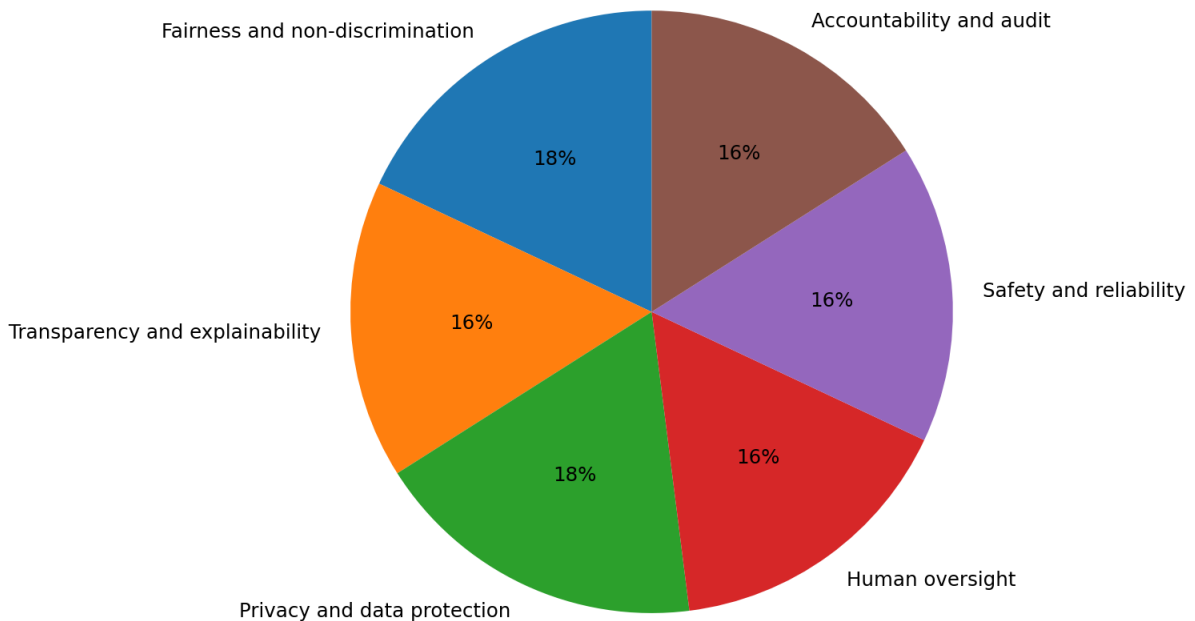


Figure 7. Conceptual weighting of ethical AI governance components.

A Pearson correlation was computed between annual UPI transaction volume and total internet subscribers across six paired observations from FY2020/Mar 2020 to FY2025/Mar 2025. The result is $r = 0.94$. This positive relationship is expected because digital payments and connectivity expanded together, but the small sample prevents causal inference. The result should be read only as a descriptive indication that India's digital rails are expanding in mutually reinforcing ways.

Table 7. Scenario-based AI-enabled GDP contribution, 2025-2045

Year	Projected GDP base (USD trillion)	Conservative	Moderate	Optimistic
2025	3.96	0.00	0.01	0.01
2030	5.35	0.03	0.05	0.07
2035	7.23	0.10	0.17	0.25
2040	9.76	0.22	0.37	0.54
2045	13.19	0.40	0.66	0.92

Note. This is a transparent scenario model, not an official forecast. It starts with World Bank 2025 current GDP and assumes 6.2% annual nominal expansion for the GDP base. AI-enabled contribution is modelled as

a rising share of projected GDP: 3%, 5% and 7% by 2045 in conservative, moderate and optimistic cases.

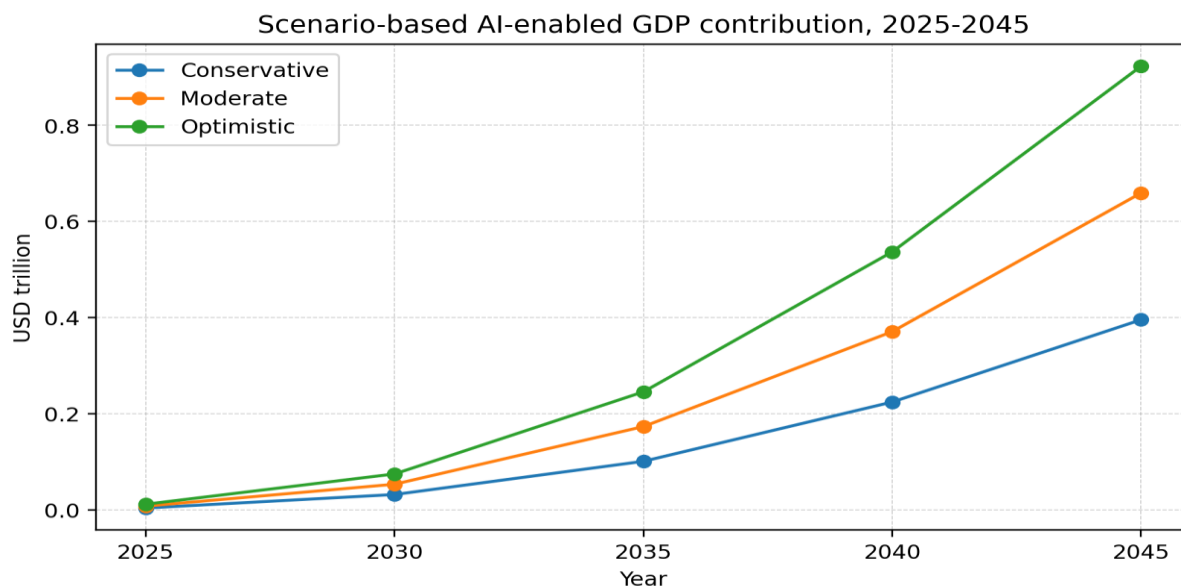


Figure 8. Scenario-based AI-enabled GDP contribution, 2025-2045.

The scenario analysis shows the magnitude of potential economic impacts from AI and does not give a numerical statement. If India has strong digital infrastructure, responsible governance, skilling and sectoral adoption, AI can have a measurable contribution to national output. Nonetheless, the essential normative question remains: if an AI is contributing to GDP, but this is at the cost of weakening dignity, concentrating gains, excluding informal workers or reducing trust, then this is not development. Thereby the Bharatiya AI Model treats economic contribution as well as ethical legitimacy as joint indicators.

10. Outcomes.

The initial outcome suggests a huge and growing digital foundation in India. The total UPI volume, Internet subscriber and digital economy estimates suggest that the country has the rails for AI-enabled public and private applications. The five-year CAGR for UPI volume at close to 71.6 per cent demonstrates how interoperable digital infrastructure can scale at speed when standards, network effects and user value work in harmony. According to a recent study by PICT, AI may help transform society but only if we give it the chance to do so as opposed to shutting it down.

The second result find that the AI opportunity is sectorally uneven. The potential for finance, healthcare, agriculture, education, MSMEs, public services and climate systemic innovation is high but differs from an

ethical perspective. According to the report, these three sectors must be equipped with tougher safeguards because algorithmic decisions could impact access to rights, services, credit and life chances. It would not be adequate to have a uniform policy approach. India requires risk-sensitive sectoral governance.

The third outcome is about employment and skill transition. The ILO's evidence as well as NASSCOM do not lend credence to simplistic narratives that AI will destroy all jobs or automatically create prosperity. Countries that spend on broad-based skilling are more likely to convert automation into augmentation as AI reorganises tasks. India should develop AI-complementary skills across social classes, not just produce elite model-makers. This should be a policy priority.

The philosophical and institutional result is the fourth one. The philosophy of Integral Humanism can prevent AI policy from becoming purely technocratic. According to this framework, the legitimacy of AI is determined by whether AI can benefit the whole person and the last person. The measure does not supplant constitutional law or global standards for AI governance; rather, it enhances their social significance in India.

11. Discourse

11.1. AI for Antyodaya and Last-Mile Development

An Indian AI framework must start from the last mile. Artificial intelligence systems which understand Indian languages can help farmers with crop advisories, students with personalised learning, patients with triage and citizens to access welfare schemes. Last-mile AI should be thoughtfully designed and humble. The results may be skewed by errors in low-resource languages, data absence, patchy connectivity and local social hierarchies. Participatory design for ethical deployment human in the loop review grievance redressal It is thus left to Antyodaya as a methodological principle: systems must be tested on those most likely to be left out, not on digitally savvy urban users only.

11.2 AI and Dignity of Labour: Generative AI and Integral Humanism are both relevant to the dignity of labour. If firms use AI solely for labour substitution, it can devalue routine cognitive work. However, using it to reduce drudgery, support decision-making and improve productivity is a better use of AI. India's development model must emphasize task enhancement, worker retraining, and productivity-sharing mechanisms. For instance, small firms can benefit from AI-enabled compliance tools which help them with regulations. AI translation can assist local manufacturers to reach newer markets. AI-enabled training can provide access to new entrants. Policies should promote the use of these augmentations through incentives, standards and procurement.

11.3 Changes in the Countryside and the Consequences for Agriculture.

Because agriculture combines climate vulnerability, market risk, fragmented holdings and local knowledge, rural AI applications need a special focus. By harnessing the power of AI, farmers can utilize advancements for weather-based advisories. However, it is important that agricultural AI does not become over-centralised and technocratic. Intermediaries between AI tools and local realities can be data cooperatives, farmer producer organisations and public extension systems. This aligns with the human-centered model where AI enhances the community's capability rather than replace it.

The Accountability of Algorithms: Fairness and Privacy

India must trust AI for progress. As per Government of India (2023) Digital Personal Data Protection Act, 2023, it is necessary to process personal data lawfully and protect personal data. AI systems should have fairness testing, explainability, audit trails as well as appeal mechanisms plus privacy. AI that has a marked impact should not be deployed just because it works on average. There should be the evaluation for differential error by gender, caste, class, language, region, disability and digital literacy whenever legally and ethically appropriate. Assessing an algorithm's decision-making process is called algorithm accountability.

Comparing the Bharatiya AI Model with Other Models.

The European model's robust legal safeguards, the American tradition of flexible technical governance, globally oriented ethical frameworks (OECD, UNESCO) and China's approach state-centred administrative regulation (capacity of) all suggest possible governance solutions for AI. The Bharatiya AI Model can learn from each other, but must stay development-centric. What makes its contribution unique is public digital infrastructure, frugal innovation, linguistic diversity, Antyodaya, skill transition and ethical restraint. This model can speak to other Global South countries needing AI governance outside of frontier-model competition.

Sustainability and Ecological Impact of AI

Artificial intelligence systems rely on energy, computing machinery and Data Centre Infrastructure. Environmental accountability must also be incorporated in ethical AI as big models grow. India must invest in efficient models, open domain-specific models, renewable-powered data centre, and lifecycle assessment of AI infrastructure. A sustainable AI strategy makes economic sense, as energy efficient technologies reduce cost and improves accessibility for public-benefit applications. The ecological dimension of Integral Humanism, which advocates harmony between the individual, society, and nature.

12. Proposed Indian Artificial Intelligence Modelling.

The model proposed is a policy framework, not a law or scheme. It has eight components – ethical foundation, governance mechanism, innovation ecosystem, data governance, sectoral implementation, skill transition, inclusion framework and accountability mechanism. The core principle of the document is that AI should be innovation-led, socially aware, and ethically rooted. To achieve ethical AI, the model also understands that the government cannot act alone. Creation of co-production between public agencies, startups, universities, civil society, industry bodies and affected communities

Table 8. Proposed Bharatiya AI Model

Component	Core principle	Policy tools	Expected outcome
Ethical foundation	Dignity, Antyodaya, fairness, duty and restraint	National ethical AI charter; public-interest design principles	AI legitimacy tied to human welfare
Governance mechanism	Risk-based and sector-specific oversight	AI impact assessment; audit registry; procurement rules	Predictable safeguards for high-impact systems
Innovation ecosystem	Compute, datasets, startups and research	IndiaAI compute; open datasets; grants; sandboxes	Domestic capability and reduced dependency
Data governance	Privacy, data minimisation and accountable sharing	DPDP compliance; consent systems; secure data exchanges	Trustworthy data flows
Sectoral strategy	Priority use-cases in health, agriculture, education, MSMEs and governance	Mission-mode applications; domain standards	Developmental diffusion of AI
Skill transition	AI literacy and occupational reskilling	Curricula; FutureSkills; vocational AI modules	Augmentation-oriented employment transition
Inclusion framework	Language, disability, gender and rural access	Vernacular AI; assistive tools; community testing	Reduced digital exclusion
Monitoring and accountability	Human oversight and grievance redressal	Appeal channels; incident reporting; periodic audit	Accountable and correctable AI systems

Note. The model brings responsible AI principles together with Integral Humanism and the context of India's public digital infrastructure.

The model must function through a layered governance approach. Low-risk AI systems could adopt voluntary standards and transparency obligations. Documentation, bias testing and human oversight may be needed for medium risk applications. High-risk applications that impact welfare, credit, health, policing, education access or employment must undergo pre-deployment impact assessment and an independent audit. When public procurement requires vendors to document responsible AI, it can become a powerful tool.

13. Advice on Policies.

To start with, India should have a risk-sensitive ethical AI governance framework such that its conducive to innovation but firm on high-impact areas. AI impact assessment, model documentation, data-quality assessment, auditability, incident reporting, and appeal mechanisms should be part of the framework. Moreover, stricter regulations should apply to AI in the public sector than to the typical recommendations systems, because AI may affect rights, welfare and public trust. India ought to develop domain-specific AIs – for agriculture, health, education, law, climate and Indian languages – rather than depend only on general-purpose imported ones.

AI learning should be integrated into institutions of higher education, vocational education and public administration. All universities of the world must introduce AI Ethics and Data Governance AI-complementary skills must be taught in industrial training institutes and polytechnics. The skills that they must teach include data handling, prompt evaluation, automated quality control, and human-machine workflow management. Fifth, MSMEs need access to collective ai tools, advice centres and low-cost clouds to ensure that ai productivity does not get confined to large firms.

Encouraging proper data ecosystems will be sixth. The DPDP Act stipulates that exchanges of data must take place on a privacy-compliant basis, and sharing of data must be based on consent. Further, anonymization standards must be prescribed where appropriate. Finally, there is a need for strong penalties for misuse. Efforts for agriculture and rural development in India through AI should be mediated through trusted institutions such as Krishi Vigyan Kendras, cooperatives, farmer producer organisations and panchayat-level service centres. Eighth, regulatory bodies should ensure creation of sectoral AI sandboxes that test systems in controlled ecosystem prior to mass deployment. Ninth, civil society and academia should be engaged in the auditing, public consultation and evaluation of high-impact AI.

14. Future Roadmap: India's Economic Future in the Next Two Decades

Table 9. Roadmap for India's AI-led economic future, 2026-2046

Phase	Period	Strategic priorities	Expected outcome
Phase I: Foundation	2026-2030	Operationalise AI governance guidelines, expand public AI compute, strengthen data protection, create AI audit capacity, build Indian-language datasets	Trustworthy AI infrastructure and initial sectoral deployment

Phase II: Expansion	2031-2038	Scale AI in agriculture, health, education, MSMEs and public administration; deepen workforce transition; create regional AI innovation clusters	Broad productivity gains and stronger inclusion
Phase III: Global Leadership	2039-2046	Export Bharatiya AI governance tools, open models for Global South languages, sustainable AI infrastructure, mature accountability institutions	India as a human-centric AI development leader

Note. The roadmap is a normative planning framework, not a prediction.

The roadmap suggests arranging in a sequence. The initial step should rely on foundational trust because the legitimacy can be damaged because of early AI failures. The second phase should expand sectoral use-cases once governance maturity strengthen. India should become a supplier of human-centric AI solutions to developing countries in the third phase. This ordering is in line with Integral Humanism, which warns against technological urges which do not respect social readiness.

15. Restrictions of Research Study.

The research relies on secondary data and so it cannot assess perceptions at the household level, AI adoption at the enterprise level or transitions at the worker level directly. The AI ecosystem is changing rapidly and sector wise adoption statistics are not uniformly available. Values referenced in the analysis are rounded from published public summaries and scenario projections are assumptions, not forecasts. The opportunity and ethical risk index of the sector is analytical and interpretive and does not have an official statistical nature. In conclusion, the philosophical dimension of Integral Humanism cannot be anticipated in full retrospectively, and so the paper treats them as normative criteria of AI policy evaluation.

16. Opportunities for Future Research

Future studies should direct primary surveys on public belief in the AI enterprise, citizen experience on the avail of algorithmic public services and awareness of AI rights and grievance redressal mechanisms. There is a need for empirical sector-specific research on the adoption of artificial intelligence (AI) among MSME farmers. In Indian jobs, labour-market studies must undertake task-level exposure analysis, informal and

regional labour markets. Efforts can also be directed to executing the Bharatiya AI Model into concrete indicators and test it against actual AI deployments in welfare, agriculture, health and finance. Research comparing the Global South countries can show whether there can be a broader development-centred AI governance model based on India.

17. Summation.

India must not frame its AI future as a race between untrammelled innovation and defensive regulation. Evidence reviewed in this paper indicates that India has strong digital foundations expanding access to the internet, mass-scale digital payments, a growing digital economy, a technology services base, and artificial intelligence (AI) talent and a national AI mission. These resources can stimulate economic transformation backed by AI over the next twenty years. If the transformation is pursued without ethical direction, it will bring about exclusion, bias and job anxiety, privacy risks and institutional distrust.

With an eye toward the whole person, the last person and the moral responsibilities of society, integral humanism offers a lens to evaluate AI development. India is exhorted to calibrate the technological hustle not just by speed, scale or valuation but by the contribution to dignity justice inclusion sustainability and self-reliance. This paper proposes a Bharatiya AI Model that integrates the philosophical orientation of India with responsible AI principles, public digital infrastructure, data governance, skilling and sectoral innovation. The main argument of this article is simple: AI Should be Made in India, Work for India and Answerable to Humans.

The strategic task before India for the next two decades is converting digital scale into ethical capability. For the aforementioned need, we require risk-based governance, public-interest AI applications, privacy safeguards, algorithmic accountability, broad-based skilling and inclusive design. If the above conditions are built up on, India can offer a development pathway beyond market-led automation and state-led control. This can show that AI growth is most legit when it enhances human freedom, strengthens social trust and improves the welfare of everyone.

References

- Cyberspace Administration of China. (2023). Interim measures for the management of generative artificial intelligence services. China Law Translate. <https://www.chinalawtranslate.com/en/generative-ai-interim/>
- Dignum, V. (2022). Responsible artificial intelligence: From principles to practice. arXiv. <https://arxiv.org/abs/2205.10785>
- European Parliament and Council. (2024). Regulation (EU) 2024/1689 laying down harmonised rules on artificial intelligence (Artificial Intelligence Act). Official Journal of the European Union. <https://eur-lex.europa.eu/eli/reg/2024/1689/oj>
- Government of India. (2023). The Digital Personal Data Protection Act, 2023. India Code. <https://www.indiacode.nic.in/handle/123456789/22037>
- International Labour Organization. (2023). Generative AI and jobs: A global analysis of potential effects on job quantity and quality. ILO. <https://www.ilo.org/publications/generative-ai-and-jobs-global-analysis-potential-effects-job-quantity-and-quality>
- International Labour Organization. (2025). Generative AI and jobs: A refined global index of occupational exposure. ILO. <https://www.ilo.org/publications/generative-ai-and-jobs-refined-global-index-occupational-exposure>
- Lu, Q., Zhu, L., Xu, X., & Whittle, J. (2022). Responsible-AI-by-design: A pattern collection for designing responsible AI systems. arXiv. <https://arxiv.org/abs/2203.00905>
- Maslej, N., Fattorini, L., Perrault, R., Parli, V., Reuel, A., Brynjolfsson, E., Etchemendy, J., Ligett, K., Lyons, T., Manyika, J., Niebles, J. C., Shoham, Y., Wald, R., & Clark, J. (2025). The AI Index 2025 annual report. Stanford Institute for Human-Centered Artificial Intelligence. <https://hai.stanford.edu/ai-index/2025-ai-index-report>
- Ministry of Electronics and Information Technology. (2024a). Cabinet approves IndiaAI Mission with an outlay of over Rs. 10,300 crore. Press Information Bureau. <https://pib.gov.in/PressReleasePage.aspx?PRID=2012515>
- Ministry of Electronics and Information Technology. (2025a). Estimation and measurement of India's digital economy. Government of India. <https://www.meity.gov.in/static/uploads/2025/01/5ff397f9e8152d5562ed4cef1a6b767b.pdf>
- Ministry of Electronics and Information Technology. (2025b). India AI Governance Guidelines. Government of India. <https://static.pib.gov.in/WriteReadData/specificdocs/documents/2025/nov/doc2025115685601.pdf>

- Ministry of Electronics and Information Technology. (2025c). More than 18.56 lakh candidates signed-up on FutureSkills PRIME. Press Information Bureau. <https://www.pib.gov.in/PressReleaseIframePage.aspx?PRID=2036445>
- NASSCOM. (2025). Technology sector in India: Strategic review 2025. NASSCOM. <https://nasscom.in/knowledge-center/publications/technology-sector-india-strategic-review-2025>
- NASSCOM & Boston Consulting Group. (2024). AI powered tech services: A roadmap for future-ready firms. <https://web-assets.bcg.com/e8/a6/4fbc9f6945b2914720361474155f/bcg-nasscom-ai-powered-tech-services.pdf>
- National Institute of Standards and Technology. (2023). Artificial intelligence risk management framework (AI RMF 1.0) (NIST AI 100-1). U.S. Department of Commerce. <https://doi.org/10.6028/NIST.AI.100-1>
- National Payments Corporation of India. (2025). UPI product statistics. NPCI. <https://www.npci.org.in/product/upi/product-statistics>
- NITI Aayog. (2021a). Responsible AI #AIForAll: Approach document for India - Part 1: Principles for responsible AI. Government of India. <https://www.niti.gov.in/sites/default/files/2021-02/Responsible-AI-22022021.pdf>
- NITI Aayog. (2021b). Responsible AI #AIForAll: Approach document for India - Part 2: Operationalizing principles for responsible AI. Government of India. <https://www.niti.gov.in/sites/default/files/2021-08/Part2-Responsible-AI-12082021.pdf>
- NITI Aayog. (2022). Responsible AI #AIForAll: Adopting the framework. Government of India. https://www.niti.gov.in/sites/default/files/2022-11/Ai_for_All_2022_02112022_0.pdf
- Organisation for Economic Co-operation and Development. (2024). Recommendation of the Council on Artificial Intelligence. OECD Legal Instruments. <https://legalinstruments.oecd.org/en/instruments/OECD-LEGAL-0449>
- Reserve Bank of India. (2025). Annual report 2024-25. RBI. <https://rbidocs.rbi.org.in/rdocs/AnnualReport/PDFs/0ANNUALREPORT202425DA4AE08189C848C8846718B080F2A0A9.PDF>
- Schiff, D., Rakova, B., Ayesh, A., Fanti, A., & Lennon, M. (2020). Principles to practices for responsible AI: Closing the gap. arXiv. <https://arxiv.org/abs/2006.04707>
- Telecom Regulatory Authority of India. (2024). The Indian telecom services yearly performance indicators 2023-24. TRAI. https://www.trai.gov.in/sites/default/files/2024-09/Report_14082024.pdf

- Telecom Regulatory Authority of India. (2025). The Indian telecom services yearly performance indicators 2024-25. TRAI. https://www.trai.gov.in/sites/default/files/2025-07/YIR_08072025_0.pdf
- UNESCO. (2021). Recommendation on the ethics of artificial intelligence. UNESCO. <https://unesdoc.unesco.org/ark:/48223/pf0000381137>Upadhyaya, D. (2014). Integral humanism. Deendayal Research Institute. (Original work published 1965)
- World Bank. (2025). World development indicators: India. World Bank Data. <https://data.worldbank.org/country/india>