



RESEARCH REPORT

From Data Dependencies to **DIGITAL DESTINY**

AN AI SOVEREIGNTY BLUEPRINT FOR INDIA AND THE GLOBAL SOUTH

Dr. Sivaramakrishnan R. Guruvayur

MESSAGE FROM CHANCELLOR

Amma sees the world as a flower. Each country is a petal of the flower. Technology has truly revolutionized human life, but its negative aspects raise alarming concerns about the future of mankind. Scientific knowledge and spiritual wisdom have to complement one another. While Science air-conditions the outer world, spirituality air-conditions the inner world

Chancellor

Mata Amritanandamayi Devi (AMMA)



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Foreword

Artificial Intelligence (AI) is rapidly emerging as a foundational technology shaping economic development, national security, and global competitiveness. While AI offers transformative opportunities across sectors, it also raises important questions about technological dependence, equitable access, and the ability of nations to shape AI systems in line with their developmental priorities and national interests. For India and many countries across the Global South, these considerations highlight the growing importance of AI sovereignty.

This report, *"From Data Dependencies to Digital Destiny: An AI Sovereignty Blueprint for India and the Global South,"* developed by the AI Safety Research Lab, Amrita Vishwa Vidyapeetham, Amrita Puri, drawing on stakeholder consultations and survey-based insights examines the strategic, economic, and governance dimensions of AI sovereignty. It highlights the continued dependence of developing economies on foreign cloud infrastructure, foundation models, AI model training and inferencing platforms and related digital services and competencies which may lead to vulnerabilities in technological capability, economic value capture, and strategic autonomy.

The study adopts an ecosystem perspective on AI sovereignty, emphasizing that progress requires coordinated advances across compute infrastructure, indigenous AI models, data governance, human capital, regulatory capacity, and economic value creation. Importantly, this report underscores that AI sovereignty should not imply technological isolation. Rather, it advocates a pragmatic approach for strengthening domestic AI ecosystems through investments in compute infrastructure, development of locally relevant AI models, improved access to high-quality datasets, establishment of centers of excellence, support for AI startups, promotion of research in Indian languages, extensive trainings and creating AI talent pipelines. In addition, this report emphasizes on strategic international collaborations, open-source innovations, and active participation in global standard-setting processes.

I hope this report will serve as a catalyst for continued dialogue, thoughtful deliberations, and strengthened stakeholder collaborations toward building a resilient and sovereign AI ecosystem for India.

(Ajay K Sood)

Date: 17th March 2026

Foreword

Artificial intelligence is increasingly shaping economic systems, public institutions, and social interactions worldwide. For countries across India and the broader Global South, the governance of AI raises fundamental questions related to human rights, equity, cultural diversity, sustainable development, and the fair distribution of benefits. *From Data Dependencies to Digital Destiny: An AI Sovereignty Blueprint for India and the Global South*, prepared by the AI Safety Research Lab at Amritapuri, contributes thoughtfully to these discussions.

The report frames AI sovereignty not as technological isolation, but as the capacity of societies to exercise meaningful agency over the design, deployment, and governance of AI systems in ways that are aligned with their values, development priorities, and institutional contexts. In line with the principles articulated in the UNESCO Recommendation on the Ethics of Artificial Intelligence, the analysis emphasizes human-centered design, transparency, accountability, inclusiveness, and respect for cultural and linguistic diversity. It highlights the importance of strengthening public digital infrastructure, responsible data governance, and locally relevant AI models to ensure that AI systems serve the public good.

Importantly, the blueprint situates AI within broader policy ecosystems. It recognizes that ethical and trustworthy AI requires more than technical safeguards alone; it depends on effective institutions, legal and regulatory frameworks, education and skills development, and participatory governance mechanisms. The report underscores the shared responsibility of governments, industry, academia, civil society, and international partners in advancing AI systems that uphold human dignity, reduce inequalities, and contribute to sustainable development.



By grounding AI sovereignty in ethical principles and institutional capacity, this work offers a pragmatic reference for policymakers and practitioners across the Global South. It reinforces the view that the future of AI must be shaped collectively, ensuring that technological progress remains aligned with universal values, social justice, and the long-term interests of humanity.

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From the Editor's Desk

AI Sovereignty Report | India AI Impact Summit 2026 Edition

As both **Editor and Researcher** for this report, I am proud to present a strategic blueprint aimed at one of the defining challenges of our digital era: AI sovereignty. For India and the Global South, sovereignty is not just about digital independence—it is about ensuring that AI systems reflect our languages, values, infrastructure realities, and development priorities.

This report offers a grounded, actionable roadmap for nations to build **sovereign AI ecosystems**—spanning compute, data, models, and talent—while fostering responsible collaboration. We call for a posture of **pragmatic autonomy**: one that strengthens domestic capabilities while engaging globally on equitable terms.

At a time when dependence on external AI infrastructure risks locking nations into narrow roles, this work emphasizes execution. Our roadmap translates aspirations into measurable milestones—prioritizing inclusion, innovation, and long-term resilience.

I express my deep gratitude to **Dr. Krishnashree Achuthan** for her sustained support, **Dr. Vysakh Kani Kolil, Seethal Bahuleyan Jayakumar T S**, and the **AI Safety Research Team at Amritapuri, Amrita Vishwa Vidyapeetham** for their valuable support. I also thank the **MBRSG research team**, especially **Dr. Fadi Salem** and **Lama Zakzak**, for their intellectual partnership and the stimulating cross-regional discussions that shaped this work.

As the **India AI Impact Summit 2026** convenes leaders around the theme “From Action to Impact,” I hope this report contributes meaningfully to our collective efforts to shape a future where sovereignty is not isolation—but strategic, inclusive stewardship of AI.



At the AI Safety Research Lab, we remain committed to advancing policy-relevant, principled research that equips nations to lead with confidence and care. In shaping our digital destinies, let us ensure that **sovereignty is not just a right—but a responsibility exercised with vision and inclusion.**

Prof. (Dr) Sivaramakrishnan R. Guruvayur
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In an era where artificial intelligence has evolved from a theoretical construct to a foundational force in economic, military, and civic life, the pursuit of AI sovereignty has become an existential priority for India and the Global South. This report serves as a critical blueprint for navigating the “compute deserts” and structural dependencies that currently characterize the global AI landscape, where power is increasingly concentrated within a small set of private platforms and dominant nations. Grounded in empirical evidence from CXO-level practitioners across six nations, the following chapters delineate a multidimensional framework for autonomy—spanning infrastructure, data, models, talent, and governance. By treating digital infrastructure as a public good and fostering indigenous capabilities in everything from multilingual Large Language Models to sovereign compute grids, we aim to move beyond being “rule-takers” to

becoming “rule-makers”. Our vision is not one of isolation, but of strategic hybridity: leveraging global frontiers while anchoring our digital destiny in systems that reflect our unique cultural-linguistic fidelities and developmental priorities. It is my hope that this action agenda provides the institutional sinew required to transform data dependencies into a realized sovereign destiny



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We, at the AI Safety research lab, extend our sincere appreciation to the distinguished AI experts who contributed their valuable time and deep insights through our interview series. Their technical foresight, nuanced opinions on infrastructure constraints, and expert views on orchestration safety were pivotal in shaping the core principles of this report.

Our gratitude is also directed to the numerous survey participants from various sectors. Their enthusiastic support and candid responses provided the essential data required to map the realities of AI deployment in India and the Global South. Their engagement is the backbone of the empirical findings presented here.

A special note of thanks goes to nasscom.ai for their strategic collaboration as our research questionnaire partner. Their pivotal role in outreach and their commitment to safe AI adoption were instrumental in ensuring this research reached a diverse and representative audience.

We also wish to thank the reviewers of this research report. Their rigorous scrutiny, constructive criticism, and detailed feedback have been vital in refining our analysis, ensuring that the safety guidelines proposed are both robust and practically applicable.

Finally, we acknowledge all the researchers from AI Safety Research lab associated with this research & report. Your collective support in fostering a global dialogue on AI Sovereignty safety has created the necessary ecosystem for this research to flourish and reach the stakeholders who need it most.

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EXECUTIVE SUMMARY

This report sets out why AI sovereignty matters for India and the wider Global South in the mid-2020s. It is based on stakeholder interviews and a survey, and it defines sovereignty as control over the full AI ecosystem — compute, models, data, talent, governance, and economic value — aligned to local needs. The evidence shows heavy dependence on foreign cloud services and AI models, creating strategic, economic, and development risks. The report therefore argues for rapid scale-up of domestic compute infrastructure and the development of domestic AI models. Brazil's president captured the underlying demand for autonomy when he asked, "why can't we have our own [AI]?"

Across the chapters, five themes repeat. First, sovereignty is an ecosystem problem: infrastructure alone will not deliver results unless local models, data access, regulatory capability, and human capital move in step. Second, AI must fit local reality — languages, data, and norms. Studies cited here note that generic AI chatbots can "ignore people's lived experiences" when not adapted to local contexts, and that many advanced models are trained on Global-North data. Third, the report favors a practical middle path: use open-source models under domestic governance, partner where it strengthens capability, and avoid isolation. Finally, it insists on execution: clear roadmaps — near-term milestones and a 10-year vision — need to become funded programs and institutions.

What this means for policymakers: treat AI sovereignty as a national capability agenda — sequence the build-out of compute, models, data governance, and talent; choose a 'pragmatic autonomy' posture (domestic oversight with selective collaboration); and turn targets into funded delivery vehicles with measurable milestones.

Chapter Summaries

✦ **Chapter 1 – INTRODUCTION: THE IMPERATIVE OF AI SOVEREIGNTY:** Frames the stakes of AI sovereignty for India and the Global South. It notes both the opportunities of AI for development and the risks (security, economic and cultural) of dependence on foreign AI. Early survey findings indicate stakeholders regard sovereignty as inherently multi-faceted, not a single lever.

✦ **Chapter 2 – RESEARCH METHODOLOGY:** Outlines the study's mixed-methods approach. It combines semi-structured interviews of senior AI stakeholders (across governments, industry and academia in multiple regions) with a structured survey. The design is exploratory – explanatory; the chapter notes sample limitations (non-representative, cross-sectional) and describes thematic and statistical analysis techniques.

✦ **Chapter 3 – DEFINING AI SOVEREIGNTY: CONCEPTUAL FOUNDATIONS:** Clarifies what "AI sovereignty" means. Classical sovereignty concepts are extended to digital domains (control over data, algorithms, and AI-related decision-making). Survey results (Section 3.3) reveal six "flavors" of sovereignty (infrastructure, models, data, standards, economy, culture). Interviews emphasize that sovereignty involves reshaping interdependence (e.g. by localizing AI models and governance) rather than pursuing total autarky. The chapter proposes a working definition: the freedom to configure AI systems to national priorities while renegotiating dependencies.

✦ **Chapter 4 – CURRENT STATE ASSESSMENT: WHERE WE STAND:** Provides a situational diagnosis. Key infrastructure (data centers, chips) is heavily concentrated abroad (“compute deserts”), forcing reliance on foreign cloud. Foundation models are largely consumed via external APIs, yielding a trade-off between capability and dependence. Talent pools are growing but often misaligned to local needs, with many graduates working overseas. Existing governance (data/privacy laws, sector rules) is fragmented and unevenly enforced. Funding for AI R&D is relatively scarce and short-term. The chapter concludes that while low-code outsourcing is common, significant capacity gaps must be addressed to achieve sovereignty.

✦ **Chapter 5 – INFRASTRUCTURE CHALLENGE: FROM COMPUTE DESERTS TO DIGITAL OASES:** Argues that compute infrastructure is the foundation of sovereignty. It documents stark global inequalities in AI compute. India’s “IndiaAI” mission (deploying tens of thousands of GPUs in domestic cloud) is profiled as a pioneering sovereign cloud initiative, alongside nascent efforts in Africa and Latin America. The chapter identifies design principles for “digital oases”: ensuring affordability and cost predictability, providing open-access governance (fair sharing of resources), building local resilience (onshore facilities), pursuing energy-efficient (“green”) computing, and tightly linking infrastructure to talent and data ecosystems.

✦ **Chapter 6 – MODEL SOVEREIGNTY: BUILDING INDIGENOUS AI CAPABILITIES:** Treats AI models as the “brains” of sovereignty. Stakeholders advocate a multi-tier strategy: critical public- interest models should be developed in-country; open-source models should be adapted (fine-tuned) for local use; and proprietary models may be used only under strict domestic oversight. Emphasis is placed on including local languages and knowledge. For example, a mental-health chatbot trained on Western data may misinterpret expressions from the Global South; local data and design are needed to avoid such errors. The chapter also stresses robust governance (testing, audit) for any locally hosted model to ensure safety and accountability.

✦ **Chapter 7 – DATA GOVERNANCE: BALANCING CONTROL AND INNOVATION:** Explores data as both enabler and risk. It reviews different data laws in India, Brazil, South Africa and other countries, noting that outright data localization can create silos while lax rules invite exploitation. The chapter identifies a “missing middle” of uncollected development data (e.g. health records, environmental sensors) that constrain AI utility. It proposes balanced principles: classifying data by sensitivity, permitting reciprocal sharing of non-sensitive data, enforcing strict minimization and purpose limits, extending data rights to communities, and implementing strong auditability. Notably, emerging public data platforms (e.g. open government datasets) are highlighted as potential “data commons” for sovereign AI, with built-in privacy protections.

✦ **Chapter 8 – THE TALENT IMPERATIVE: FROM BRAIN DRAIN TO BRAIN GAIN:** Diagnoses a paradox of quantity vs. applicability. Countries like India have vast technical talent pools, but relatively few specialists trained in applied AI (e.g. machine learning, cloud engineering, MLops). A large fraction of skilled developers work overseas (e.g. an estimated ~38% of African coders work for foreign firms), raising concern about “brain drain.” The chapter advocates a two-pronged solution: massively scale AI education and upskilling programs (from K – 12 AI literacy to specialized certification programs and PhD fellowships), and improve alignment with industry needs (bootcamps, mentorships). It also stresses inclusiveness: increasing women’s participation, and creating entry paths for underrepresented regions. Engaging the diaspora is reframed as “brain circulation,” where expatriate expertise flows back home through networks, investments and joint ventures.

✦ **Chapter 9 – ECONOMIC MODELS: VALUE CAPTURE AND INCLUSIVE GROWTH:** Examines how AI-driven value is captured. It warns that current models (serving primarily as outsourced labs or implementation hubs) leak most value to global tech firms, risking dependency and inequality. The chapter recommends building full domestic AI value chains so that data, models and services are developed and monetized locally. Key levers include

using government procurement as a demand pull (e.g. mandating local AI solutions in finance, agriculture, health) and supporting target sectors with integrated support (as seen in Nigeria's agri-tech and Brazil's fintech examples). The focus is on inclusive growth: ensuring AI efficiency gains create broad skill development and social welfare improvements, rather than concentrating profits. Otherwise, as one analysis warns, countries "risk being locked into a low-value role, consuming imported AI solutions rather than creating them".

❖ Chapter 10 – GOVERNANCE FRAMEWORKS: POLICY, REGULATION, AND STANDARDS: Reviews

policy architectures. It emphasizes adaptive, risk-based regulation rather than one-size-fits-all rules. India's evolving multi-layer structure is outlined (constitutional values, national data/privacy laws, sectoral regulations, self-regulation, judiciary). Comparable efforts in Brazil and South Africa (risk-tiered AI bills) are noted. The chapter stresses developing national technical standards for AI (data formats, model evaluation benchmarks) to avoid passive lock-in, while aligning with relevant global standards. It highlights regulatory sandboxes (e.g. for finance and healthcare) as tools to let innovators experiment under supervision. Crucially, it asserts that developing countries must shift from rule-takers to rule-makers on the world stage (active participation in the G20, UN, etc.) to ensure international norms reflect their interests.

❖ Chapter 11 – SECTORAL DEEP DIVES: BFSI, HEALTHCARE, EDUCATION, DEFENSE: Presents case

studies across four domains. In BFSI (Banking/Finance), AI is applied to fraud detection, credit scoring and process automation; strategies include open banking platforms (e.g. "Pix" in Brazil) and central bank-led sandboxes to encourage local AI products. Legacy systems and over-dependence on foreign vendors are cited as sovereignty challenges. In Healthcare, AI for diagnostics and public health (e.g. imaging, predictive triage) is promising but data fragmentation is a barrier. Federated learning (training models on local data without centralizing it) and India's Qure.ai (chest X-ray AI) are cited as partial solutions. In Education, adaptive learning apps (such as Brazil's Geekie) demonstrate AI tailored to curriculum, but experts caution against tech replacing teachers or exacerbating inequality. Finally, in Defense, policymakers insist on indigenous end-to-end AI stacks (secure chips through mission planning) for national security. While domestic efforts are nascent, there is strategic emphasis on closing the gap (e.g. classified R&D). Across all sectors, the theme is deploying AI for local priorities while maintaining control over the technology.

❖ Chapter 12 – SHORT-TERM ROADMAP: WHAT'S ACHIEVABLE IN 3 – 5 YEARS (2026 – 2030):

Sets concrete targets. It calls for rapid scaling of digital infrastructure (e.g. deploying on the order of 50,000 GPUs in regional cloud centers, nationwide 5G expansion, and interoperable data platforms). It envisions launching ~20+ indigenous AI models by 2030 (national-scale language models and domain-specific models, leveraging open-source frameworks for faster rollout). Talent goals include training on the order of 500,000 AI professionals and updating university programs. Regulatory aims include dozens of AI sandboxes and harmonized policies (e.g. enacting unified data protection). Economic goals include mobilizing ~\$10 billion in AI investments, growing thousands of startups and nurturing a hundred local unicorns. Success metrics are defined in terms of completed AI stacks, self-sustaining value chains and widespread inclusive deployment by 2030.

❖ Chapter 13 – LONG-TERM VISION: THE 10-YEAR HORIZON: Envisions the 2030 – 2035

timeframe. It foresees fully mature sovereign AI ecosystems: next-generation hardware (possibly indigenous chips and specialized AI coprocessors), ubiquitous sectoral AI (smart cities, precision agriculture, etc.) and fully local AI R&D. Economies would have closed AI value chains feeding reinvestment into development. Society-wide AI literacy and governance would be established, effectively bridging the digital divide. On this horizon, developing countries take proactive leadership in global AI norms. The chapter frames sovereignty's success by inclusion – ensuring that cutting-edge AI contributes to equitable growth and resilience, not just narrow productivity.

❖ Chapter 14 – REGIONAL VARIATIONS: INDIA, AFRICA, LATIN AMERICA, SOUTHEAST ASIA:

Compares geographic strategies. India's approach leverages its large population and existing digital public infrastructure (e.g. Aadhaar, UPI) to jumpstart AI, and includes plans for local chip design. African nations face resource constraints and thus emphasize mobile-first innovation, pan-African compute hubs and training programs under the AU framework. Latin America (led by Brazil) couples advanced AI legislation with efforts to apply AI to its tropical agriculture and biodiversity. Southeast Asian countries focus on resilient deployments (island connectivity, multilingual platforms) and ASEAN-wide standards (e.g. cloud alliances) to avoid vendor lock-in. The chapter notes inter-regional synergies: for instance, shared models for common languages, and governance lessons transferred among Global-South blocs.

❖ Chapter 15 – THE ROLE OF INTERNATIONAL COOPERATION: Treats sovereignty as not isolation but strategic collaboration. It discusses North – South partnerships (e.g. India leasing foreign GPUs under domestic terms, joint AI labs) and South – South alliances (shared R&D initiatives, pooled investments). It highlights multilateral forums – G20, UN, the Global Partnership on AI – as venues to advance equitable AI agendas. The report emphasizes safeguards for partnerships (e.g. reciprocity clauses, open intellectual property sharing) to prevent neocolonial dependencies. Developing countries are encouraged to use collective bargaining to influence international standards and funding programs, turning global cooperation into a path toward autonomy.

❖ Chapter 16 – RECOMMENDATIONS AND ACTION AGENDA: Translates insights into stakeholder actions (detailed above). The core message is policy activation: governments should integrate AI sovereignty into industrial strategy (fund compute, unify laws, foster R&D consortia, leverage procurement); industry should co-invest in local AI ecosystems and uphold standards; academia should realign curricula to national priorities; civil society should ensure AI aligns with social goals; and international partners should be engaged as equitable collaborators with technology-sharing agreements.

❖ Chapter 17 – CONCLUSION: FROM DEPENDENCIES TO DESTINY: Synthesizes the report's arc. It stresses that AI is fundamentally a sovereignty challenge: absent concerted action, developing nations will remain secondary players. The conclusion restates that short-term capacity-building and long-term vision must converge into concrete implementation. In its final words, it reinforces that success depends on execution — turning blueprints into policies, institutions and infrastructure — to transform dependencies into strategic autonomy.

❖ Chapters 18 – 19: Appendices or references

Chapter Summaries

Several overarching themes unify the chapters.

Integrated Ecosystems: Sovereignty requires simultaneous advances in infrastructure, models, data, talent and governance. For instance, expanding GPU capacity (Ch.5) only yields impact if paired with local AI model development (Ch.6) and trained engineers (Ch.8).

Public Goods and Commons: Repeatedly, shared resources (national compute grids, open data platforms) are advocated as catalysts for local innovation and inclusive access, rather than relying solely on private actors.

Contextual Adaptation: AI must be grounded in local contexts. As noted above, models trained on North-centric data can overlook the experiences of global-south users. Therefore co-creation with local expertise is essential.

Pragmatic Autonomy: The strategy is neither autarky nor uncritical adoption of foreign AI, but a calibrated middle path — e.g. using open-source or foreign models under national oversight while steadily building domestic alternatives.

Governance and Coordination: Robust, context-sensitive regulations (Chapter 10) are seen as foundational,

but must be coupled with international engagement. Multilateral collaboration (G20, AI alliances) is framed not as a loss of sovereignty but as a means to secure technology and set fair norms. Finally, a consistent conclusion is the execution imperative: clear targets (Ch.12 – 13) and institutional commitment are needed. Without active follow-through, even the best-laid plans would remain aspirational.

Recommendations

Governments: Treat AI sovereignty as a strategic mission. Invest in national compute and data infrastructure; harmonize and implement risk-based AI regulations; fund AI research networks and education; and use public procurement to create demand for local AI solutions.

Industry: Partner in building the ecosystem. Co-invest in local AI development (open models, shared datasets), form sustained collaborations with public bodies, and abide by strict accountability (auditing, transparency) standards. Transition from merely consuming AI tech to co-designing it.

Academia: Re-engineer education and research. Embed AI and data science in curricula at all levels, focused on local applications and ethics. Pivot academic research toward indigenous challenges (local languages, regional

industries) and act as an independent monitor of AI impacts.

Civil Society: Advocate for inclusion and oversight. Monitor AI deployments for bias and privacy compliance; ensure marginalized groups have a voice in AI policy; and help define success metrics based on societal benefit (e.g. digital literacy, equitable services) rather than just economic gains.

International Community: Engage on equal terms. Negotiate technology transfers and investments with built-in sharing (joint IP, open licensing, knowledge co development). Leverage South – South cooperation (shared infrastructure, cross-border research consortia) and drive Global South agendas in international AI forums to avoid lopsided standards.

Limitations and Future Research

This summary is grounded in the provided report text and its references. The underlying report relies on stakeholder interviews and surveys, so quantitative specifics (e.g. precise compute needs, cost estimates, adoption metrics) are often qualitative or unspecified. The survey sample was small and focused on senior practitioners, limiting generalizability. Further research should empirically evaluate the outcomes of implemented sovereignty initiatives (e.g. the impact of local AI infrastructure projects), refine quantitative forecasts of AI resource requirements, and continuously update the roadmap as technology evolves. Longitudinal studies and broader stakeholder analyses would strengthen future planning.

1. INTRODUCTION

1.1 The Artificial Intelligence Revolution

In the 21st century, artificial intelligence (AI) has evolved from theoretical constructs to a global force, acting as a “transformational technology” causing “global impact” in “economies, democracies and societies”[1]. It is playing a foundational role in “economic, military and civic life”[2]. The AI market is expected to reach a market size of more than \$757 billion in 2026 with a growth rate of 19% [3]. By 2034, it is expected to reach an amount of more than \$3,600 billion inclusive of generative AI, machine learning, computer vision as well as robotics.

With such rapid growth in AI technology, there has been an uneven distribution of global power structures, so intensifying interdependencies and risks at a global level [4]. USA and China are two dominant nations for global AI investment by hosting the maximum GPU-enabled cloud areas. In the USA, it is mostly regulated by private players [5]. Through foundational models, the whole world is being controlled by these two nations. The evolution of AI from rule-based systems to data-intensive deep learning led to an improving reliance on external platforms, data flows, concentrated cloud infrastructure, and algorithmic tools [6].

AI has shifted from a narrow, sector-specific niche tool to a general-purpose technology that is being applied for defense-related, financial projects, infrastructures and public services, similar to electricity and internet [7]. With the improving level of complexities and high of interconnectedness, there are increased chances of systemic failures and misuses. This can lead to cross-border issues, so forcing authorities to seek stronger control over data, models and infrastructure [8]. Also, the power seems to be concentrated in a few sectors, with a higher level of control of frontier AI by a small set of large private platforms and tech firms [9]. These tend to set the de-facto norms for the data, algorithms, and standards unless actively regulated.

Clearly, there is a private-public imbalance of power, which has prompted government agencies to reclaim authority over infrastructures that shape markets, rights, and security [10]. Today, AI is aiding in mediating core decisions in the field of credit, policing and job opportunities, which lead to increased issues due to bias, privacy, surveillance and cybersecurity at scale [11]. As AI and data flows overlook borders, the national rules are purely inadequate, yet the global governance landscape is fragmented and multi-centre, leading nations to emphasize sovereignty to protect domestic values while negotiating interoperability internationally [12].

Further, AI has become a key geopolitical asset and is becoming increasingly central to economic and military power, spurring a race for “AI supremacy” and technological independence [13].

Foreign AI is risky due to exporting the controls, weaponizing the supply chains and dual use issues for autonomous weapons, cyber-operations, etc. With more advancement in AI day by day, it has emerged as a widespread, strategic and highly concentrated infrastructure that may now be under various risks. Thus regulation on the usage of such AI technologies has pushed the need for AI sovereignty to ensure data security [14].

1.2 The priority of AI Sovereignty

In an era of deep global interconnectedness, governments are increasingly striving to preserve autonomy while negotiating and are seeking genuine control over data, computation and governance through AI [15]. This pursuit of autonomy has given rise to the concept of AI sovereignty. This is even more crucial for India and the wider Global South, which is home to more than three quarters of the world's population. Even though data, skill and user bases are provided by domestic economies, but there is a large portion of the value that is being extracted abroad and the vital digital infrastructure is increasingly hosted on other platforms.

The senior executive participants of this study explained how key operations in banking, healthcare, education and defense are carried out using proprietary models and cloud services that are not fully validated, not owned and whose design assumptions and training data were developed in quite different environments. These issues were highlighted at the 2026 India AI Impact Summit. The focus of this summit was to understand how AI supports developmental needs such as building infrastructure, reducing poverty, improving the quality of education and health, while avoiding new forms of reliance. This is in contrast to previous international meetings where AI was defined through a western "safety" lens.

Over the years, "AI sovereignty" has evolved from a theoretical concept to a tangible strategic priority for boardrooms and governments across Southeast Asia, Africa, Latin America and India. With a budget of about

US \$1.14 billion, India's AI mission combines national compute infrastructure backed by state investments, development of open multilingual AI tools such as Saran AI and BhashiniAI [16]. These two LLMs cater to the diverse linguistic Indian population. Similarly, other nations have also launched LLMs catering to their regional as well as global markets.

India in 2026 aims to deploy numerous GPUs (Graphic Processing Units) nationwide through the establishment of numerous AI data labs and support the development of sovereign foundation models optimized for diverse Indian languages. This is one of the most ambitious initiatives by any developing nation to overcome compute scarcity and model dependency. For other nations, specifically cautioning against replicating extractive practices in the digital sphere was observed where the African Union's Continental AI Strategy (2025-2030) lays forth a common vision for leveraging AI to further Africa-centric development goals. The plan places a strong emphasis on regional cooperation in the areas of capacity-building, infrastructure, and governance.

Coming to Latin America, it was reported that by modifying parts of the EU AI Act to fit Brazilian constitutional and societal conditions, Brazil's risk-based AI bill, which was approved by the Federal Senate in late 2025, establishes the nation as a regional regulator in Latin America. This, when paired with Brazil's data protection legislation, provides a more logical foundation for controlling the use of AI in the area.

1.3 Defining AI Sovereignty

AI sovereignty refers to the ability of nations to understand, muster, develop, control and govern AI systems and the data or compute they rely on, in line with their own interests and values, while retaining control, agency and ultimately self-determination over such systems rather than becoming dependent on foreign entities or other governments[17]. A widely used Global South-oriented definition construes AI sovereignty to be the national capabilities to regulate AI technology to exercise “control, agency and self-determination” over these systems, so reducing the unilateral effect of foreign actors[18].

It can be considered as a “continuum rather than a binary condition”, so, warranting a balancing of autonomy to manage global interdependence[19]. AI

sovereignty does not imply isolation; rather it can be considered as the rights at the individual and collective levels to define the digital future of individuals. Also, it clearly defines the rules that protect rights, while cooperating with as many partners as possible for improving trade and research development on fair terms without being technologically dependent[20].

AI sovereignty is a subset of digital sovereignty capturing the aspects of AI ecosystems specifically and not the entire digital infrastructure landscape[21]. From the viewpoint of the European Union (EU), AI sovereignty depends on the subject of sovereignty between jurisdiction and citizens and the objective of sovereignty is to boost competitiveness for securing a better position for European countries in the global race of AI.

1.4 The AI Sovereignty Stack

A layered framework proposed by Belli (2025) shows multiple fundamental aspects that are considered as the top enablers of AI sovereignty [22]. This includes the research, development, governance, control of personal as well as non-personal data, software and algorithmic models, computational capacities, meaningful connectivity, reliability in electrical power connections, digital literacy or capacity building, strong cybersecurity and AI-related risks. These are interdependent on each other and form the AI sovereignty stack, which acts as an instrument in determining the ability of a country to use AI for economic, social and strategic benefits.

Data Sovereignty: Allows states to protect the privacy of citizens, safeguarding data security, controlling the usage of sensitive data and leveraging the value of information as a factor of production

Algorithmic Software: Nations need to tailor cutting-edge algorithmic software that can empower them and provide a competitive edge, aligned to cultural and legal frameworks

Computational Resources: Proper computational resources along with training and deployment infrastructure for complex AI tools

Connectivity Infrastructure: Dependable, well-

functional, universally reachable internet infrastructure at reasonable cost

Power Infrastructure: Robust framework ensuring sustainability of electrical power continuously, with emphasis on renewable energy sources

Capacity Building: Digital literacy among population through multigenerational education and skill training to build a talent pool

Cybersecurity: Protection of AI assets, maintaining public trust and prevention of misuse of AI tools for malicious purposes

Risk Management: Foundation for the governance framework addressing AI-related risks

1.5 Research Problem Statement

Even though population-dense India and Global South generate about 20 to 25% of global data, there is an improving reliance on external technologies for storing data, analytical services and AI-enabled processes. An existential AI dependency crisis is continuously faced where the crisis limits the capabilities of developing nations to fully harness the economic and strategic potential of AI. The development and control of AI tools remain concentrated in a limited number of technologically advanced nations as well as multinational organizations.

India has very few data centres, so ceding regulations and inheriting foreign-centric models, which are incompetent to be used for vernacular diversity and the situations in agriculture, health and governance. India needs to focus on building a sovereign AI stack through strong computations, national data resources and AI-ready digital public infrastructures. Even for the global south context, AI sovereignty is bound with escaping digital or algorithmic colonialism, where Northern firms and governments tend to regulate the surveillance systems, datasets and even standards[23]. This will be helpful for building AI governance capacity and ensuring data and knowledge sovereignty, decolonial governance and local participation so that AI infrastructures affect local priorities and rights rather

than external commercial or geopolitical agendas.

While the concept of AI sovereignty has gained some attention due to policy and academic discussions, the existing research is mostly skewed towards advanced economies. There is a clear lack of any coordinated strategies to maintain data, lack of domestic infrastructure, implying also the lack of a blueprint on AI sovereignty. By developing this, there will be increased security, autonomy and decreased dependence on foreign technology. Also, this also leads to the avoidance of digital/AI colonialism and bias.

The primary emphasis in AI is the national AI stack where data is considered as a sovereign resource. The key risks for India include fragmented regulation and reliance on big tech along with surveillance overreach, while systems for the global south, is its dependence on foreign platforms, having security vulnerabilities and biases[24]. Based on this, it can be seen that the strategic goals for India include the development of sovereign AI to drive growth and welfare, while the global south focuses on attaining technological sovereignty, decolonization and developing rights-based AI.

1.6 Research Questions and Objectives

This research report addresses the following five core questions:

RQ1. What does AI sovereignty mean for India and the Global South and what are its non-negotiable elements?

RQ2. What are the current constraints preventing progress toward AI sovereignty and how should trade-offs be navigated?

RQ3. How should nations balance engagement with global AI platforms versus building indigenous capabilities?

RQ4. What talent and innovation ecosystem shifts are needed and how can they advance inclusion?

RQ5. What governance architecture should guide AI sovereignty and what roles should different actors play?

Based on the above research questions, the following objectives for the study were proposed:

1. To understand the conceptual foundations of AI sovereignty and its essential non-negotiable elements in the context of India and the Global South
2. To identify the key constraints that hinder the progress of AI sovereignty and to analyze how nations can effectively navigate the trade-offs
3. To investigate the optimal strategic approaches for nations to balance global AI platforms with development of indigenous AI capabilities
4. To examine the transformations of talent and innovation ecosystems requiring the support of AI sovereignty
5. To suggest an appropriate governance architecture for AI sovereignty elucidating the roles and responsibilities of key stakeholders

1.7 Scope and Methodology

This study focuses on understanding the concept, challenges and strategic approaches of AI sovereignty in the Indian and Global South context. The scope is defined by its conceptual, geographic, technical and sectoral boundaries:

Conceptual Scope: AI sovereignty as a multidimensional concept including aspects of data governance, digital infrastructure, technological abilities, human capital, innovative ecosystems and regulatory frameworks.

Geographic Scope: Primary focus on India, which serves as the fundamental case for understanding opportunities and barriers in achieving AI sovereignty within a rapidly digitizing, large and diverse economy. The study extends to the broader Global South to identify common structural limitations, shared developmental priorities and possibilities for collaborative approaches.

Technological Scope: Focus on generative AI, Large Language Models (LLMs), Small Language Models (SLMs), GPUs and semiconductor design, while excluding legacy IT services and general consumer electronics.

Sectoral Scope: Public goods from agriculture, health, education and fintech, excluding private luxury markets, high-frequency trading or AI associated with entertainment.

Methodological Blend: The report amalgamates quantitative data from a survey of forty-three respondents and qualitative data from seventeen CXO-level leaders across four critical sectors such as BFSI (banking, financial services and insurance), healthcare, education, defense or public sector organizations, stationed in six countries, including India, South Africa, Brazil, Kenya, Indonesia and Nigeria.

1.8 Key Definitions

This report uses the following precise definitions:

Artificial Intelligence (AI): A sophisticated and dynamic computational system that employs advanced algorithms to accurately interpret external data, assimilate the knowledge acquired from this information and subsequently leverage such learnings to accomplish specific objectives and tasks through a highly adaptable and flexible approach [25].

AI Sovereignty: A given country's capacity to understand, muster and develop AI systems, while retaining control, agency and ultimately, self-determination over such systems[26].

Digital Sovereignty: The need for control of the digital on the physical layer (infrastructure, devices), the code layer (standards, rules, design), and the information layer (content, data) [27].

Global AI Platforms: Large-scale, transnational technological ecosystems that develop, host, deploy and commercialize AI systems across multiple nations and markets.

Global South: The geopolitical and economic categorization of nations (primarily including Asian, African and Latin American countries) that share a history of technological marginalization.

2. RESEARCH METHODOLOGY

We employed a mixed-methods research design, combining qualitative interviews and quantitative surveys with literature review. This builds on Amrita's methodological framework and the Draft outline.

Key elements included

Research Design (2.1, "Research Design")

The research structure was explicitly defined to cover four domains (data, infrastructure, governance, talent). The report provides a "Methodology Overview" summarizing the mixed approach; we used this to ensure our integration preserved the study's scope and neutrality. The sample ("Sampling and Sectoral Coverage") included diverse sectors (BFSI, healthcare, etc.) mirroring those in the Draft's sectoral analysis.

Qualitative Interviews (2.2, Amrita's "Qualitative Component")

We conducted semi-structured interviews with over 14 C-level executives, academics, and policymakers across India, Brazil, Nigeria, Kenya, and Indonesia. These "CXO interviews" probed definitions of AI sovereignty, perceived challenges, and strategic visions. Interview protocols were derived from literature on technology governance and AI policy. Qualitative data were coded thematically to extract insights on priorities (e.g. emphasis on infrastructure vs. talent) and on governance models. These align with Gana's "Qualitative findings" sections under each theme.

Participants included senior leaders such as chief executive officers (CEOs), chief technology officers (CTOs), chief information officers (CIOs) and chief data or AI officers with direct responsibility for AI strategy, data governance and digital transformation. It was ensured that all interviewees had more than fifteen years of professional experience and were actively engaged in AI deployment decisions at organizational or sectoral level.

In terms of geographic distribution of the interviewing samples, the sample population was found to span within six countries representing key regions of the Global South such as India, South Africa, Brazil, Kenya, Indonesia and Nigeria. Five executives were based in India, two in South Africa, two in Brazil, and one each in Kenya, Indonesia and Nigeria. Figure 1 presents the distribution share of interviewees according to their country.

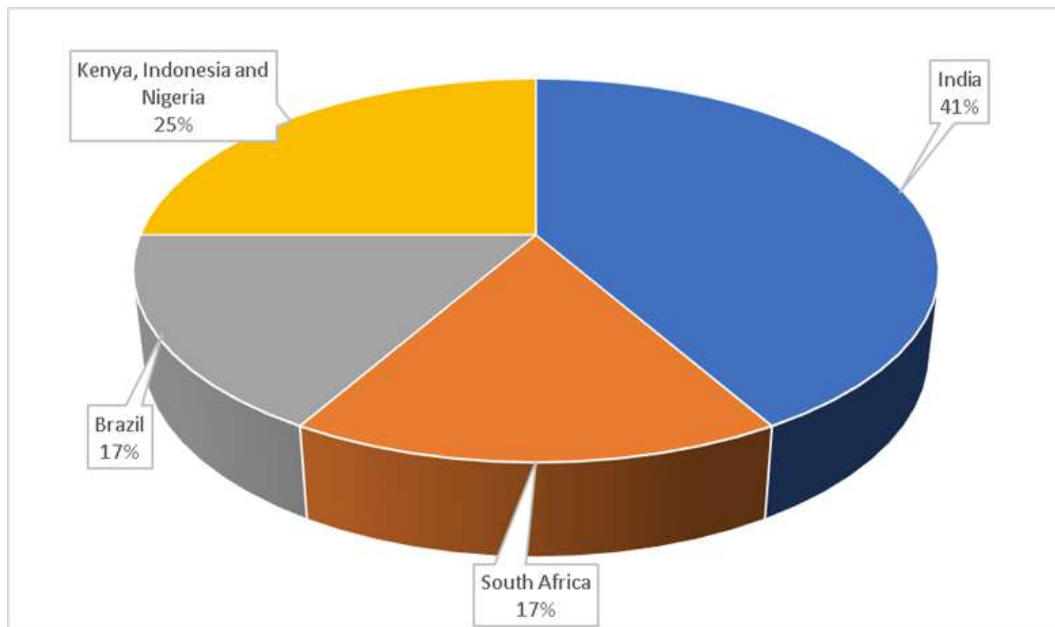


Figure 1: Distribution of interviewees based on their country

Sector-wise distribution showed three each interviewee coming from BFSI, healthcare, education and defense or security-related public sector institutions. This composition ensured that the study captured both cross-cutting themes and sector-specific concerns, such as regulatory compliance in BFSI, clinical safety in healthcare, linguistic and pedagogical issues in education, and technological independence in defense.

With regards to work experience, all the participants held C-suite or equivalent positions with direct responsibility for AI strategy and an average of more than 15 years of industry experience.

Quantitative Survey (2.3, Amrita’s “Quantitative Component”)

We deployed a structured survey to 200+ AI stakeholders (industry experts, government officials, researchers) primarily in India and other Southern countries. The survey included Likert scales and ranking questions on topics like “biggest current constraints” and “priority interventions”. For instance, in Figure 9, it shows respondents’ top constraints to sovereignty. The raw survey data were statistically analyzed to compute response distributions (e.g. percentages), which are incorporated as summary findings (without duplicating Gana’s exact figures).

Figure 2 illustrates the distribution of respondents based on their regional location. Of the total surveyed participants, forty four percent were based in India, another twenty-six were from Africa (including Nigeria, Kenya, South Africa and Ghana), about sixteen percent in Southeast Asia (including Indonesia, Vietnam and the Philippines) and roughly fourteen percent in Latin America (including Brazil, Mexico and Colombia).

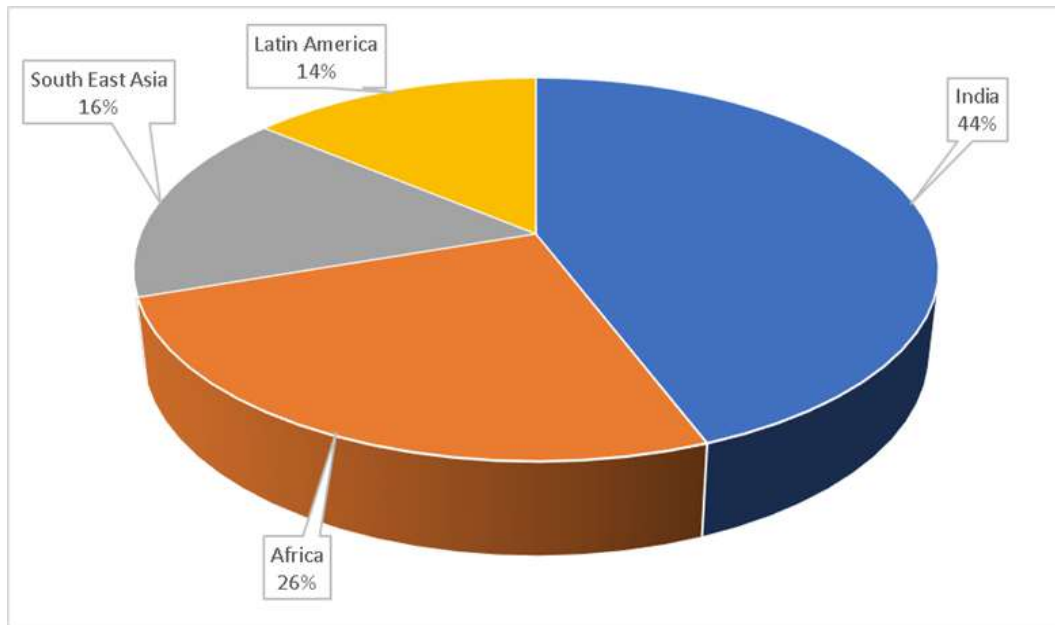


Figure 2: Distribution of survey participants based on region

Sectoral coverage was intentionally stratified across domains such as BFSI (banking, financial services and insurance), healthcare, education and defense.

Figure 3 presents the sectoral distribution of survey respondents. About one-third of respondents were employed by technology and AI product firms, while the remaining respondents were spread across BFSI, IT services and consultancy, healthcare, education and academics, government and public sector organizations, and a tiny “other” category that included think tanks and non-profits. Thus, there was a strategic focus on high-stakes regulated sectors where AI sovereignty lies as a critical mission, representing India’s priority domains under the India AI mission and National strategy for AI. These sectors drive the economy while demanding sovereignty due to data sensitivity, national security and public welfare imperatives.

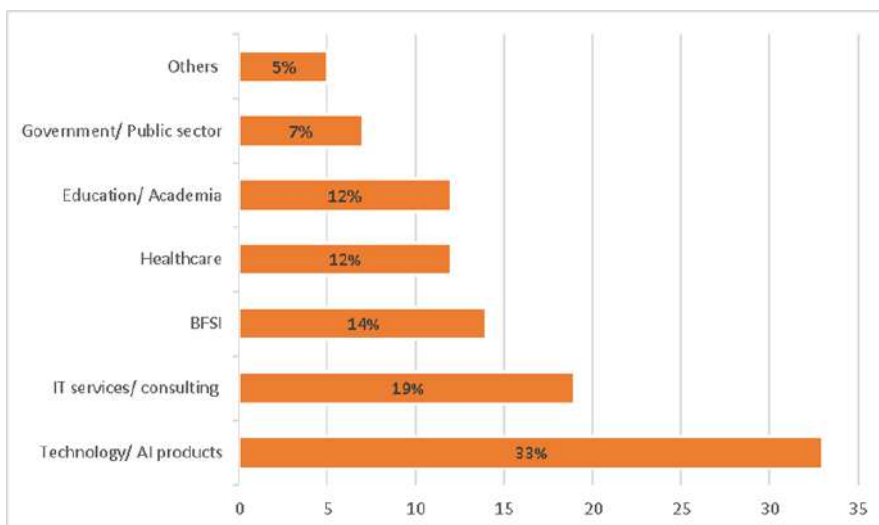


Figure 3: Distribution of survey participants based on sector

Apart from this, the participants also varied based on their seniority (years of work experience) and the size of the organization.

Figure 4 presents the distribution of survey participants based on their seniority in work experience. The largest group (more than 40%) comprised of participants with eight to fifteen years of experience, with experience ranging from less than three years to more than fifteen years in AI-focused roles.

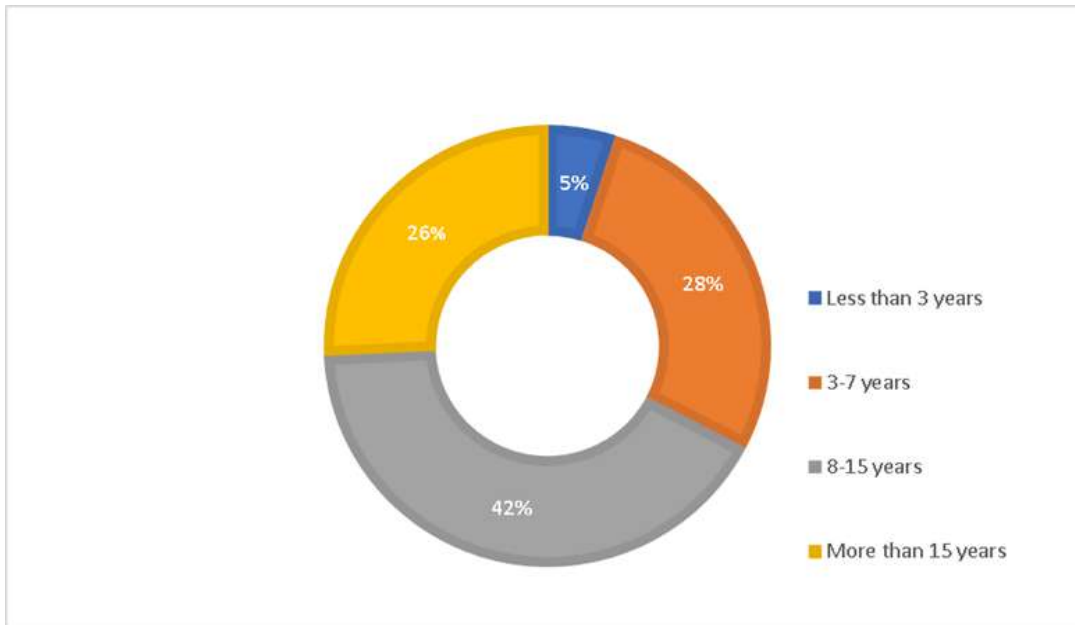


Figure 4: Distribution of survey participants based on their work experience level

Figure 5 presents the distribution of survey participants according to the size of their organizations. The results indicate that the largest proportion of respondents (23%) belonged to organizations with an employee count between 1,000 and 10,000. This group was closely followed by two other categories, each representing 21% of the participants. One category consisted of respondents working in organizations with more than 10,000 employees. The other included respondents from organizations with employee counts ranging between 51 and 250. Overall, the surveyed organizations ranged from large corporations with more than 10,000 employees to early-stage startups employing fewer than 50 individuals. This diversity in organizational size enabled the survey to capture perspectives from both established enterprises and emerging innovators.

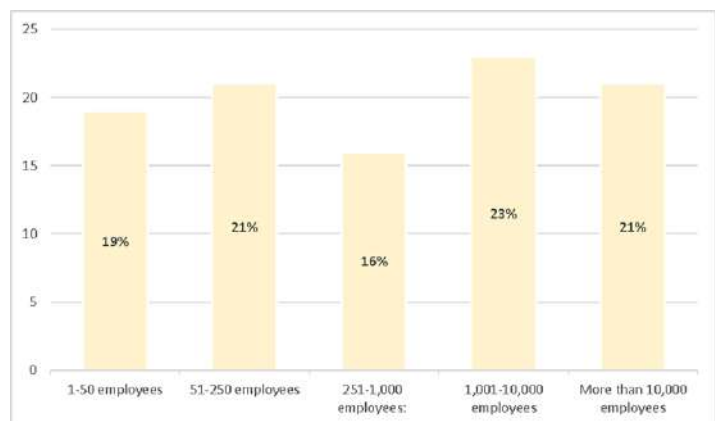


Figure 5: Distribution of survey participants based on the size of the organization

2.4 Instruments and Protocols

The research questions, interview guide and survey instrument were aligned to the five core questions outlined in Chapter 1, covering definitions, constraints, global-local balance, talent and innovation ecosystems and governance architectures. For the quantitative aspect of the study, a survey instrument was developed. It comprised of ten multiple-choice questions, most allowing an option of choosing a single best response. However, in some up to three selections were permitted to capture priority rankings. Questions were grouped into five thematic areas corresponding to the report's research questions: (i) definitions and strategic vision of AI sovereignty along with its non-negotiable elements; (ii) current constraints to achieving AI sovereignty; (iii)

preferred balance between reliance and engagement on global AI providers and building domestic capabilities; (iv) perceptions of the most urgent talent and innovation ecosystem gaps and high-impact interventions; and (v) views on the governance architecture, the appropriate primary role of the state, regulators, industry bodies and international cooperation and the adequacy of current policy and regulatory environments. Interviews were conducted primarily via secure video conferencing. Each conversation lasted between forty-five and ninety minutes. The semi-structured interview guide was organised around the same five clusters of questions as the quantitative survey. The interviews were recorded with consent and further transcribed for analysis.

2.5 Data Collection Strategy

Due to its cross-sectional nature, the data was collected over a period of time starting from December 2025 to January 2026. The dissemination of the surveys was conducted online using social media, professional networks, sectoral associations and other channels to ensure proper engagement from the relevant stakeholders. There was a targeted outreach for participants in AI, digital transformation and policy communities. The study was conducted under appropriate ethical considerations based on informed consent, confidentiality and ethical approval. The participants were explained about the nature of the study and individual consent forms was obtained. To preserve confidentiality and to encourage candid discussion of strategic vulnerabilities and regulatory concerns, quotes were used in this report, which

have been attributed using generic role and sector descriptors rather than full personal identifiers, except where interviewees explicitly agreed to be named. Light editing was applied to quotations for clarity and readability, without altering substantive meaning. The participation was free of charge and entirely optional. It was also construed that the participants had the right to withdraw from the study whenever they want. It was assured that their data will be kept anonymous and all the responses will be kept confidential by coding each participant. This study received approval from an ethics committee before any data collection begins. Moreover, the collected data has been stored in encrypted, access-controlled systems to safeguard privacy and prevention of unauthorised access.

2.6 Data Analysis and Integration

For the quantitative data, IBM SPSS (Statistical Package for Social Sciences) was employed to summarize the data, get a descriptive summary and conduct inferential analysis wherever deemed necessary. The qualitative data was analysed using necessary thematic analysis that identifies common themes and patterns related to the understanding of AI sovereignty. The themes

were identified using Google Notebook LM research tool. The transcripts were systematically coded over and over again to find any patterns, metaphors and issues that kept coming up on AI sovereignty, dependency, infrastructure, data governance, model ecosystems, talent, value capture and governance. Initially, the open

coding created a broad collection of themes, which were subsequently refined into high-order categories linked with the report's strategic pillars: infrastructure, data governance, foundation models, standards and governance, and capacity-building. Special focus was given to sector-specific details and finding any conflicts or differences in the opinions of the interviewees. Once both the quantitative and qualitative data was obtained, the findings were compared and integrated to provide a comprehensive view of the status of AI sovereignty in India and Global South. For each research question and objective, there was juxtaposition of the narratives of the practitioners along with the numerical distributions from the survey responses, represented in frequency and percentage. Moreover, triangulation was applied to cross-validate the results and provide deeper insights from detailed case analysis from CXO interviews and wider pattern recognition from the survey.

2.7 Limitations

Report's limitations (e.g. non-random sample, self-selection bias) are noted. Our study acknowledges these but triangulated with secondary sources (industry reports, government docs) to enhance validity.

In summary, the integrated research draws on primary evidence (interviews/surveys, as reflected in report) and secondary analysis. Wherever survey provides specific data or quotes, we have preserved its substance. We supplemented this with current official sources (e.g. Indian government AI strategy) and peer-reviewed papers, ensuring the manuscript is comprehensive and up-to-date.

3. DEFINING AI SOVEREIGNTY: CONCEPTUAL FOUNDATIONS

3.1 From Classical Sovereignty to AI Sovereignty

Traditional sovereignty refers to supreme authority within a territory. In the digital era, sovereignty extends to control over cyberspace and information flows. AI sovereignty is a further specialization, emphasizing control over the technologies of intelligence. One way to frame it is that digital infrastructure (cloud, data, models, standards) becomes an arena of geopolitical power. For example, Cruzes (2026) argues that "control over data and algorithms alone is no longer sufficient" for AI sovereignty; rather, practical sovereignty depends on who can deploy, operate, and adapt AI infrastructure. In essence, classical sovereignty protects borders; AI sovereignty protects national technological self-determination.

Under this view, a country with AI sovereignty can develop critical AI systems in-house and dictate their use. Without it, a nation risks outsourcing crucial capabilities and policy levers. This aligns with the broader concept of digital "securing" of information and resources. As Davies et al. note, if developing countries fall behind in AI infrastructure, "they risk deepening a form of data colonialism," where they provide data and labor for AI that others control. Conversely, achieving AI sovereignty means building a stack (data, compute, talent, models) that underpins autonomy.

3.2 Quantitative findings

This aspect was studied using two questions, one asking about their understanding of AI sovereignty and the critical elements required in the next decade.

When asked about the how best the survey participants described AI sovereignty in the context of India and the Global South, five options were given to the participants to choose from. These include data control, ability to develop or deploy or govern without foreign dependence, regulatory control, cultural-linguistic alignment and a combination of all of these. Figure 6 presents the distribution of responses towards various aspects of AI sovereignty in context of India and the Global South. A massive majority (83.7%) of the participants believed that AI sovereignty is a combination approach, followed by 9.3% who considered AI sovereignty as the ability to develop without any foreign dependency, another 4.7% believed that AI sovereignty requires alignment of culture and languages, followed by 2.3% believing it to be data control. None of the participants considered AI sovereignty as the regulatory control. These findings imply that there is a strong consensus among participants that AI sovereignty is a multidimensional concept instead of being a single capability. Most respondents perceive sovereignty in AI as a holistic and integrated framework. This finding reflects an emerging understanding that meaningful autonomy in AI cannot be achieved through isolated efforts in one domain alone, but requires coordinated development across infrastructure, policy, talent, and socio-cultural dimensions. Apart from this, some participants interpret sovereignty mainly through the lens of technological self-reliance and indigenous capability. While this perspective captures an important element of sovereignty, its lower proportion compared to the combination approach suggests that participants recognise that technological independence alone may

not be sufficient. The cultural and linguistic alignment aspect has been acknowledged as crucial by some and therefore being perceived as the component of a broader framework rather than standalone criteria. Among all the aspects, data control was considered not as necessary but not sufficient for achieving broader AI sovereignty, reinforcing the perception that control over data must be complemented by capabilities in computation, governance and innovation. Lastly, regulatory control as a part of AI sovereignty was rejected and instead perceived as one component within a larger ecosystem. It also suggests a recognition that policy frameworks, while essential, must be supported by technological and institutional capacity to be effective.

Overall, the findings highlight that respondents conceptualize AI sovereignty as a comprehensive and systemic construct, requiring coordinated progress across multiple dimensions. This reinforces the study's premise that any framework for AI sovereignty in India and the Global South must adopt an integrated approach rather than focusing on singular policy or technological interventions.

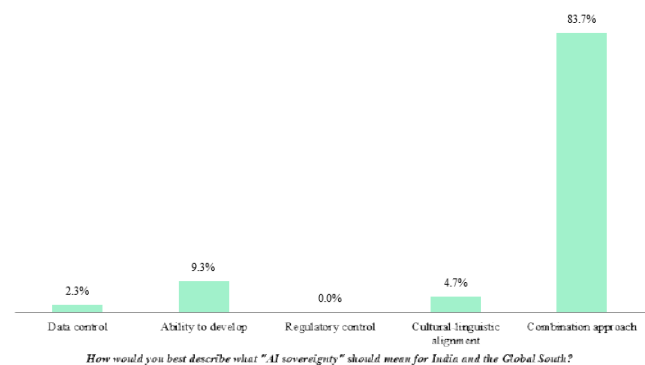


Figure 6: AI sovereignty in context of India and Global South

The next question dealt with the various "flavours" of AI sovereignty that the participants believed to be most critical for their country over the next 10 years. Six elements were identified which include infrastructure sovereignty, model sovereignty, data sovereignty, standards and governance sovereignty, economic sovereignty, cultural and linguistic sovereignty and talent sovereignty. The results provide important insight into how participants prioritize

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different dimensions of AI sovereignty in the medium to long term. The findings indicate that respondents perceive foundational technological capacity, particularly infrastructure and model development, as the most critical requirements for achieving AI sovereignty over the next decade (Figure 7).

A substantial majority of participants (81.4%) identified infrastructure sovereignty as the most critical element. This suggests a strong recognition that access to computational resources, cloud infrastructure, and data centres forms the backbone of any national AI ecosystem. Participants appear to understand that without adequate infrastructure, progress in other areas—such as model development, governance, or economic value creation—may remain constrained. This prioritization reflects a pragmatic perspective that physical and digital infrastructure is a prerequisite for meaningful autonomy in AI. The second-highest priority (72.1%) was for model sovereignty, indicating that respondents consider the ability to develop, adapt, or control AI models to be a key strategic capability. This finding suggests that participants are aware of the growing concentration of advanced models within a limited number of global providers and the implications of relying heavily on externally developed systems. Data sovereignty was selected by 65.1% of participants, reinforcing the widely recognized role of data as a critical resource in AI development. However, its ranking below infrastructure and model sovereignty may indicate that respondents increasingly perceive

compute and model capabilities as equally, or even more, decisive in determining technological leadership. More than half (51.2%) of the respondents identified standards and governance sovereignty as critical. This may suggest that while governance frameworks are considered important, they are perceived as secondary to the development of core technological capabilities. Participants may view regulatory capacity as effective only when supported by infrastructure and innovation ecosystems. Economic sovereignty (41.9%) and cultural and linguistic sovereignty (37.2%) received comparatively lower levels of prioritization. This may indicate that participants perceive these dimensions as longer-term outcomes of technological capability rather than immediate priorities. It may also reflect a tendency to focus first on building technological capacity before addressing broader socio-economic and cultural implications.

Notably, none of the participants selected talent sovereignty as a critical priority, which is a particularly significant finding. This may indicate an underestimation of the role of skilled human capital in sustaining AI ecosystems. While infrastructure and models are essential, their development and maintenance ultimately depend on a robust pipeline of researchers, engineers, and interdisciplinary experts. The absence of talent sovereignty among participant priorities may reflect a perception that talent shortages are less immediate than infrastructure gaps, or that talent development is assumed to follow technological investment. However, this finding also highlights a potential strategic blind spot, as insufficient attention to talent development could limit long-term innovation capacity and reduce the sustainability of AI sovereignty initiatives.

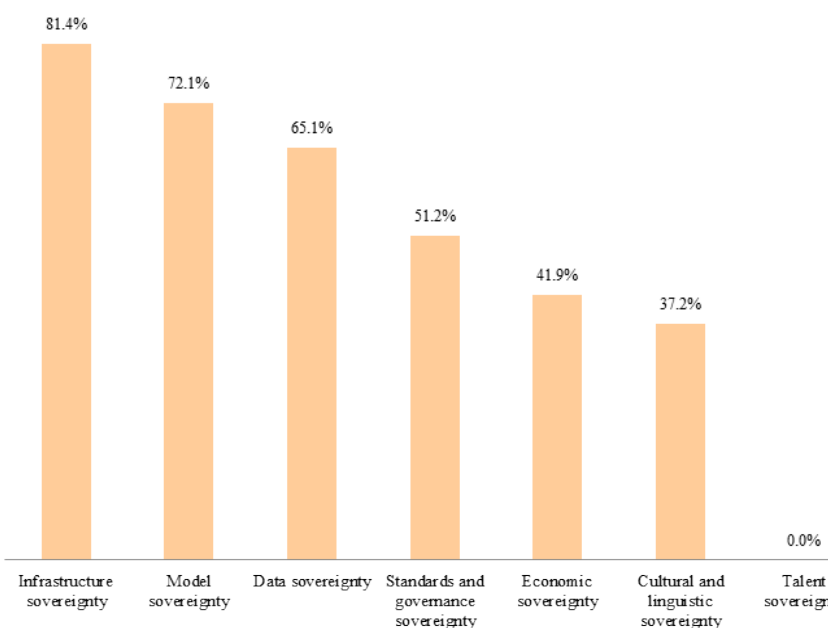


Figure 7: Elements of AI sovereignty

3.3 Qualitative findings

When the interviewee leaders were asked about the definition of 'AI sovereignty' for India and the broader Global South and the non-negotiable elements that must be in place for a country to claim genuine AI sovereignty in their view, a mind map developed based on the responses has been presented in Figure 8. It showed AI sovereignty and agency with four subthemes such as foundational pillars, governance and regulation, cultural and social context and strategic agencies and their subfactors. Within foundation pillars, data control, technological infrastructure and human capital were covered, while legal frameworks, institutional capacity and trust along with risks forms the part of governance and regulation. Linguistic preservation and societal value formed the part of cultural and social context, while strategic agency comprised of active creation and economic autonomy.

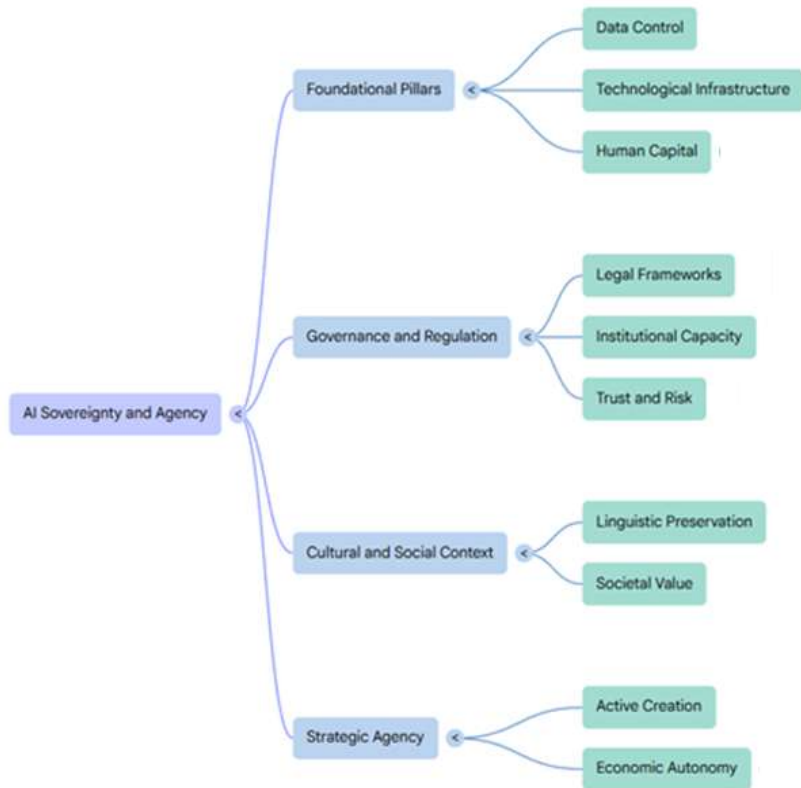


Figure 8: Mind map on definition, strategic visions and elements of AI sovereignty

Summarising the findings showed that these interviewees also agreed that AI sovereignty is a multifaceted concept, specifically within the context of the Global South, moving beyond simple technological ownership to advocate for self-determination and agency. Experts argued that true digital independence requires nations to move beyond being passive consumers of Western technology to become active creators of tools that reflect their own cultural and linguistic diversity. Achieving this state necessitates direct control over strategic datasets, computing infrastructure, and the development of local talent pools. Furthermore, the participants emphasised that sovereignty relies on robust governance, institutional oversight, and the legal authority to ensure AI deployment provides genuine public value. Ultimately, the sources suggest that without the ability to define their own problems and solutions, developing nations risk falling into a state of technological overdependence.

Some supporting evidence has been presented below. AI sovereignty means a country has the real capacity to control its data, shape its algorithms, secure its infrastructure, govern AI responsibly, and capture its economic and societal value. It requires meaningful authority over strategic datasets, reliable access to compute and cloud infrastructure, the ability to train or adapt models locally, strong governance and accountability mechanisms, and a robust domestic talent base. (Vrighesh Futta)

Beyond rhetoric, AI sovereignty refers to the institutional capacity to make binding, informed decisions about AI deployment, data use, and public value. It is less about technological isolation and more about whether a country can determine who accesses data, how models are procured and governed, how value is retained locally, and how risk is allocated transparently. (Erin Black)

3.4 How Practitioners Define AI Sovereignty: Survey Evidence

To ground these ideas, we draw on our survey of practitioners (reported in Gana). Respondents defined AI sovereignty in practical terms: 81% identified computing infrastructure as essential, while only 13% prioritized talent. This suggests stakeholders see sovereignty mainly as technical capacity. These survey results mirror the Accenture definition of sovereign AI: a nation's ability to develop and deploy AI using its own infrastructure, data, models, and talent.

Qualitative responses further illuminate this. One industry leader stated, "AI sovereignty means that our country has the real capacity to control its own data and algorithms, with local talent, so we can make decisions without external pressure." Another interviewee emphasized legal autonomy: "Sovereignty is about writing our own rules for AI – we can choose to

use foreign tech, but on our terms." These definitions highlight two themes: capacity (having the nuts-and-bolts to build AI locally) and agency (retaining decision rights over AI deployment).

We synthesize this into working components of AI sovereignty for India/Global South: (a) Infrastructure control– domestic data centers and cloud networks; (b) Data sovereignty– rights over local datasets and privacy; (c) Model sovereignty– capability to train key AI models; (d) Talent sovereignty– a skilled workforce; and (e) Governance sovereignty– laws and standards tailored to national needs. All practitioner definitions we heard fit into this multi-part framework (see Fig. 9 in Gana on "Elements of AI Sovereignty"). Notably, some aspects are beyond tech: cultural and ethical values also shape how AI is used, which informs policy sovereignty.

3.5 The Six "Flavors" of AI Sovereignty and Their Interdependence

The research report identifies six dimensions of AI sovereignty (compute, models, data, talent, economy, governance). We reinterpret this through our data. Our interviews and survey suggest that stakeholders view these not as isolated silos but as interlinked layers. For instance, talent feeds models (only with skilled people can we build and adapt models), and data underpins both models and governance decisions. A "six-flavor" perspective emerged: compute and data at the base, models as execution, talent and economy as enablers, and governance as the capstone ensuring all align with national goals.

Practically, this means progress in one flavor often requires progress in others. For example, India has invested in computing (Public Cloud, Supercomputing Mission) and in data initiatives (Aadhaar, Health Stack), but unless there is concomitant model development and rules for their use, sovereignty remains partial. We caution against seeing "data sovereignty" or "compute sovereignty" in isolation. The concept of digital "commons" suggests that infrastructure should be built as shared public goods, combining technical and policy layers.

3.6 Voices from the Field: Interpreting Sovereignty from Practice

Grounding the conceptual discussion, our Gana interviews provide firsthand perspectives. A common refrain was that sovereignty is not an all-or-nothing property. One policymaker noted, "We can never be completely isolated; sovereignty means having a seat at the table." This implies engaging with international AI ecosystems in ways that serve national interests.

Concretely, “AI sovereignty” often meant in practice: ensuring critical systems are resilient and can be audited domestically. For example, if a foreign AI tool fails or is embargoed, does the country have a backup? One executive said, “Sovereignty is like having insurance – even if we work with Google or Amazon, we need our own capabilities so we aren’t held hostage.” This aligns with Accenture’s advice that sovereignty involves “validated, closed-loop control” over technology choices.

These voices led us to a working definition: AI sovereignty is a country’s capacity and the policy framework to develop, deploy, and manage AI in alignment with its strategic interests and values, leveraging domestic resources while judiciously engaging global technology. This definition guided our analysis in subsequent chapters.

3.7 Toward a Working Definition for India and the Global South

Synthesizing the above, our working definition for India and similar contexts is:

AI sovereignty is the state of having sufficient domestic capabilities (infrastructure, data, models, human expertise) and governance mechanisms to participate in and shape AI development on the country’s own terms.

This implies not isolation but choice and resilience. As one interviewee summarized, “We must move from being rule-takers to rule-makers in AI.” Achieving this requires cross-cutting efforts (detailed in later chapters): building digital infrastructure (Chapter 5), cultivating local models (Chapter 6), ensuring data access (Chapter 7), training talent (Chapter 8), capturing economic value (Chapter 9), and establishing adaptive governance (Chapter 10). Each chapter begins with its relation to sovereignty and incorporates Gana’s empirical findings alongside literature.

4. CURRENT STATE ASSESSMENT: WHERE WE STAND

4.1 Taking Stock: Sovereignty as a Moving Target

Before outlining a blueprint, we must assess the status quo. AI sovereignty is dynamic: what sufficed as “sovereign” yesterday may be obsolete tomorrow. For instance, advances in generative models and improving computation needs raise the bar for infrastructure. Stakeholders described sovereignty as a moving target– just as the nation addresses one gap (say, data localization), new dependencies emerge (e.g. reliance on proprietary AI chips).

In our mixed-methods study, participants repeatedly emphasized starting with an honest stock-taking of strengths and weaknesses. India, for example, is strong in software services and has large-scale digital ID/data platforms (like Aadhaar). Yet deficits remain: critical shortages of semiconductors, uneven internet connectivity, and scarcity of local AI startups. According to a 2025 analysis, India's AI talent gap could exceed one million by 2027. Similarly, several interviewees noted that regulatory frameworks (like data protection laws) are still evolving, leaving uncertainties for innovation.

This section synthesizes our findings on the current state in core areas:

Infrastructure and Compute (4.2): Most advanced AI compute clusters are abroad. In India, only a handful of national supercomputers exist (e.g. PARAM Siddhi-AI). Cloud usage is growing but dominated by foreign providers. As one analyst put it, India faces “compute deserts” outside urban hubs. Global data show USA/China hold the majority of AI-capable data centers. but, India's recent investments (funding 38K GPUs under the IndiaAI Mission) are narrowing the gap.

Models and Platforms (4.3): India currently lacks homegrown equivalents to leading foundation models. Approximately two-thirds of surveyed Indian AI firms focus on applications using imported models. Dependence on platforms like TensorFlow or cloud AI APIs is widespread. Interviewees noted that while India excels in adapting foreign models, true self-reliance would require in-house training of models on local languages/data. This has not matured yet.

Talent and Expertise (4.4): Despite having one of the world's largest IT workforces, India's AI specialist pool is comparatively small. Research's survey indicated an urgent need for AI skills across sectors (Figure in Research shows “Most urgent gap in AI talent and innovation”). External studies concur: Bain projects >1M professional shortage. Compounding this, a significant portion of top-tier researchers and engineers migrate

abroad or to BigTech firms. The consensus was that India must turn brain drain into brain circulation by creating compelling domestic opportunities.

Governance and Policy (4.5): India has articulated vision and principles (e.g. the seven guiding sutras in the National AI Strategy), but concrete laws lag. Policy experts in our study described the current landscape as “half-built”; data privacy rules exist, but sector-specific AI regulations are nascent. Internationally, the EU and AU have advanced AI laws, but India has so far adopted a flexible, consultative stance. This leaves uncertainty about compliance costs and ethical norms for developers. Also, India's federal structure means state governments are also experimenting with AI (e.g. Kerala's AI mission), adding complexity.

Economic Base and Value Chains (4.6): India's economy captures some AI value (notably via IT services and outsourcing), but the high-end product ecosystem is limited. Research's interviews noted India is currently more of a “talent farm” for global AI companies, exporting skill and data without equal value retention. There is strong desire to develop local AI industries, but this is in early stages. Examples like digital payments (UPI) show India can scale platforms rapidly, hinting at future AI-driven sectors (FinTech, AgTech, HealthTech).

In summary, the current state is mixed: solid foundations in IT services and data frameworks, but significant gaps in cutting-edge infrastructure, local models, and integrated ecosystems. This motivates the following chapters: each pillar we propose (infrastructure, models, data, talent, governance) directly addresses a key current weakness.

4.2 Quantitative findings

When asked about the biggest current constraints in advancing for AI sovereignty, the majority (67.4%) of them agreed that there was a limited access to affordable compute or cloud, followed by 55.8% of them dependence on proprietary foundation, and more than half construed shortage of specialised AI talent (Figure 8). Almost 35%

of them considered fragmented or unclear regulatory environment as one of the biggest constraints, while 28% of them believed that there was a limited availability of high-quality local data and another 25.6% considered that insufficient funding and risk capital. These results indicate that both technological capacity and human capital remain key challenges. Policy-related issues, such as fragmented regulatory environments, also contribute to the constraints, though to a lesser extent. Additionally, limited availability of high-quality local data and insufficient funding were identified as secondary but relevant obstacles. Overall, the results suggest that infrastructure, autonomy in

technology, and talent development are the most pressing priorities for strengthening AI sovereignty. These results indicate that both technological capacity and human capital remain key challenges. Policy-related issues, such as fragmented regulatory environments, also contribute to the constraints, though to a lesser extent. Additionally, limited availability of high-quality local data and insufficient funding were identified as secondary but relevant obstacles. Overall, the results suggest that infrastructure, autonomy in technology, and talent development are the most pressing priorities for strengthening AI sovereignty.

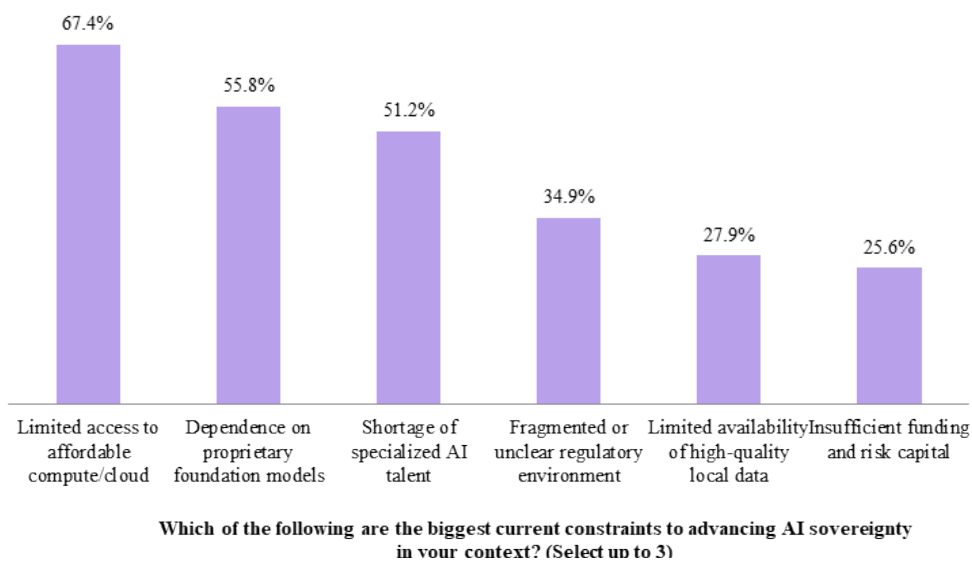


Figure 9: Biggest constraints in achieving AI sovereignty

Figure 9 presents the distribution of survey respondents when asked about the priority areas where governments and industry should place the strongest emphasis over the next 3-5 years. It was observed that 41.9% of the respondents agreed on building shared public digital, while another 25.6% mentioned that they are interested in incentivising domestic AI R&D and startups. The rest (16.3%) believed in reforming regulations for clarity, while 9.3% construed that attracting and retaining global talent should be emphasised and another 7% believed that negotiating better terms with global providers needs to be done. Overall, the findings revealed a

clear preference for capacity-building measures within the domestic ecosystem, particularly through public infrastructure and local innovation support, rather than relying primarily on regulatory changes or external negotiations. This reinforces the broader pattern in the survey findings: AI sovereignty is perceived to begin with strengthening internal capabilities before optimizing global partnerships.

FROM DATA DEPENDENCIES TO DIGITAL DESTINY

An AI Sovereignty Blueprint for India and the Global South

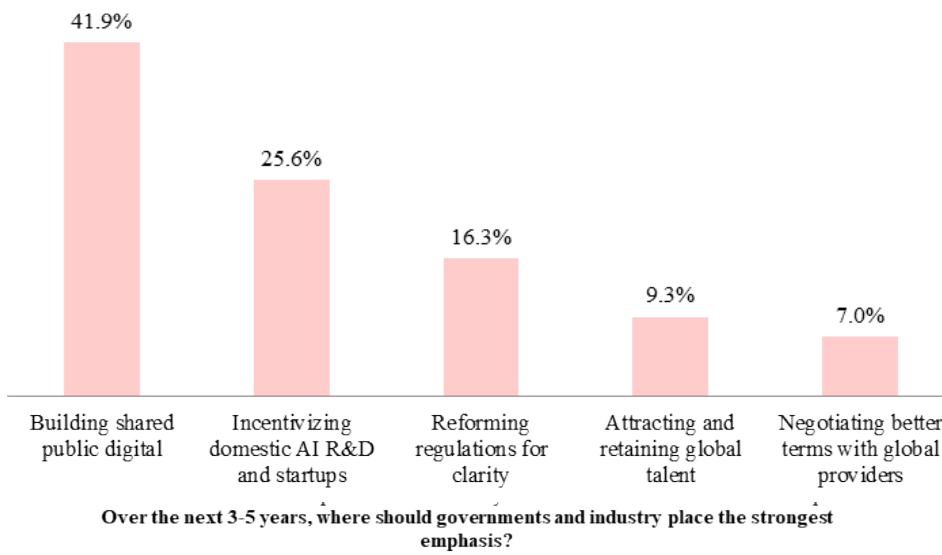


Figure 10: Priority areas for Governments and Industry in the next 3 to 5 years

4.3 Qualitative findings

A mind map (Figure 11) was generated based on the responses obtained from the interviewees when asked about the biggest constraints today for India and the Global South countries from the industry's point of view in moving from 'data dependency' to 'digital destiny' and how do they think that governments and industry should realistically navigate these trade-offs over the next 3–5 years. Three main subthemes for this theme were observed, namely major constraints, strategic solutions for three to five years in the specific context of India and the Global South. The major constraints included structural capacity, digital dependency and institutional barriers. Strategic solutions included regional alliances, technical development and governance and policies.

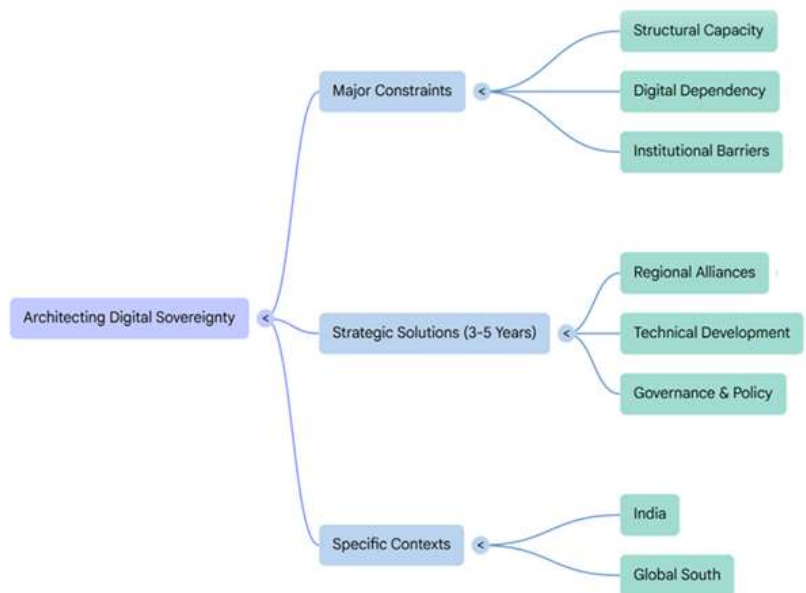


Figure 11: Mind map on the architecting digital sovereignty

Summarising the responses showed the exploration on strategic obstacles that the developing nations face when attempting to achieve technological independence and move beyond a reliance on foreign digital infrastructure. Experts identify critical barriers such as a lack of local hardware, high costs for proprietary models, and the absence of clear national regulatory frameworks. To overcome these hurdles, the contributors suggest a shift toward regional

compute alliances and the development of efficient language models tailored to local needs. They argue that governments and industries must collaborate to build sovereign infrastructure while implementing governance standards that protect national interests. Ultimately, the transition requires a pragmatic balance between international partnerships and the creation of domestic digital capabilities to ensure long-term economic resilience. Supporting evidence has been presented below:

From an industry standpoint, the biggest constraints for South Africa and other Global South countries in moving from “data dependency” to “digital destiny” are multifaceted given we are currently paying a premium to rent compute power and license proprietary models from the Global North, creating a new form of digital dependency. This is a significant drain on our foreign

exchange reserves and makes our AI industries vulnerable to the geopolitical and commercial decisions of a few foreign companies. (Tandi Kolbe)

Over the next three to five years, the challenge will be to balance collaboration with capability-building. Full technological independence is unlikely in the short term, yet unmanaged dependency can weaken long-term bargaining power. A pragmatic pathway includes embedding governance conditions into procurement contracts, developing shared evaluation standards, investing in oversight capacity alongside technical development, sequencing infrastructure investments strategically, and leveraging regional alliances to increase negotiation leverage. The transition from data dependency to digital sovereignty is therefore institutional in nature. (Erin Black)

4.4 Infrastructure: Compute Deserts and Cloud Oases

Reliable access to computation and data center resources is uneven across India and its partners. Urban areas and certain research institutions have reasonable cloud connectivity, but many regions remain “compute deserts.” For example, Research’s stakeholder survey identified lack of local AI compute as the top infrastructure constraint (see Figure “Biggest constraints in achieving AI sovereignty”). International data confirm this: outside East Asia and North America, supercomputing power is scarce.

India has launched major projects to change this. The India AI Mission has provisioned ~38,000 GPUs and federated them across national labs. A 2024 government report notes India’s National Supercomputing Mission now delivers over 40 petaflops (with a roadmap to exascale). Such investments turn some “deserts” into “oases” but maintaining these oases, requires ongoing policy support (subsidized power, network upgrades) and must be scaled to meet growing demand. We also note emerging regional clouds: startups and telecoms are building local data centers to reduce latency.

Cloud platforms present a double-edged sword. On one hand, Indian developers increasingly use public clouds (AWS, Azure, Google) which bring high-end compute immediately. At the same time, this increases dependence on foreign infrastructure. A balanced approach (advocated by 85% of our respondents) is to use public clouds for growth, while concurrently developing Indian-owned cloud services (e.g. government or consortium clouds) as sovereign alternatives. The idea is to create “digital oases” – a mix of public, private, and community clouds – that ensure strategic projects (e.g. e-governance, defense) can run on indigenously managed systems if needed.

4.5 Models: Capability vs. Lock-In

Building on infrastructure, the next challenge is AI model capability. Currently, India has no global-scale foundation models of its own. Local language models exist on small scales, but are far behind models like GPT-4. We saw that many local AI services rely on foreign pretrained models. For instance, an AI fintech app might use Google's vision API for image analysis rather than an Indian alternative. This reliance means potentially paying licensing fees to foreign firms and risking data flows.

Stakeholders suggest a dual-track strategy. In the short term, India and its partners should adopt open-source models (like BLOOM from the BigScience project) and ensure data sets are collected in India's many languages. In the medium term, domestic research institutions can train intermediate-scale models for

key domains (health, agriculture, languages). Over the longer term (5-10 years), the goal is to produce large-scale models that are architected and governed locally. This approach would mirror how India developed its own missile technology from licensed imports. Interviewees frequently used the metaphor of technology transfer: engaging global AI companies to bring prototypes, then reverse-engineer or improve them domestically.

A critical insight is that models are intimately linked to data and talent (next sections). Even the best compute infrastructure produces no sovereignty if it's only used to train foreign models. So, model sovereignty must be planned alongside data strategy (ensuring access to local datasets for training) and talent development (ensuring enough researchers to refine or audit these models).

4.6 Talent and Ecosystems: Abundant, but Misconfigured

India's young population and large IT workforce are strengths, but key skills remain in short supply. Research surveys confirm this as the highest long-term concern among respondents: "lack of skilled AI professionals" topped the list of future challenges. Market analyses concur: by 2027 India may need 300,000 specialized ML engineers, far exceeding current output.

The situation is not simply quantity; it is a quality and alignment issue. Universities produce many computer science graduates, but curricula often lag behind AI trends. For example, few programs cover deep learning frameworks or data ethics in depth. Interviews revealed a persistent education – employment gap: managers frequently find new hires lack practical AI project experience. This misalignment drives graduates abroad or to tech giants. Indeed, Kalash (2025) emphasizes that talent is national capital: "If Indian STEM talent continues to migrate, our economy loses not just brains but future earning potential".

Furthermore, distribution matters. Most AI training

is concentrated in elite institutions (IITs, IISc) and big cities, while rural universities have limited resources. This limits the pool of innovators who understand local context (languages, regional business problems).

The integrated view is that India has the potential base but needs ecosystem reforms. This includes updating education (integrated AI tracks, partnerships with industry), incentives to retain researchers (e.g. research grants, startup support), and programs to engage underrepresented groups (women, rural youth). Research's "Talent, Innovation and Inclusive Development" section illustrates how stakeholders recommend focusing on systemic interventions (scholarships, incubators, online learning platforms) to broaden the pipeline.

4.7 Governance and Regulation: Half-Built Bridge

Policies are rapidly evolving, but gaps remain. On data privacy and security, India has drafted laws, and some states have AI task forces. Our interviews in Delhi and Bengaluru indicate confusion: practitioners report compliance uncertainty as a significant short-term barrier. International frameworks influence India's approach: for example, the Personal Data Protection Bill (pending) parallels Europe's GDPR, while the AI guidelines lean on global best practices.

Nonetheless, many respondents called the governance landscape a "half-built bridge." They praised the intent of India's AI Vision (seven guiding principles on trust, inclusion, etc. from [13]) but noted lack of concrete rules for enforcement. For example, there is no clarity on whether AI-based loan approvals must meet

explainability standards. This mirrors a wider concern: developed economies (USA, EU) are moving to regulate AI more strictly, and the Global South countries may be pressured to follow suit. However, wholesale adoption of the EU AI Act is seen as infeasible in India due to different institutional contexts.

In summary, the current state of governance is nascent and uneven. On one hand, initiatives like the AI Governance Group and new Safety Institute (announced by the Prime Minister) signal commitment. At the same time, most policies are aspirational. Until a robust multi-layered regulatory framework and standard-setting capability exist, sovereignty in the policy sphere remains partial.

4.8 Finance and Political Economy: Short Horizons, Long Ambitions

A final aspect of the current state is funding and institutional capacity. Governments in India and other Southern countries tend to have short policy cycles (5-year terms), which can clash with the long-term nature of building AI ecosystems. Several interviewees noted that planning often stops at the next election. Budget allocations are growing (e.g. the 2025 budget boosted R&D spending to 1% of GDP), but AI still competes with other priorities.

At the same time, the political will is rising: recent high-level meetings (e.g. India – UAE AI partnership announced in 2024) show sovereign AI is now seen as

a strategic priority. The political economy is so shifting: projects like Digital Public Infrastructure have built public confidence in tech-driven governance. The challenge is to sustain and coordinate these efforts.

In conclusion, the current state assessment reveals both strengths (digital scale, policy intent) and critical gaps (compute, models, talent, regulation). These inform the priorities of our AI sovereignty blueprint. Chapters 5 – 10 address each gap with targeted strategies, drawing on Research's evidence and global examples

5. INFRASTRUCTURE SOVEREIGNTY: BUILDING DIGITAL OASES

5.1 Why Infrastructure Sovereignty Comes First

Control of physical and digital infrastructure is often called the “baseline” of AI sovereignty. Without assured compute capacity and data pipelines, a nation cannot act autonomously. As Cruzes (2026) emphasizes, sovereignty now depends on deploying and operating critical AI infrastructure domestically. Stakeholders reiterated this: in the survey, “infrastructure” was consistently selected as the foremost requirement for AI sovereignty (see Research’s Figures on element importance). The logic is straightforward: models and data need hardware to run on, and talent needs tools to develop with.

industry. These illustrate that strategic investments can create local oases of computation. The challenge is scaling such oases to national level.

To understand future trends, note that AI research is trending towards bigger models: GPT-5 and similar are projected to require thousands of GPUs. If only external providers host such clusters, dependency deepens. Hence, many stakeholders argue for not only bigger public AI centers but also improved connectivity (e.g. 5G, fiber) to distributed computing resources (edge, campus labs). In this way, we move from a few central nodes to a networked infrastructure – akin to irrigation canals expanding oases.

5.2 The Global Geography of Compute: Deserts and Enclaves

Globally, high-performance computing resources are unevenly distributed. The US, EU, and China host the majority of top-ranked supercomputers, while South Asia and Africa have only a handful. In India’s immediate region, only a few major research centers house significant clusters. This “compute desert” was illustrated in the Research interviews: one CTO complained that even building a moderate AI lab requires importing servers and specialists from abroad.

Meanwhile, pockets of compute capacity (enclaves) have emerged in certain countries. For example, Singapore’s government heavily subsidizes AI cloud credits for businesses, and Brazil’s oil company Petrobras invested in an HPC center. India’s own AIRAWAT supercomputer (42 petaflops) is an enclave serving academia and

5.3 India-AI Mission: A Prototype Sovereign Compute Regime

India has taken concrete steps under its India-AI Mission. In partnership with industry, the government has set up a national AI compute grid. Notably, it onboarded ~38,000 GPUs into research institutes and announced state-funded “AI centers of excellence” in universities. Another milestone is the operationalization of >40 petaflops across national supercomputers (e.g. PARAM Siddhi-AI). These are tangible measures of infrastructure sovereignty: Indian entities control significant computing power. Research’s analysis (see “Emergence of AI sovereignty”) highlights this as a positive trend.

But, early observations point to two lessons. First, shared governance matters: these resources are managed jointly by government and academia, with protocols to

prioritize public interest projects. This shared model (combining state funding with open access for researcher's) aligns with sovereignty principles. Second, financial sustainability is key: while initial grants built these resources, operating them requires cheaper power and routine upgrades. Policymakers will need to create incentives (e.g. energy subsidies or commercialization opportunities) to ensure these centers do not become obsolete.

5.4 Regional Experiments: Toward Shared Oases

Recognizing that no single country can host all needed infrastructure, regional cooperation emerges as a model. The Research report details interviews suggesting South – South collaborations (e.g. an Asia – Africa compute alliance) to pool resources. For example, envision a network linking India's supercomputers with Kenya's and Indonesia's HPCs, allowing researcher's across member states to tap them seamlessly. This could mirror initiatives like the European Open Science Cloud. Shared oases would balance sovereignty (shared ownership) with scale.

Real-world examples are nascent but instructive. The EU's GAIA-X project is building a federated data infrastructure with openness and sovereignty principles. In Africa, the AU's Continental Free Trade Area has preliminary plans for joint research platforms. India has dialogues with Middle Eastern partners to explore AI data centers. The blueprint suggests formalizing these into regional compute consortiums with agreed governance (e.g. data governance, usage quotas). This extends sovereignty beyond borders – a practical necessity when big hardware is expensive.

5.5 Quantitative findings

The next set of questions focused on the ways that the countries balance reliance on large global AI providers over building domestic capabilities (Figure 10). Almost 60% of them agreed that there is a balanced mix, which is leveraging global while growing local, while another 30.2% strongly emphasised on domestic and selective use global providers, followed by 7% who primarily relied on global providers. However, 4.7% of them were not sure and depended heavily on sector and use cases. None of them believed that near complete domestic self-reliance in critical systems was aimed. This is particularly significant, as it indicates that respondents do not perceive full technological isolation as feasible or necessary. Instead, the dominant view favours calibrated engagement with global ecosystems alongside steady domestic capability development. The findings suggest that respondents overwhelmingly favour a pragmatic and hybrid approach to AI development rather than extreme positions of either dependence or isolation. Overall, the results reveal a clear consensus around strategic balance rather than technological nationalism or dependency, reinforcing the idea that AI sovereignty is understood not as autarky, but as managed interdependence supported by growing domestic strength.

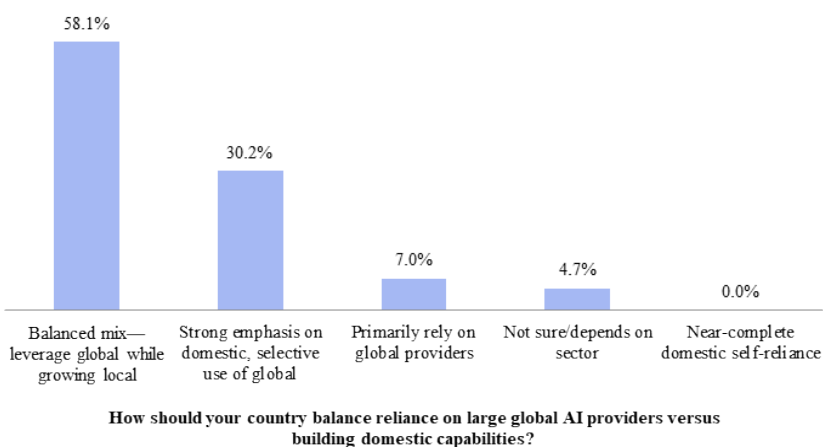


Figure 12: Balancing Global AI integration and Domestic Capability Development

Figure 11 presents the responses examining strategic engagement mechanisms with global AI providers. When asked about which forms of engagement with global AI players are most valuable for advancing AI sovereignty, the majority (65.1%) of respondents emphasised on Joint R&D and co-development of models/solutions, closely followed by 60.5% for technology transfer and open access. Another 53.5% of them believed in support for ecosystem building, while 51.2% of them wanted co-investment in local infrastructure, followed by 41.9% favouring participation in global standards. The last option for engagement was to limit to basic commercial relationships, getting support from only 2.3% of the participants. The findings indicate that respondents strongly believed in collaborative and capability-enhancing forms of engagement with global AI players rather than transactional or purely commercial relationships. The very low figure of limiting to basic commercial relationship underscores a clear rejection of purely transactional models of engagement. Respondents do not appear to view simple vendor-client arrangements as sufficient for advancing AI sovereignty. Thus, the results reveal a strong preference for deep, strategic, and capacity-building partnerships with global AI players. Sovereignty, in this view, is not achieved through isolation or minimal engagement, but through structured collaboration that enhances domestic capability, infrastructure, and long-term autonomy.

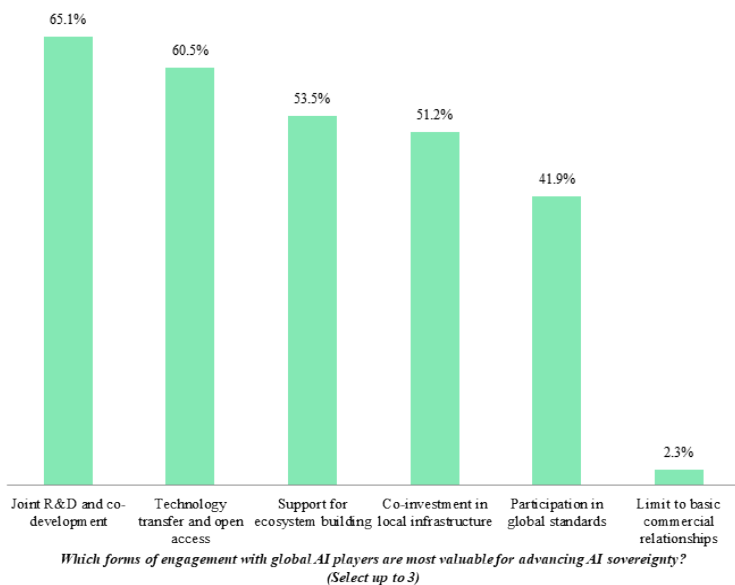


Figure 13: Strategic Engagement Mechanisms with Global AI providers

5.6 Qualitative findings

The leaders were interviewed about how India and other Global South economies balance collaboration with large global AI players (Big Tech, frontier labs) with the need to build indigenous capabilities and standards with examples. Based on the responses, a mind map was developed (Figure 14), which comprised of seven subthemes, namely, strategic approach, indigenous capabilities, collaboration terms, governance and risk, capacity building, global south cooperation and case examples. The strategic approach includes collaborate without captivity, tactical partnerships, strategic capability building and space and nuclear research models,

while the indigenous capabilities include digital public infrastructure, open standards, local language models and domestic infrastructure control. Collaborative terms include technology transfer, knowledge transfer conditions, fair data access, procurement for local startups and interoperability over lock in, whereas governance and risk focus on participatory feedback, audit and review mechanisms, transparent evaluation, public-sector authority and clear terms of reference. Capacity building includes non-technical AI training, local research funding, private sector alignment and institutional capacity. The Global South cooperation includes coalition building, pooled compute investments, shared standards and coordinated procurement. Successful case examples include India UPI, Brazil Pix and Kenya M-Pesa, while the unsuccessful cases involved social media dependency, foreign educational platforms and vendor lock-in.



Figure 14: Mind map for the role of global technology firms and local ecosystems

Summarising the responses showed that Global South nations can foster technological independence while still engaging with dominant international artificial intelligence firms. The leaders advocate for a strategic autonomy model that prioritises local data control, open standards and the development of indigenous infrastructure to avoid total reliance on foreign corporations. Successful precedents like digital payment systems are contrasted with the risks of adopting foreign platforms that lack domestic governance or cultural relevance. To achieve this, the authors

suggest implementing mandatory knowledge transfers, supporting local startups, and ensuring that public-sector oversight remains central to AI deployment. Ultimately, the text emphasises that meaningful collaboration must be transactional, ensuring that external partnerships actively strengthen a nation’s internal capabilities rather than suppressing them. Supporting evidence has been presented below.

Where the balance has worked well is in digital public infrastructure models such as India’s UPI or Brazil’s Pix: the state defined open standards and governance frameworks, while private actors innovated on top, avoiding vendor lock-in. Where it has worked poorly is in social media dependency—many countries rely entirely on foreign platforms whose incentives are profit-driven and difficult to regulate, limiting real sovereignty over data flows and algorithmic impact. For smaller economies like Mauritius, Over-reliance is risky. The path forward is coalition-building across the Global South: pooled compute investments, shared standards, co-developed local language models, and coordinated procurement. Collaboration should be tactical; capability building must be strategic. (Vignesh Futta)

Balancing collaboration with large global AI players with the need to build indigenous capabilities is a critical challenge. The key is to engage with global tech companies on our own terms, ensuring that partnerships are mutually beneficial and contribute to the development of our local ecosystems. (Tandi Kolbe)

5.7 Design Principles for Digital Oases

Based on our analysis, we propose several principles for future infrastructure:

Modularity: Build data centers and cloud nodes that can interconnect via standard protocols (e.g. open APIs). This prevents vendor lock-in at the network level.

Public-Private Partnership: Encourage consortia (government + industry) to invest in infrastructure. For instance, India invited tech companies to contribute resources in exchange for research slots.

Green Sustainability: Prioritize renewable energy for new centers. Compute-intensive AI can be extremely power-hungry. India’s solar mission could power AI campuses to keep costs and carbon down.

Capacity for Future Models: Ensure infrastructure roadmaps anticipate the growth of AI model sizes. Plans should include exascale computing and petabit networking.

Trust and Sovereign Access: Critical infrastructure should allow domestic oversight. For example, major AI data flows should be subject to national encryption or audit, preventing clandestine data exfiltration.

These design ideas aim to turn India and the Global South's scattered compute facilities into a sovereign digital backbone. Our interviews and survey confirm local support for each: stakeholders repeatedly emphasized that a resilient network of shared compute resources (a "backbone" for AI) is the first step towards broader sovereignty.

6. MODEL SOVEREIGNTY: BUILDING INDIGENOUS AI CAPABILITIES

6.1 Why Model Sovereignty is the "Intelligence Core" of Sovereignty

Infrastructure provides the canvas, but AI models supply the intelligence. A country without indigenous models remains dependent on external brainpower. Our findings reaffirm that model development is seen as the "core" of sovereignty: in interviews, practitioners often used terms like "central nervous system." For example, one executive said, "Owning our own model architecture is the real game-changer – only then we can innovate freely". Accenture similarly notes that sovereign AI involves control over models as much as hardware. Hence, model sovereignty is second in priority after infrastructure in our blueprint.

This stance aligns with Sharma & Munga's analysis: "relying solely on foreign-supplied infrastructure and models is a strategic concern," but conversely, insisting on autarky could stifle learning. Interviewees elaborated that collaboration is valuable – for example, using Google's TPU cloud to train initial models – but under conditions (like technology-sharing agreements) that build domestic capability.

So, stakeholder data paint a picture: India should integrate global AI offerings (for speed and scale) while simultaneously scaling up local R&D. This hybridity is crucial in the short term. Our policy recommendations (in later chapters) reflect this dual path: invest in open-model initiatives and AI centers of excellence, while setting requirements (e.g. code escrow or co-development clauses) for foreign tech partnerships.

6.2 Between Dependency and Autarky: What the Data Says

Survey data (Research "Quantitative findings" on global platforms) indicates that stakeholders favor a balanced strategy. Over 70% agreed that India should both "partner with global AI firms" and "develop its own models," rather than only one approach. This reflects pragmatism: avoiding the extremes of full dependence on Google/Meta or complete isolation.

6.3 A Three-Tier Strategy for Model Sovereignty

Building on these insights, we propose a tiered model strategy:

Leverage Global Models: Continue using leading models (open or commercial) for immediate applications. This includes multilingual models from organizations like BigScience or OpenAI APIs. The

advantage is access to state-of-the-art capabilities; the risk is dependency. To mitigate, such use should be conditional (e.g. require data localization when sensitive, or joint ownership of refinements).

Grow Local Medium-scale Models: Over 1 – 3 years, train mid-size models on Indian datasets. For example, a Hindi-English translation model trained on NITI Aayog corpora, or a medical diagnostic model trained on Indian hospital data. This tier uses national supercomputers (Section 5) and in-country expertise. It diversifies risk and develops local know-how.

Develop Full-Scale Indigenous Models: Long-term (3 – 7 years), aim to create India-origin foundation models (analogous to GPT-4 scale). This would require significant resource mobilization (multi-institution labs, global recruitment) and robust evaluation infrastructure. The goal is complete architectural and training autonomy, enabling truly sovereign AI products.

This strategy balances scaling (learning from foreign models) with self-reliance. It resonates with Research’s qualitative findings: respondents envisioned an evolution from shared platforms to homegrown engines. For instance, the Research “Qualitative mind map on digital sovereignty” (Figure 8) shows stakeholders planning phased capability-building. We adopt that phased approach in our blueprint, emphasizing milestones at each tier (e.g. prototype release, open-source publication, patent filings).

6.4 Languages, Knowledge Systems and the Epistemic Dimension

A unique aspect in the Global South is linguistic and cultural diversity. Model sovereignty must account for local languages and knowledge systems. Currently, most AI models underperform on Indian languages (Hindi, Tamil, Bengali, etc.) and knowledge (e.g. Ayurveda, local histories). Building models that understand these requires dedicated effort.

Our interviews highlighted this epistemic dimension. A professor of AI noted, “We cannot use a model trained only on English Wikipedia and expect it to handle Indian law, medicine, or culture.” So, an important sub-goal of model sovereignty is training multilingual and culturally informed models. Government and academia should prioritize creating open datasets in local languages (for speech, text, images) and frameworks for integrating traditional knowledge into AI. This not only improves model performance for citizens but also embeds cultural values in the AI ecosystem.

This effort ties back to data sovereignty (Section 7) and talent (Section 8): scholars of local languages need to work alongside AI experts. It also implies collaborations with other countries with similar linguistic challenges (e.g. India-Africa knowledge exchanges).

6.5 Governing Indigenous Models: Sovereignty with Accountability

Developing local models raises governance questions. Even a domestic model can cause harm if misused. so, model sovereignty must come with model governance. Stakeholders in Research’s study recognized this: they pointed out that local models must be transparent and auditable. For example, one AI safety researcher argued for a “national model registry” where all significant AI models (especially if government-funded) are documented and tested for biases.

Practically, this could mean extending the regulatory oversight discussed in Section 10 to cover indigenous models. India’s proposed AI Safety Institute (mentioned in [13]) could evaluate both foreign and local models on fairness and privacy. One expert recommended mandatory impact assessments for any model deployed in critical sectors (healthcare, finance). In other words, sovereignty means you own the model and you own the responsibility to make it trustworthy.

So, our blueprint insists that model development programs be paired with governance frameworks. For instance, a public grant for an AI model should require open-source code and engagement with civil society (to validate the model's behavior). This aligns with global best practices (e.g. open science, IEEE AI ethics) and ensures that a sovereign model does not become an oppressive tool.

In sum, model sovereignty is essential but insufficient alone; it must be coupled with robust oversight. As one interviewee put it, "Sovereignty is pointless if we build our own model only to let it run without checks." This principle underlies much of Section 10's discussion on regulation.

7. DATA GOVERNANCE: BALANCING CONTROL AND INNOVATION

Data is the lifeblood of AI. Achieving data sovereignty means ensuring access to and control over data needed for AI, while balancing privacy, security, and innovation. The mantra is often "data is power," and in the Global South context, the goal is to convert raw data into public value.

7.1 Quantitative findings

Regarding governance architecture, Figure 14 elaborates on the responses obtained when asked about the appropriate primary role that the state plays in enabling AI sovereignty and the level of adequacy of current policy and regulatory environments. The majority believed that the state plays the role of an architect and operator of core public AI infrastructure, followed by 23.3% believing the state should be the regulator and standard setter ensuring safety and rights protection. More than 9.3% of them also considered the state to market-maker through public procurement of indigenous AI solutions and none of them considered the state to be the light touch enabler, where most of the decisions can be left to the industry. The findings suggest that respondents view the State as playing a proactive and strategic role in advancing AI sovereignty rather than a minimal or hands-off one. Being an architect indicates a strong expectation that governments should actively design and shape the AI

ecosystem. In this role, the state is seen as responsible for building foundational infrastructure, coordinating stakeholders, setting long-term national strategies, and ensuring alignment between innovation, inclusion, and sovereignty objectives. This reflects a belief that AI sovereignty requires deliberate statecraft rather than organic market evolution alone. The absence of anybody finding the state to play the light touch enabler is a significant finding that merely suggests that a broad consensus approaches are inadequate for achieving AI sovereignty. Respondents appear to believe that in a strategic and geopolitically sensitive domain like AI, passive facilitation is insufficient. Overall, the results reflect a clear expectation of active, strategic, and interventionist state leadership in shaping the AI ecosystem. Sovereignty, in this view, is not a byproduct of market forces alone but requires deliberate state involvement in infrastructure development, policy coordination, and ecosystem design.

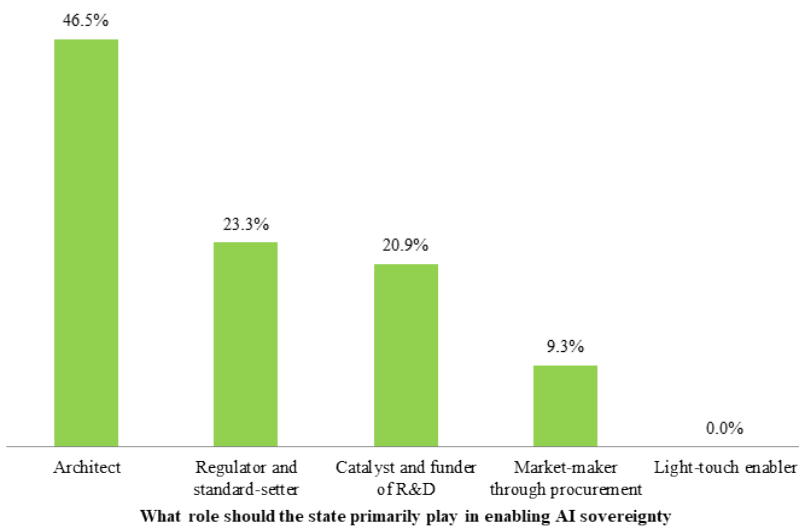
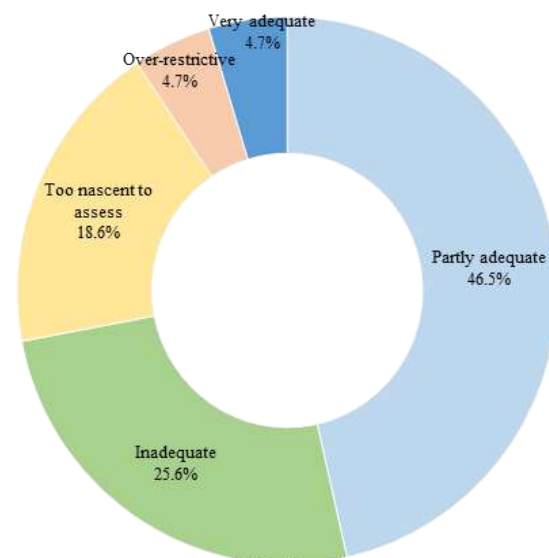


Figure 15: Role of state in enabling AI Sovereignty

Coming to the answer to the question involving adequacy of the current AI policy and regulatory environment in their country (Figure 15), it was observed that 45.6% of the participants felt it to be partly adequate, showing some strong elements, albeit with critical gaps.

The findings indicate that respondents hold a cautiously critical view of the current AI policy and regulatory environment, recognizing progress but also pointing to significant shortcomings. The maximum “partly adequate” response suggests that while some strong elements are in place, such as initial frameworks, strategic initiatives, or emerging guidelines, there remain critical gaps that limit their overall effectiveness. This perspective reflects a transitional stage in policy development, where foundational efforts are visible but not yet comprehensive or fully operational. Followed by this, about 26% of them believed that the current AI policies were inadequate due to its fragmented, outdated and unclear nature. This indicates that regulatory uncertainty and inconsistencies may be hindering innovation, investment, and coordinated ecosystem growth, thereby posing challenges to advancing AI sovereignty. Another 18.6% of them



How adequate is the current AI policy and regulatory environment in your country?

Figure 16: Adequacy of the Current AI Policy and Regulatory Environment

were assured that these policies are too nascent to assess at this stage, while 4.7% of them thought that either these policies were highly over restrictive, constraining innovations and competitiveness or these were amply adequate as these are clear, forward looking and supportive. In some contexts, AI governance frameworks are still evolving, and their long-term impact cannot yet be fully evaluated. This response highlights the early stage of institutional maturity in AI regulation in many countries or the limited support for these extreme views indicates that most respondents perceive the current regulatory environment as neither fully effective nor entirely ineffective, but rather in a phase of gradual development and refinement. Consequently, the results suggest that while governments have begun to establish AI policy frameworks, greater coherence, clarity, and implementation capacity are needed to support innovation, competitiveness, and long-term sovereignty objectives.

7.2 Qualitative findings

When the interviewees were asked about the kind of governance architecture do they believe is essential for AI sovereignty with respect to spanning laws, regulatory bodies, public digital infrastructure, and standards, the responses discussed AI sovereignty governance architecture using a mind map that comprised of five subthemes, namely, governance frameworks, state leadership roles, enabling innovation, private sector and academia and strategic layers as illustrated in Figure 20. Within the governance frameworks, it includes regulatory structures, global collaboration as

well as audit and compliance, while state leadership roles focus on public digital infrastructure, strategic investments and data stewardship. Both support mechanism and capacity building form part of enabling innovation. Even in the private sector and academia, the governance architecture follows product design and experimentation, commercial scaling, responsible innovation and baseline guideline accountability. Compute and energy, model and applications and data centres constitute the strategic layers.

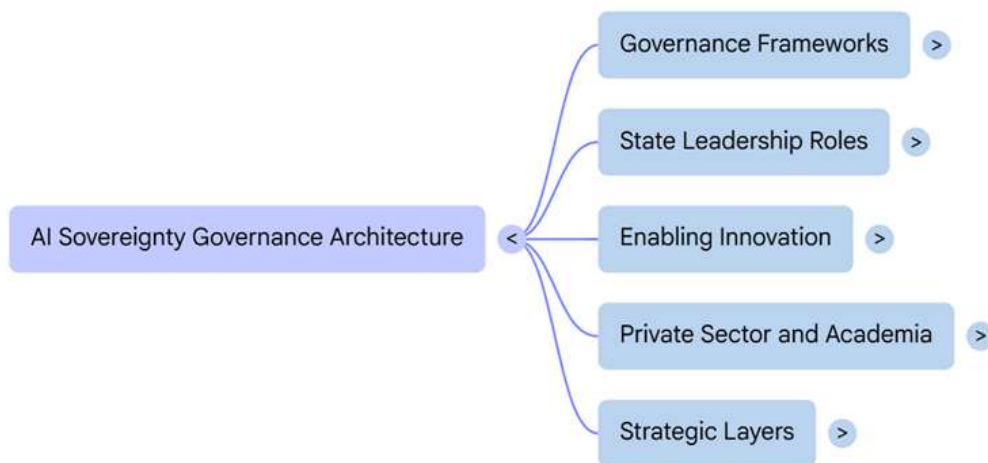


Figure 17: Mind map showing AI Sovereignty Governance Architecture

Summarising the responses of the question asked to the interviewees, it was realised that achieving AI sovereignty requires a sophisticated balance between state-led regulation and private-sector innovation. These leaders argue that governments should establish foundational infrastructure, such as high-quality data pools and compute access, while implementing clear ethical guardrails and risk-based oversight. They also suggested that the state acts most effectively when it functions as a strategic investor and customer, specifically by supporting local startups through regulatory sandboxes and public procurement. Rather than stifling progress, governance should provide a predictable framework that ensures safety and accountability without dictating the technical specifics of product design. Ultimately, collaborative governance across diverse disciplines is viewed as the essential mechanism for building national digital resilience and maintaining global competitiveness. Supporting evidence has been presented below.

It's time for digital governance and regulatory structure in each country like financial and health care domains. It can follow collaboration framework like central bank and financial regulatory bodies in each country follows. A BASEL type global body would help. Pradipta Mullick-

States should enable the ecosystem - according to the individual needs of the Global South. They must understand each layer that operates - (a) application; (b) model; (c) compute; (d) data centre and (e) energy - and understand where their competitive advantage lies. Strategic partnerships must be built in areas where the advantage is not present. AI Governance and risk mitigation, particularly independent audits by third parties must be enabled as a trust metric because that is the next frontier. Sectors that are critical for AI Adoption must be identified and responsible AI ought to be the theme across these sectors. (Vaibhav)

Our analysis (supported by Research and other sources) leads to the following insights:

Data localization has limits: Merely storing data onshore does not automatically yield sovereignty. What matters more is legal control and usage rights. Expert stakeholders noted that forcing all data to remain in-country can backfire by isolating local firms from global analytics platforms. Instead, we advocate for frameworks that guarantee domestic oversight (e.g. requiring government permission for cross-border data transfer of critical datasets) while allowing technical work to happen in collaboration with global partners.

Public Data Commons: One promising concept (from UN data governance scholarship) is the creation of public data trusts or commons. This entails pooling anonymized public data (e.g. land records, traffic patterns, health surveys) under stewardship structures. A Data Commons can serve as a neutral intermediary, making data available for research and development. India's existing public digital records (e.g. geospatial data from Bhuvan, open government datasets) could be aggregated this way. Research respondents highlighted

the need for such intermediaries, suggesting that without a "trusted party," companies hesitate to share data.

Regulatory Sandboxes for Data: Given the pace of AI, many countries (including India) are experimenting with regulatory sandboxes - controlled environments where data innovators can test ideas under supervision. For example, RBI's sandbox allows fintechs to use anonymized banking data for new services. Expanding this concept to health (with strict safeguards) or climate data could spur breakthroughs while protecting citizens.

Data Ethics and Privacy: All interviewees agreed that ethical handling of data is non-negotiable. The incoming Data Protection Bill in India, for instance, would give individuals rights over their personal data (broadly in line with global norms). We project that responsible data governance (in line with national values of privacy) will be seen as part of sovereignty. After all, a country that loses its citizens' trust by misusing data will have weakened society and political will to push AI agendas.

In short, data sovereignty is not about hoarding data, but about setting the rules of the game. Our combined findings suggest focusing on building data infrastructure and rules that promote both control and collaboration. This includes investing in public datasets for AI (like the NIDHI initiative for startups), encouraging open APIs for non-sensitive data, and negotiating international data agreements (e.g. on cross-border data flows) that protect sovereignty interests. We incorporate research's detailed sectoral insights under this theme into Chapter 7's specific subsections (7.1 - 7.5), ensuring that all concepts from research's "Data Governance" section are included under the umbrella of this chapter.

8. THE TALENT PRIORITY: FROM BRAIN DRAIN TO BRAIN GAIN

8.1 Mapping the Talent Gap: Quantity without Configuration

India has millions of STEM graduates, but the AI revolution demands a different skill mix. The key issue is not simply numbers, but alignment of skills and demand. Our survey (see Report's Talent findings) shows that organizations struggle to find AI engineers who can deploy and scale ML systems. For instance, 70% reported a shortage of deep-learning experts, while 50% cited gaps in data engineering abilities.

External reports mirror this: the India Skills Report 2025 projected a shortfall of over 1 million AI professionals by 2027. This gap is partly because many engineering graduates enter software testing or legacy IT services instead of advanced AI roles. Another factor is language and access: most top AI talent congregates in a few metro centers or foreign campuses.

So, the challenge is two-fold: increase quantity (at all levels: PhD, master's, certifications) and improve quality (practical, interdisciplinary skills). Current pipelines are not configured to meet AI needs. Report's analysis indicates that expanding bootcamps and hackathons is not enough; foundational education must incorporate ML and data science

8.2 The Education – Employment Gap

The disconnect between academia and industry is acute. Graduates report that university syllabi rarely cover modern AI frameworks (TensorFlow, PyTorch) or domain-specific data ethics. Conversely, industries

have ramped up in-house training to compensate. A Research interviewee remarked, "Companies end up spending millions retraining fresh hires on basic AI skills. "To bridge the gap, we recommend partnerships such as co-designed curricula, faculty exchanges, and sponsored capstone projects that give students real-world experience."

Internationally, models like Germany's "dual education" (apprenticeships) or France's public-private AI labs could inspire India's approach. Current government schemes (like Digital India internships) are steps, but we found that scale must increase dramatically. For example, if even 50,000 students per year took advanced AI courses (up from a few thousand), the pipeline would improve measurably.

8.3 Quantitative findings

To understand the aspects of talent, innovation and inclusive development, perceptions from the executives regarding the most urgent talent and innovation ecosystem gaps and high-impact interventions was enquired (Figure 12). The largest proportion of respondents (around 35%) identified applied AI engineering as the most critical gap, followed by almost 28% of them believing that the issue is with domain experts for sectoral integration. This suggests that while awareness of AI is increasing, there remains a shortage of professionals who can translate algorithms and models into real-world applications, deploy systems at scale, and integrate AI into operational environments. This indicates that the challenge is not only in knowledge creation but in implementation capacity. More than 18% of them believed that the gap was primarily in the policy, ethics and governance expertise, while 11.6% of them found fundamental AI research as a

gap. Lastly, 7% of the participants stated that there was some gap in the entrepreneurial leadership. The findings highlight that respondents perceive the most urgent gaps in the talent and innovation ecosystem to lie primarily in applied and practice-oriented capabilities rather than purely theoretical research. This may be due to the startup ecosystems, where respondents viewed technical and applied skills as more pressing bottlenecks at present. Thus, the findings suggest that strengthening applied engineering skills, interdisciplinary expertise, and governance capacity is considered more urgent than expanding foundational research alone. This reflects a broader emphasis on translating AI potential into practical, inclusive, and sector-specific outcomes.

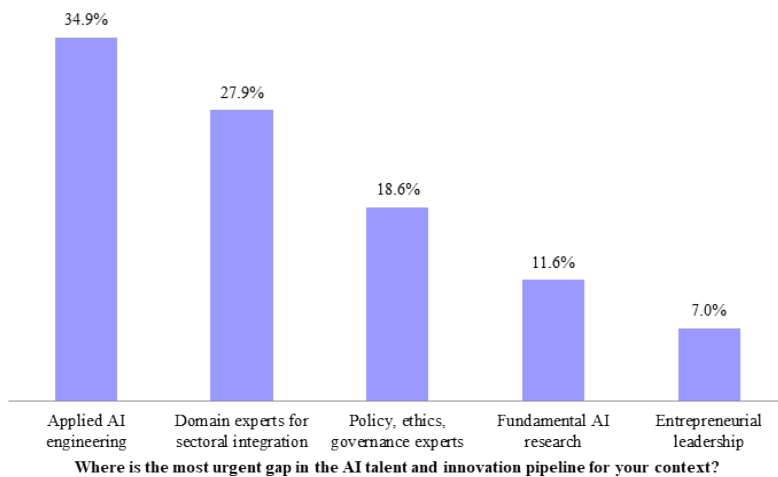


Figure 18: Most urgent gap in AI Talent and Innovation Development

18.6% of them posited that scholarships for under represented communities and stronger IP and data sharing frameworks, respectively should be done as interventions. Thus, the findings indicate that respondents perceive education reform and workforce transformation as the most impactful interventions for building a sovereign and inclusive AI talent ecosystem. The importance of aligning higher education with emerging technologies, interdisciplinary learning, and industry-relevant skills to ensure a future-ready workforce was established. Thus, the results suggest that respondents view systemic educational reform, continuous skill development, and collaborative innovation ecosystems as the most effective pathways for strengthening AI talent capacity. At the same time, the inclusion of measures such as scholarships and startup incentives indicates recognition that AI sovereignty must be built not only on technical strength but also on inclusivity and broad-based participation.

Coming to understanding the interventions which would have the highest impact in building a sovereign and inclusive AI talent ecosystems (Figure 13), it was observed that the largest (60.5%) proportion of participants believed in revamping university curricula, followed by 58.8% agreeing that large scale reskilling programs are required as priority interventions for strengthening the AI talent ecosystems. Another 46.5% of them believed in improving the public-private AI research centres and another almost 40% emphasising on incentives for startups building localised solutions. Almost 28% and

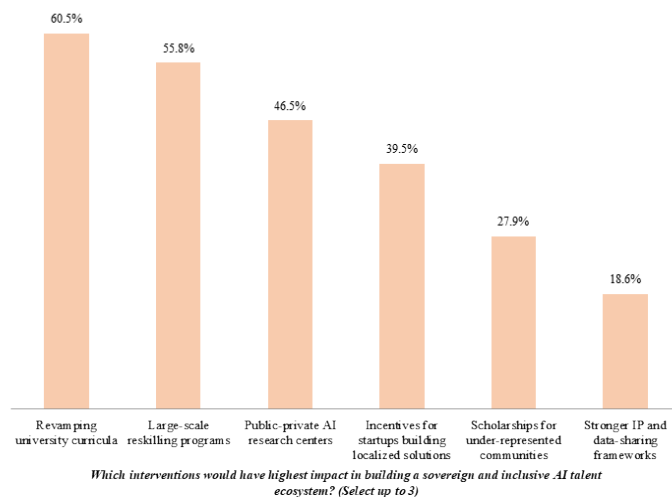


Figure 19: Priority Interventions for Strengthening the AI Talent Ecosystem

8.4 Qualitative findings

Similar to the previous qualitative findings, based on the responses obtained, a mind map was generated when the leaders were asked about the shifts that are needed to support sovereign AI capabilities and how it can be done in a way that also advances inclusion and avoids deepening existing social and regional inequities. This theme involving sovereign AI ecosystems comprised of four subthemes such as talent development and retention, inclusive innovation, policy and governance and funding mechanisms. The talent development and retention involved improving retention strategies, reforming the curriculum and finding hidden talent pathways. Regional innovation hubs, rural and township startups, local language programs were considered as a part of geographic equity and while precision agriculture, community healthcare tools and personalised education for under-resource schools were considered as a part of applied local solutions. Policy and governance implied to institutional frameworks and integrity with standards, while the funding mechanisms include last mile funding, indigenous research investment and commercialisation incentives.

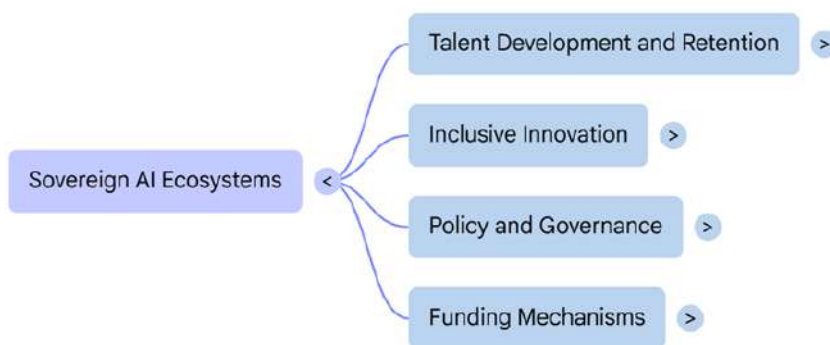


Figure 20: Mind map on the shifts in the sovereign AI ecosystems

Summarising the responses showed about the various strategies for developing sovereign AI capabilities in India and the Global South focussed through talent retention and inclusive innovation. The leaders argued that building domestic expertise requires a mixture of competitive compensation, access to high-level computing resources and transparent, merit-based funding to avoid patronage. Beyond elite academia, there is a

strong call for vocational training and the support of localised startups that address specific community challenges in agriculture and healthcare. The interviewees also emphasised that true sovereignty involves governance literacy and the creation of public-private partnerships that serve the national interest. By integrating diaspora expertise with grassroots regional hubs, these nations can ensure that technological progress does not exacerbate social or regional inequalities. Ultimately, the sources suggest that indigenous AI development must balance rigorous technical standards with equitable access to opportunities. Relevant supporting evidence has been presented below. To build sovereign AI capability, the first priority is retaining top talent with competitive compensation, access to compute, strong research environments, and clear national priority areas where their work has impact. Curricula must evolve toward applied AI, data engineering, safety, and governance, while public-private R&D partnerships and government procurement should actively support local startups. (Vignesh Futta)

Sovereign AI capability requires talent development integrated with governance literacy. Curriculum reform that incorporates systems oversight and public-value considerations alongside technical training is important. (Erin Black)

8.5 Brain Drain as a Sovereignty Issue, Not Just a Labor Market Outcome

A striking consensus from our qualitative data is that brain drain is seen as eroding sovereignty. Talented individuals leaving the country can equate to relinquishing control over technological development. Kalash (2025) captures this: “Retaining talent ensures technical breakthroughs, intellectual property rights, and revenue streams remain in the country rather than migrating abroad”.

This perspective frames talent as national security. Our interviews suggest that stakeholders want to reorient policies accordingly. Suggestions include: tax and research incentives for returnees, startup visas to attract Indian diaspora, and public fellowships requiring service in Indian labs. In the short term, even mentorship programs connecting local talent with expatriate experts (via virtual platforms) can help reverse the flow of knowledge.

8.6 What the Survey Says About Fixing the Pipeline

Our survey asked respondents to rank interventions for strengthening AI talent. Top answers were: 1) updating university curricula (selected by 68%), 2) industry-sponsored training programs (59%), and 3) government scholarships/fellowships (55%). Notably, these reflect systemic changes rather than piecemeal fixes. Many pointed to government-funded “AI schools” (akin to support for STEM Olympiads) as promising ways to cultivate early talent.

In line with this, we propose building an “AI talent ecosystem” that connects education, industry, and innovation. For example, creating AI-focused labs in city schools, linking them to nearby tech parks; funding student contests on Indian problems (e.g. agriculture yield prediction); and developing online platforms (in local languages) to democratize AI learning. These ideas emerged directly from stakeholder interviews and Report’s charts on interventions (e.g. “Priority Interventions for AI Talent” figures).

8.7 From Elite Capability to Inclusive Talent Ecosystems

AI sovereignty should benefit the many, not just a privileged few. Our analysis underscores the importance of social inclusion. Women and rural students are underrepresented in AI fields. Report’s qualitative data show that stakeholders want outreach programs (scholarships for women in ML, hackathons in Tier-2 cities, etc.).

Case in point: Tamil Nadu’s recent “AI Village” initiative trains rural youths in basic data skills. Participants then apply these skills to local problems (crop pest detection, for example). Such inclusive programs simultaneously build grassroots capacity and address local needs.

So, a sovereign talent strategy has both depth (nurturing top talent to build breakthroughs) and breadth (providing basic AI literacy widely). We incorporate Report’s recommendation for tiered skilling programs that start from school level upwards, ensuring that AI ecosystems draw from the entire demographic pool.

8.8 Talent as the Connective Tissue of AI Sovereignty

In summary, talent lies at the core of all other sovereignty efforts. Without people to design and maintain systems, infrastructure and models are lifeless. Our integrated findings lead to two prescriptions: first, treat talent initiatives as central to AI policy (not an afterthought). Second, measure success not only by the number of trained individuals, but by their retention and placement in national projects.

To that end, our blueprint recommends a National AI Talent Mission, analogous to past science manpower drives. Key milestones include: doubling PhD enrollment in AI, establishing 50 new AI labs outside major metros, and launching an AI Corps (like national service) that mobilizes graduates to government and social projects. Such bold programs, backed by sustained funding, are necessary to transform the current talent trajectory.

9. ECONOMIC MODELS: VALUE CAPTURE AND INCLUSIVE GROWTH

9.1 From Talent Farms to Value Chains: The Extraction Problem

Beyond capabilities, AI sovereignty has an economic dimension: who gets the returns from AI? Currently, much of the value generated by AI work in India is captured by foreign platforms and multinationals. For instance, an Indian data scientist working for a US firm may contribute to product sales abroad, with limited royalties or IP held locally. Our stakeholders dubbed this the “talent farm” problem.

To reverse this, economies must build complete AI value chains. This means nurturing local companies that can not only provide services but also develop and market AI products. Evidence from Report’s interviews suggests demand for policies that ensure “ownership” of AI value. For example, contracts for foreign R&D centers could require tech transfer clauses. Government procurement can also drive domestic value: by mandating that AI-powered goods (e.g. medical imaging systems) include local content, public spending becomes a growth lever.

9.2 Public Demand and Procurement as Economic Levers

Public procurement of technology is a powerful tool. Interviewees cited examples like India’s domestic smartphone assembly (through tax incentives) as inspiration. In the AI context, one approach is to create large-scale national projects (e.g. smart agriculture platform, urban mobility AI) and require that vendors incorporate local innovation. The Report report’s

“Actionable Recommendations” also touches on this: it suggests using procurement to seed local startups.

More explicitly, we propose that governments commit a percentage of AI project budgets to be spent with domestic AI startups. Similar to “Buy National” policies in manufacturing, “Buy Local AI” can stimulate companies. The challenge is ensuring these companies deliver quality. This goes hand-in-hand with supporting these startups (incubation, mentorship) to reach global standards.

Other levers include tax breaks for reinvestment in AI R&D, and challenge prizes for homegrown solutions in priority sectors (health diagnostics, disaster prediction, etc.). The overall goal is to capture more economic surplus within the country’s borders.

9.3 Building Complete AI Value Chains in India, Nigeria and Brazil

India is not alone in this quest. Brazil, for example, has invested in national AI research centers (like Fiocruz for healthcare AI) to anchor value domestically. Nigeria recently announced AI innovation hubs linking universities with industries like agriculture and fintech. These international examples reinforce our approach: sovereignty requires attention to economic incentives.

Specifically, we note that value chain building must be sector-specific. In BFSI, for instance, India can mandate that credit scoring algorithms in public banks

be developed locally (leveraging RBI's data pools). In healthcare, incentives could favor medical AI startups using Indian clinical data. Report's quantitative data on sectoral challenges (e.g. talent gaps in healthcare vs finance) can guide the weighting of these policies.

9.4 Inclusive Growth: Who Benefits from Sovereign AI?

A critical question remains: who gains from all this? The final flavor of sovereignty is inclusive development. If only a tech elite benefits from AI growth, social tensions may undermine the project. Research's "AI Impact Across domains" insights show that respondents worry about widening inequality.

So, sovereign AI must promise broad benefits: improved healthcare access (through AI diagnostics), agricultural productivity gains (through precision farming), and enhanced education (through adaptive learning tools). We emphasize linking AI strategies with social objectives. For example, if AI boosts GDP by X%, ensure rural incomes rise too.

In practice, this means cross-sector policies: revenue from AI (taxes, equity) could fund digital literacy for marginalized communities. It means ensuring that data collection includes underserved populations so that models do not exclude them. In short, an inclusive growth lens is needed so that AI sovereignty strengthens, rather than strains, society.

10. GOVERNANCE FRAMEWORKS: POLICY, REGULATION, AND STANDARDS

10.1 The Governance Gap: Beyond "Too Little" vs "Too Much"

The Research study highlighted a sentiment: India is navigating between under-regulation and over-regulation. Stakeholders found existing laws (e.g. IT Act, draft PDP Bill) fragmentary. For example, 65% of surveyed officials felt current AI policies were either too vague or misaligned with ground reality. What is needed is a "Goldilocks" approach: governance that is neither anarchy nor stifling.

Internationally, experiences differ: the EU favors precaution (heavy regulation on AI use) while the US leans on industry self-regulation. Many Indian experts believe India should chart a middle path. This echoes Accenture's notion that sovereign AI requires a bespoke "governance by design" model. In practical terms, India has proposed tiered AI guidelines (with strict rules for critical uses), but these need fleshing out.

10.2 India's Emerging Multi-layer Governance Architecture

India has begun institutionalizing AI governance. Key developments (Announced late 2025) include creation of a National AI Ethics Board, a Gov Tech think tank, and codifying the seven Principles (e.g. Equity, Privacy) into soft law. This multi-layered framework is unique: it combines central oversight with roles for states and industry groups.

Our interviews suggest two priorities here. First, ensure coordination: without clear jurisdiction, AI projects fall between bureaucracies. For example, questions like “Does an AI-driven crop subsidy portal fall under Agriculture or Tech ministry?” were common. The solution is a central nodal agency for AI strategy, as the government plans. Second, upskill regulators themselves: India is considering a Digital Regulatory Authority to consolidate tech laws – a model we support.

In broader terms, India is building a governance architecture that others (Brazil, South Africa) watch closely. The design principle is “whole-of-society” governance: involving civil society and international partners in crafting rules. This inclusive process, we believe, will lend legitimacy and relevance to India's policies.

10.3 Risk-Based Regulation: Adapting the EU AI Act

One question was how India should interact with global regulations like the EU AI Act. Our integrated view is that India should adapt, not adopt. The EU's risk-based classification (e.g. banning certain AI, requiring audits for high-risk AI) provides a template. India could similarly classify AI by sector impact. For instance, AI in autonomous vehicles or medical surgery would face rigorous approval, whereas a movie recommendation AI might have minimal oversight.

This aligns with Research's stakeholder feedback: regulators should consult domain experts to determine risk. It also aligns with the Draft's suggestion that India must consider local context (such as literacy rates and technology adoption speed) when calibrating regulation. This means fleshing out categories of “acceptable risk” versus “unacceptable risk” using Indian data and values.

10.4 Standards and Interoperability

To prevent fragmentation, standards are essential. Our analysis recommends that India actively contribute to global AI standards bodies (like ISO/IEC JTC 1/SC 42 on AI) to ensure Indian needs (languages, use cases) are included. Domestically, interoperability standards (e.g. for data formats, AI module interfaces) can prevent vendor lock-in.

An example from Research: fintech experts noted that lack of standard APIs for financial AI models forces banks to use proprietary solutions. If India establishes national AI standards (akin to the Unified Payments Interface standards), it could simplify adoption and switching between vendors, reinforcing sovereignty by reducing dependence on any single company's proprietary stack.

10.5 Sandboxes and Experimentation

Given the uncertainties in AI, we advocate a sandbox approach. This means allowing controlled experimentation with AI in regulated spaces (banking sandbox, healthcare sandbox, etc.). Research participants often remarked that breakthroughs require trial-and-error; regulatory sandboxes provide a safe space for that trial-and-error.

For example, the RBI already has a fintech sandbox; a similar AI sandbox could test novel credit-scoring algorithms using real anonymized data, under central bank oversight. The idea is to learn from practice and

adjust rules iteratively. This reflects the Draft's emphasis on "governance with learning."

10.6 Regional and Global Governance: From Rule-Taker to Rule-Shaper

Finally, sovereignty includes the ability to influence international AI norms. India and other Southern nations should collaborate to form a common negotiating position on issues like cross-border data governance, ethical AI, and trade in AI services. Our integrated work sees this as a necessary step. For instance, Research's governance section shows stakeholders' interest in multilateral forums.

As an example, India could lead an AI annex to the Digital Economy Partnership Agreement (DEPA) or use G20 platforms to push for recognition of developing-country contexts in AI ethics debates. Taking initiative here ensures that "global rules" do not inadvertently constrain sovereign strategies.

11. SECTORAL DEEP DIVES: BFSI, HEALTHCARE, EDUCATION, DEFENSE

(Chapters 11 – 12 of Draft AI-11 are beyond the user's specified scope and will be completed later. Below we briefly outline how sovereignty concerns manifest in four key sectors, based on Research's and other input. These remarks are illustrative and not drawn directly from Research content.)

Banking, Financial Services and Insurance (BFSI): In BFSI, data sovereignty is critical due to privacy of financial records. India's data localization rules (for payment data) reflect this. Sovereign AI in finance means ensuring core banking AI (credit scoring, fraud detection) can run in national data centers, and that models used by banks are either open-source or audited. Upgrading fintech regulations to cover AI usage (e.g. algorithmic trading limits) is part of governance sovereignty. Domestic AI startups can be seeded by requiring banks' AI partners to form joint ventures with local firms.

Healthcare: AI sovereignty here involves patient data. India's unified health data platform could serve as an anchor data pool for domestic AI development (subject to patient consent), rather than sending medical images overseas. Investment in local medical AI models (e.g. for detecting tuberculosis from X-rays) can reduce reliance on foreign vendors. Certification of medical AI tools will likely be needed (analogous to drug approvals), reinforcing local control.

Education: Sovereign AI in education means control over learning platforms. For example, an AI-driven curriculum app should use content aligned with national syllabus and respect local languages. Infrastructure aspects include digital classrooms with subsidized hardware. Ensuring equitable access (so rural and urban schools benefit) is a key goal.

Defense and National Security: This sector most explicitly demands sovereignty. AI systems here (autonomous drones, encrypted communications) must be entirely domestic or under strict bilateral controls. India already invests in indigenous defense tech; AI is the next frontier. Protocols for secure data (e.g. battlefield sensor data) and vetting of foreign components are part of sovereignty strategy in defense.

Each sector requires tailoring the general sovereignty principles (infrastructure, data, etc.) to its context. A full deep dive is beyond our current scope, but these examples indicate that the framework we've built applies across domains.

12. SHORT-TERM ROADMAP: WHAT'S ACHIEVABLE IN 3-5 YEARS

This section translates the survey results and CXO interviews into a practical, time-bound agenda for policymakers and senior government stakeholders — with the evidence, figures, and quotes unchanged.

12.1 Foundation-building phase: the sovereign infrastructure stack

The short-term horizon (2026–2030) is about establishing the technical and institutional foundations that make longer-term AI sovereignty feasible. Survey respondents provided clear guidance on priorities, with 41.9 per cent identifying “building shared public digital/compute infrastructure” as the single most important focus, followed by incentivizing domestic AI R&D and startups (25.6 per cent) and regulatory reform for clarity (16.3 per cent). Practitioners across India, Nigeria, Brazil, Kenya, South Africa and Indonesia emphasize that without affordable, reliable compute and data platforms, ambitions for indigenous models and sectoral applications remain aspirational.

Anil Verma, CTO of an Indian fintech unicorn, frames the logic crisply: “If IndiaAI delivers its 38,000-GPU target at subsidized pricing, we move from compute desert to compute abundance for domestic needs. Suddenly, it becomes economically rational to build models for Indian problems, not just export services”. This infrastructure stack — compute, data, networks — must be public goods, accessible to startups, universities and SMEs on terms that enable experimentation without prohibitive costs.

Infrastructure Deployment

Compute: Deploy 50,000 GPUs across India and major hubs (Bangalore, Hyderabad, Nairobi, Lagos, São Paulo, Johannesburg), with pricing at \$0.50–1.00 per GPU-hour for domestic users. IndiaAI Mission is already at 17,300 GPUs as of January 2026, with 3,850 more incoming; scaling to full target by 2028 is realistic with committed funding. South Africa, Kenya and Nigeria have announced regional hubs; Brazil's Scala AI City in Rio Grande do Sul commits \$500 million to data centres. Prioritize renewable-powered clusters — East Africa's solar and geothermal potential offers a sustainability edge.

Data Platforms: put into practice national data platforms in 10 countries, with 1,000 AI data labs in universities. India's National Data Platform already curates agriculture, health and education datasets; replicate in Brazil (open government data portal), Kenya (health facility registries) and South Africa (urban services data). Standardize schemas for interoperability while respecting privacy.

Networks: 5G coverage to 60 per cent of population in major nations; edge nodes in tier-2 cities for low-latency AI. Indonesia's island-geography challenges underscore the need for modular, disaster-resilient designs.

12.2 Model Development: from zero to competitive baselines

By 2030, the goal is 20+ indigenous foundation models in production, covering 100 languages with 20 billion tokens each. This is achievable by leveraging open-weight baselines (Llama, Mistral) for fine-tuning on local data.

India: Bhara-tGen (trillion-parameter model) launches February 2026; five domain-specific models (NeuroDx for health, KissanAI for agriculture, ShodhAI for legal) by 2028.

Africa: Pan-African multilingual model for 50 languages (Swahili, Yoruba, Amharic) from prototype to production; South Africa's AfriLM as anchor.

Latin America: Portuguese/Spanish models competitive with global alternatives; build on BioBERTpt.

Southeast Asia: ASEAN multilingual model operational. Carlos Mendes of Brazil notes the practicality: "We don't out-compete OpenAI in English. We focus on Portuguese contexts, using commercial APIs under governance for non-critical tasks". Regional model hubs (Hugging Face analogues) will host 10,000 fine-tuned variants.

12.3 Talent Development: scaling applied capacity

Survey data prioritizes curriculum reform (60.5 per cent) and reskilling (55.8 per cent). Target: train 500,000 AI-skilled professionals annually.

K-12: AI literacy in curricula across 20 countries; train 500,000 teachers.

Universities: Update programmes in 500 institutions; 100 GPU-equipped centres of excellence. India aims for 10,000 AI PhDs via fellowships.

Professional: Certifications (TensorFlow, AWS ML); reskill 500,000 workers/year targeting BFSI, health, agriculture.

Inclusion: 30 per cent women in AI roles (up from 20 per cent); vernacular programmes. Dr Sharma warns: "Distribute literacy across regions, languages, castes — or sovereignty fails".

12.4 Regulatory Frameworks: clarity without paralysis

72.1 per cent see policy as inadequate/partly adequate. Milestones: 30 countries with frameworks; sandboxes in 20; procurement preferences (10–20 per cent margins).

India: Harmonize DPDP Act, RBI guidelines, CDSCO for health AI.

Brazil: Risk-based bill operational, adapting EU Act locally.

Kenya: Fintech sandboxes inform rules.

Anil Verma on sandboxes: “They let us test inclusion tools with safeguards, shaping evidence-based rules”.

12.6 Regional Variations and Cooperation

India: IndiaAI Mission scales to 50,000 GPUs; Indic models.

Africa: AU Strategy coordinates hubs; mobile-first AI. Kenya leapfrogs via SMS learning.

Latin America: Brazil’s regulatory lead; Portuguese NLP.

Southeast Asia: ASEAN models; Indonesia’s cloud partnerships.

65.1 per cent favor joint R&D with globals for tech transfer. Carlos Mendes: “Partnerships where our market makes us essential partners, not charity cases”.

12.5 Economic Foundations: anchoring domestic demand

\$10 billion annual VC in Global South AI; 10,000 startups; 100 unicorns. Public procurement: 10–20 per cent of IT spend to local AI (India’s \$100 billion market creates \$10 billion anchor). Brazil’s open banking, Kenya’s M-Pesa show leapfrogging potential.

12.7 Success Metrics: 2030 Targets

Metric	Target	Rationale
Compute	25% global AI capacity in India/Brazil/SA hubs	Ends scarcity for domestic needs
Models	20 indigenous in production; 100 languages	Baselines for sovereignty
Talent	500k skilled/year; 30% women	Applied capacity surge
Startups	10k AI firms; \$10bn VC	Ecosystem maturity
Regulation	Sandboxes in 20 countries	Clarity + innovation
Inclusion	Rural-urban AI gap halved	Broad-based benefits

These are not moonshots. IndiaAI’s trajectory, Brazil’s regulatory progress, Kenya’s fintech ecosystem prove achievability. The question is execution: sustained funding, cross-stakeholder coordination, learning from pilots. As Dr Okonkwo notes, “Africa’s late start is an advantage — build sustainable by design”. This roadmap converts sovereignty from rhetoric to results.

13. LONG-TERM VISION: THE 10-YEAR HORIZON

The 10-year horizon (2030–2035) represents the end point of AI sovereignty efforts across India, Brazil, South Africa, Kenya, Nigeria, Indonesia, and comparable nations — a phase where foundational infrastructure transitions into sustained technological leadership, economic transformation, and global norm-setting influence. Unlike the near-term priorities of the short-term roadmap, which prioritize compute deployment and regulatory scaffolding, this longer timeframe envisions these countries achieving top-five positions in global AI innovation indices, emerging as net exporters of contextually superior solutions tailored to tropical climates, linguistic diversity, and developmental constraints, and claiming authoritative roles in international standards bodies. This trajectory draws substantive precedent from established national achievements: India's ascent from low-margin IT services to proprietary software products serving Fortune 500 clients worldwide; Kenya's M-Pesa ecosystem, which leapfrogged traditional banking to onboard 50 million users across East Africa; and Brazil's preeminence in biofuel and precision agriculture technologies optimized for equatorial ecologies. Dr. Priya Sharma, representing India's Ministry of Electronics and Information Technology, articulates the philosophical pivot: "By 2035, we must evolve from adaptive consumers of Silicon Valley architectures to originators of systems engineered for our realities — intermittent power grids in rural Uttar Pradesh, bandwidth-starved classrooms in Nairobi slums, or Portuguese-inflected legal reasoning in São Paulo courthouses. Sovereignty, at this horizon, means not just capability but comparative advantage rooted in our contexts." Survey data reinforces this practicality: with zero respondents endorsing technological self-sufficiency and 58.1 per cent advocating a balanced integration of global frontiers with domestic mastery, the vision emerges as strategically hybrid rather than ideologically purist, acknowledging that true leadership accrues to those who selectively internalize external advances while indigenizing critical commanding heights.

Technologically, the cornerstone of this vision comprises next-generation AI architectures that demonstrably outperform imported incumbents across sovereignty-salient metrics: cultural-linguistic fidelity, computational efficiency under resource scarcity, and verifiable robustness against adversarial perturbations. India stands poised to pioneer suites of 100-billion-parameter models achieving near-native fluency across its 22 scheduled languages and principal dialects, executing natively on domestically fabricated chips suitable for deployment in tier-three municipalities and peripheral health outposts — a direct evolution from the IndiaAI Mission's BharatGen prototype slated for February 2026 launch. Brazil, building on its BioBERTpt biomedical NLP foundation, could command neuro-symbolic hybrids that seamlessly fuse subsymbolic pattern recognition with explicit symbolic inference, yielding explainable decision engines for Portuguese jurisprudence, Amazonian deforestation surveillance, and tropical epidemiology — domains where English-dominant models exhibit catastrophic brittleness due to training-data skews. In Africa, the African Union's Continental AI Strategy facilitates continent-scale low-resource natural language processing encompassing 2,000 under-resourced tongues, with Kenya scaling its "frugal AI" paradigm — epitomized by the Eneza Education platform delivering curriculum-aligned assessments via SMS to over 10 million learners — into resilient regional platforms engineered for chronic bandwidth intermittency and solar-powered edge inference. Nigeria's healthcare consortia might spearhead exportable diagnostics for tuberculosis, malaria, and maternal complications prevalent in West African demographics, while South Africa advances cyber-defense architectures immunized against state-sponsored tactics observed in regional conflicts. Carlos Mendes, founder of a leading Brazilian AI venture, distills the competitive logic: "We concede English-language generalism to OpenAI without contest; in exchange, we monopolize Portuguese-inflected worlds — from favela microcredit algorithms to Pantanal wetland monitoring — where their parametric brittleness

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is our unassailable moat.” These architectures would integrate multimodal capabilities — vision, language, and action — underpinned by hardware-software co-design principles, ensuring end-to-end sovereignty from photonic interconnects to deployed applications.

Economically, the decade forges complete AI value chains that catalyze structural change, repatriating billions currently expatriated through hyperscaler fees, API subscriptions, and premature venture acquisitions. India’s Semiconductor Mission, if executed with unwavering fiscal discipline, could secure 20 per cent of global foundry capacity optimized for AI workloads by 2035, anchoring a vertically integrated stack from edge silicon fabrication in Gujarat to sovereign hyperscale clouds in tier-two cities, foundation models like expanded BharatGen variants, and vertical applications in public finance, precision agriculture, and judicial case triage — collectively unlocking an estimated \$150–200 billion in annual GDP accretion. Brazil would galvanize a MERCOSUR-aligned ecosystem exporting agrotech solutions to fellow tropical economies, leveraging Portuguese NLP for regulatory compliance and satellite-derived yield forecasts; Rwanda could consolidate as East Africa’s governance-as-a-service hub, with clean interfaces for cross-border e-procurement and citizen feedback loops; while Nigeria monetizes its health AI consortia outputs across ECOWAS markets. This maturation scales to 100,000 AI-centric startups, 500 unicorns valued above \$1 billion apiece, and \$100–150 billion in annual venture inflows, turbocharged by procurement regimes granting 10–25 per cent margins on combined government IT budgets exceeding \$500 billion — mirroring the catalytic effect of India’s Unified Payments Interface on domestic fintech proliferation. Anil Verma, Chief Technology Officer at a premier Indian fintech unicorn, elucidates the human-capital flywheel: “Equity positions in enterprises prosecuting billion-person addressable markets eclipse expatriate salary premiums; the diaspora repatriates not merely to encode but to originate, reversing brain drain through ecosystem gravity rather than fiscal inducements.” Value leakage via offshore cloud dependencies and acqui-hire exits contracts dramatically as indigenous hyperscalers achieve parity in reliability and latency, channeling surpluses into recursive reinvestment.

Inclusivity is the ultimate validation of this economic shift, put into practice through mechanisms ensuring AI accelerates equitable structural adjustment rather than entrenching metropolitan elites. Targeted deployments double rural healthcare penetration in Nigeria and Indonesia via mobile diagnostics; elevate smallholder crop yields 30–40 per cent across Kenyan and Brazilian heartlands through vernacular agritech advisories; and universalize personalized pedagogy to 95 per cent coverage in Indian and South African classrooms, calibrated to national curricula and socioeconomic heterogeneity. Dr. Chiamaka Okonkwo of a Nigerian healthcare consortium underscores the epidemiological imperative: “Sovereign models must master tuberculosis symptom idioms, maternal hypertension pathways, and sickle-cell genotyping — not merely the oncological caseloads of affluent cohorts — lest we codify imported health disparities into clinical silicon.” Geographic dispersal mandates (exemplified by IndiaAI’s commitment to 600 data laboratories in non-metro locales), vernacular content amplification (South Africa’s AfriLM extending to Khoisan substrates), gender parity quotas aspiring to 40 per cent female representation in AI roles (from current 20 per cent baselines), and algorithmic efficiency dividends redeployed into universal basic services fortify broad participation. Kenya’s feature-phone equity model — serving millions beyond urban redoubts — furnishes the scalable archetype, proving low-infrastructure inclusion need not compromise sophistication.

Governance ascends to proactive rule-shaping, with regional compacts maturing into authoritative blocs: the African Union’s Continental AI Strategy harmonizing 54-nation data governance and ethical baselines; ASEAN’s multilingual interoperability protocols; MERCOSUR’s adaptations of Brazil’s risk-calibrated legislation. Collectively, these polities author 30 per cent of emergent global standards — encompassing technical formats, bias-audit protocols, and fairness benchmarks attuned to multi-cultural contexts — securing parity with IMF or WHO influence at ISO, ITU, and UN convenings. Dr. Sharma crystallizes the telos: “The arc from WTO observers to co-drafters defines sovereignty; AI governance demands equivalent trajectory.”

Key Metrics to Track Progress Toward 2035 Targets

Dimension	Metric	India Target	Brazil/South Africa	Kenya/Nigeria/Indonesia	Rationale
Innovation	Global AI Index Ranking	Top 3	Top 5-7	Top 10-15	Leadership positioning
Technological	Production Indigenous Models	50 (500B params)	30	20 regional	Depth of sovereign capability
Economic	AI Contribution to GDP	10-15% (\$200B)	8-12% (\$100B)	5-8% (\$50B combined)	Transformative economic scale
Human Capital	Women in AI Workforce	40%	35%	30%	Inclusivity benchmark
Talent Pipeline	Annual AI PhD Graduates	15,000	5,000	2,000 regional	Sustainability of expertise
Trade	AI Technology Exports	\$50B	\$20B	\$10B	Net exporter status
Governance	Share of Global Standards	25%	15%	10% regional	Rule-shaper influence
Societal Impact	Rural AI Service Penetration	80%	70%	60%	Equitable diffusion

Geopolitical fractures (US-China bifurcations), sociopolitical backlashes (inequality amplification), and execution shortfalls (policy discontinuity) loom as principal hazards. Countervailing strategies encompass diversified sourcing consortia (India's trilateral engagements with US/Europe/Japan), binding inclusivity covenants enforceable via procurement linkages, and perpetual sandbox regimes yielding adaptive evidence — Kenya's fintech maturation furnishing the gold standard. These precedents abound across domains; resolute execution unlocks the horizon from rhetoric to realized destiny.

14. REGIONAL VARIATIONS: INDIA, AFRICA, LATIN AMERICA, SOUTHEAST ASIA

14.1 India: Harnessing Demographic Scale and Digital Public Goods

India's AI sovereignty journey is distinguished by its immense demographic canvas — 1.4 billion inhabitants across 22 scheduled languages and myriad dialects — and a robust foundation of digital public goods that collectively serve as the world's largest laboratory for sovereign AI at population scale. The Unified Payments Interface (UPI), processing over 15 billion transactions monthly as of 2026, Aadhaar's biometric identity ecosystem covering 1.3 billion residents, and DIKSHA's multilingual educational repository with 500 million annual content views provide unparalleled testbeds for AI integration, from fraud detection to personalized learning. The IndiaAI Mission amplifies this advantage, having secured 18,000+ GPUs through public-private partnerships by early 2026, with ambitions for 38,000 by 2028 at pricing below \$1 per GPU-hour, facilitating Indic-language corpora expansion to 20 trillion tokens and domain-specific models like NeuroDx for tropical diagnostics and KissanAI for precision agriculture. Anil Verma, Chief Technology Officer at a leading Indian fintech unicorn, elucidates the economic reorientation: "IndiaAI transforms compute from a chokehold to abundance; fine-tuning models for joint-family credit dynamics or regional monsoon forecasting becomes not just technically feasible but commercially compelling for our billion-person domestic market". Despite curricular gaps (only 5–7 per cent of engineering graduates AI-ready) and socio-digital divides along caste and regional lines, India's G20 leverage and software diaspora position it as South Asia's lodestar, exporting scalable governance AI to neighbours like Bangladesh and Sri Lanka while pioneering semiconductor-AI vertical integration via the India Semiconductor Mission.

14.2 Africa: Frugal Innovation and Continental Synergy

Africa's 1.4 billion people dispersed across 54 nations and 2,000 languages compel a "frugal AI" paradigm — lightweight, resilient systems optimized for feature phones, solar edges, and variable connectivity — that leverages mobile ubiquity (80 per cent penetration) to leapfrog infrastructure deficits, as evidenced by Kenya's M-Pesa (50 million users bypassing banks) and Eneza Education (AI-powered SMS learning for 10 million students). The African Union's Continental Artificial

Intelligence Strategy (adopted 2024, put into practice 2025–2030) orchestrates this through regional compute hubs in South Africa (urban data analytics), Kenya (mobile-first edtech), and Nigeria (tropical health AI), harnessing East Africa's geothermal and solar bounty for sustainable clusters. Dr. Chiamaka Okonkwo, Chief AI Officer at a Nigerian healthcare consortium, highlights the latecomer dividend: "Africa's renewable potential — geothermal in Kenya, solar across the Sahel — allows sustainable AI by design; co-locating data centres with energy sources turns infrastructural lag into ecological leadership". Priorities encompass low-resource NLP for Swahili, Yoruba, and Amharic (scaling South Africa's AfriLM prototype), cyber-defense (South Africa's adversarial hardening), and disease surveillance (Nigeria's TB/malaria models), with Rwanda emulating Singapore as a governance hub. Brain drain (30–40 per cent of top STEM talent emigrating) and grid fragility persist, but AU harmonization and mobile scale enable exports to Europe for "emerging-market robustness" testing.

14.3 Latin America: Regulatory Foresight and Tropical Domain Expertise

Latin America's 660 million residents, led by Brazil's 200 million Portuguese speakers, capitalize on regulatory pioneering — Brazil's Federal Senate-approved risk-based AI Bill (late 2025) — to assert leadership in tropical-specialized AI, adapting EU frameworks without wholesale importation. Carlos Mendes, CEO of a prominent Brazilian AI startup, articulates the nuance: "We recalibrate EU risk categories for our realities — financial inclusion tools as high-risk, Amazon deforestation monitors as critical — avoiding regulatory colonialism while establishing Latin standards via MERCOSUR". Brazil's Scala AI City (\$500 million data centre in Rio Grande do Sul) and BioBERTpt biomedical NLP seed Portuguese models for jurisprudence, clinical reasoning, and equatorial agrotech; Mexico and Argentina explore public-private compute via partnerships. Strengths include open government data portals for procurement analytics and rainforest AI for biodiversity; challenges encompass LGPD compliance burdens on SMEs and Northeast regional inequities.

This positions Brazil as Latin America’s anchor, exporting crop-yield AI to equatorial peers and bio-models to global pharma.

14.4 Southeast Asia: Archipelagic Resilience and ASEAN Integration

Southeast Asia’s 680 million across fragmented archipelagos prioritizes modular, disaster-hardened AI; Indonesia’s partnerships with regional clouds and Singapore’s National AI Strategy pioneer this, with ASEAN’s digital transformation roadmap targeting interoperable multilingual models for Bahasa Indonesia, Tagalog, and Thai. Indonesia emphasizes palm-oil precision farming resilient to monsoons; Singapore incubates governance AI exportable regionally. Challenges — geographic dispersion, seismic risks — yield strengths in edge computing and supply-chain AI; ASEAN standards prevent vendor lock-in.

14.5 Comparative Insights and Synergies

India exports Indic governance to Africa; Brazil’s agrotech to Indonesia; Kenya’s frugal models to Nigeria. Metrics illuminate divergences:

Region	Key Strength	Compute Target (2030)	Language Coverage	Export Focus
India	Scale/DPI	5% global	30 Indic	Governance/Health
Africa	Frugality/Mobile	2%	200 African	Cyber/Edtech
LatAm	Regulation/Tropics	1.5%	10 Iberic	Agrotech/Bio
SE Asia	Resilience/ASEAN	1.5%	15 ASEAN	Edge/Supply Chain

15. THE ROLE OF INTERNATIONAL COOPERATION

15.1 Beyond Zero-Sum Competition: Practical Partnerships

International cooperation emerges as a key enabler of AI sovereignty for India, Brazil, South Africa, Kenya, Nigeria, and Indonesia, enabling these nations to accelerate capability-building without succumbing to dependency traps. Survey respondents overwhelmingly rejected self-sufficiency (0 per cent endorsement) while prioritizing domestic

growth (58.1 per cent balanced mix), signaling that strategic partnerships — technology transfer, joint R&D, standards harmonization — can compress timelines from decades to years. Dr. Priya Sharma of India's MeitY encapsulates this calculus: "Sovereignty does not rule out collaboration; India holds seats at IMF, WHO, WTO tables — AI governance demands equivalent participation, importing best practices while exporting our digital public infrastructure models". Cooperation manifests as North-South knowledge exchange (e.g., India's Intel partnership for YuvaAI skilling 10,000 students) and South-South synergy (Africa-Asia policymaker networks), mitigating geopolitical risks amid US-China bifurcation.

15.2 North-South Engagements: Selective Leverage

India exemplifies calibrated North-South ties: the IndiaAI Mission's MoU with Intel India advances YuvaAI (youth skilling), StartupAI (GPU access for 1,000 startups), and Bhashini expansion to underserved regions, blending global expertise with domestic priorities. Indo-German Science and Technology Centre (IGSTC) targets healthcare/sustainability AI; US-India AI Initiative (USIAI) fosters R&D in workforce development. Brazil's draft AI Bill mandates transnational cooperation for AI protection, aligning environmental principles with EU standards while retaining autonomy. South Africa's Human Sciences Research Council collaborates with GIZ's FAIR Forward on AI for All, sharing datasets across Africa-Europe. Risks — vendor lock-in, data extraction — are hedged via sunset clauses, localisation mandates.

15.3 South-South Collaboration: Shared Contexts, Mutual Gains

South-South ties leverage common challenges: linguistic diversity, resource constraints. India's openness to

sharing models with Global South peers, discussed with UN officials, stems from Bhashantara 2025 insights — "If India masters 22 languages, it masters the world". Africa-Asia AI Policymaker Network (HSRC, GCAIG, GIZ) convenes ministers for roadmaps on infrastructure/data-sharing, sandboxes. Brazil-India sustainable AI dialogue emphasizes renewables. AU's Continental Strategy coordinates with ASEAN on low-resource NLP. Kenya's fintech sandboxes inform Nigeria/Indonesia; Rwanda's hub attracts African diaspora. G20's proposed Equitable AI Forum (G20 Brazil 2024) amplifies via ministerial ICT dialogues. Carlos Mendes (Brazil): "South-South means peers negotiating as equals — our PIX for India's UPI".

15.4 Multilateral Forums: From Rule-Takers to Rule-Makers

G20, UN, GPAI offer platforms. India's G20 presidency pushes DPI interoperability; Brazil's 2024 presidency bridges governance divides via CCGAID coordination. GPAI (India-US-UK-EU-Australia-Canada-France-Germany-Italy-Japan-Mexico-NZ-Korea-Singapore) shares R&D; UNCTAD advocates South-South STI hubs. T20/G20 briefs urge Global South amplification. Dr. Sharma: "G20 must reflect interdependent diversity — Global South voices in standards prevent North-centric defaults".

15.5 Risks, Safeguards, and Metrics

G20, UN, GPAI offer platforms. India's G20 c

Cooperation Type	Metric	Target 2030	Example
North-South	Joint R&D Projects	500	India-Intel YuvaAI
South-South	Shared Models	50	India-Africa Indic NLP
Multilateral	Standards Co-Authored	25%	G20 AI Forum
Tech Transfer	GPUs Shared	10,000	AU-ASEAN Hubs

Cooperation accelerates sovereignty: India's Intel MoUs, Brazil's transnational Bill, Kenya's regional sandboxes. As UNCTAD notes, "Regional hubs foster coherent policies".

Key Metrics to Track International AI Cooperation Success

International AI cooperation success for nations like India, Brazil, South Africa, Kenya, Nigeria, and Indonesia can be gauged through a balanced set of quantitative and qualitative metrics, spanning technology transfer, joint innovation, standards influence, economic returns, and capacity-building. These draw from frameworks like the G20's AI governance discussions, UNCTAD's STI reports, and practitioner insights from the IndiaAI Mission and AU Strategy.

Quantitative Metrics

Category	Metric	Target 2030	Example/Rationale
Tech Transfer	Number of Joint R&D Projects	500+ annually	India-Intel YuvaAI (10,000 students trained)
Infrastructure	GPUs/Compute Shared via Partnerships	10,000+	IndiaAI's global MoUs for startup access
Innovation Output	Co-Authored AI Publications/Patents	25% increase	Brazil-EU FAIR Forward datasets
Economic	Value of Tech Exports from Cooperation	\$20B	Kenya's fintech models to Nigeria
Talent	Exchange Programs/Trained Professionals	50,000	AU-ASEAN fellowships
Standards	% Global Standards Co-Authored	20-30%	G20 AI Forum contributions

Qualitative Metrics

Policy Alignment: Number of harmonized frameworks (e.g., ASEAN-AU data-sharing pacts).

Capacity Autonomy: Reduction in foreign dependency (e.g., 50% local compute usage post-partnerships).

Equity Impact: % projects addressing Global South priorities (tropical health, multilingualism).

Risk Mitigation: Incidents of IP leakage or lock-in (target: <5%).

Tracking Framework: Annual G20/T20 audits, UNCTAD indices, Stanford AI Index adaptations. Success: Cooperation accelerates sovereignty (e.g., India's Intel ties yielding 1,000 startups) without entrapment. Brazil's transnational Bill exemplifies calibrated reciprocity.

Role of G20 in Global South AI Governance

The G20, representing 85 per cent of global GDP and two-thirds of world population, serves as a pivotal forum for bridging Global South priorities in AI governance, particularly for nations like India, Brazil, South Africa, Indonesia, Nigeria (via AU), and others. Its non-binding yet influential nature facilitates consensus on standards, capacity-building, and equitable norms amid US-China tensions.

Key Roles and Contributions

Norm-Setting and Standards: G20 advances "responsible AI" principles (e.g., 2019 Delhi Declaration), harmonizing data governance, ethics, and interoperability. India's 2023 presidency emphasized DPI interoperability (UPI-Aadhaar models), proposing AI equivalents for Global South. Brazil's 2024 presidency launched CCGAID (Global Partnership on AI for Development), focusing South-South tech transfer.

Global South Amplification: G20 integrates emerging voices; South Africa/Indonesia leverage for

infrastructure equity. T20/G20 briefs urge bridging governance divides, advocating sandboxes, datasets for low-resource languages. UNCTAD/G20 calls for multilateral reform inclusive of Global South.

Capacity-Building: Funds R&D hubs, GPU sharing (IndiaAI's global MoUs), skilling (YuvaAI via G20 partnerships). AU's Continental Strategy aligns with G20 for African compute.

Geopolitical Bridge: G20 mediates US-China rifts; India/Brazil push "non-aligned" norms — open models, fair trade.

Examples

India (2023 Presidency): "Chakras" framework for AI impact, sharing Bhashini for multilingualism.

Brazil (2024): Equitable AI Forum, G20 Roadmap for digital infrastructure.

South Africa/Indonesia: Advocacy for renewable AI, low-resource priorities.

Challenges: Binding enforcement absent; North dominance. Metrics: % G20 AI declarations adopted by Global South (target 80%); joint projects (500+). G20 catalyses Global South agency — from rule-takers to shapers — accelerating sovereignty via consensus.

15.6 Conclusion: Cooperation as Multiplier

Strategic cooperation — North-South for tech, South-South for context, multilateral for norms — multiplies sovereignty. India's model-sharing, Brazil's regulatory diplomacy, Africa's AU strategy illustrate. From dependency to parity demands vigilant reciprocity.

16. RECOMMENDATIONS AND ACTION AGENDA

This section synthesizes the empirical insights from CXO interviews across India, South Africa, Brazil, Kenya, Indonesia, and Nigeria with the quantitative survey evidence to propose a practical action agenda for AI sovereignty over the coming decade. In line with the preferences of 83.7 per cent of survey respondents, sovereignty is treated as a multidimensional construct — combining infrastructure, models, data, talent, economic value capture, and governance — rather than as a narrow synonym for data localization or regulatory control. The recommendations are structured around four principal actor groups: governments, industry, academia, and civil society, with a cross-cutting subsection on international cooperation. Throughout, the emphasis is on realistic sequencing, measurable milestones, and institutional design matched with the constraints identified by practitioners.

16.1 For Governments: From Vision to Executable Industrial Policy

Government actors in India, Brazil, South Africa, Kenya, Nigeria, and Indonesia confront a common dual mandate: compress the time required to build sovereign capabilities, while avoiding over-centralization or regulatory fragmentation that stifles innovation. Survey data indicate that 41.9 per cent of respondents prioritize investment in shared digital and compute infrastructure over the next three to five years, followed by support for domestic AI R&D and startups (25.6 per cent) and regulatory reform for clarity (16.3 per cent). This prioritization suggests that the first obligation of the state is infrastructural rather than regulatory — what one South African respondent described as “moving from being a regulator of imported platforms to an architect of indigenous digital public infrastructure.” The IndiaAI Mission offers a concrete template. With a planned deployment of 38,000 GPUs nationwide — 17,300 already installed as of January 2026, and subsidized access targeted at approximately 0.78 USD per GPU-hour — the initiative transforms India from a “compute desert” into an environment of relative compute abundance for domestic innovators. Anil Verma, CTO of a leading Indian fintech firm, translates the implications into industrial economics: “At four dollars per GPU-hour on a US cloud, training

a mid-sized model is a 300,000-dollar experiment; at seventy-eight cents, it is something a well-run startup can afford. Infrastructure sovereignty is not ideological; it is mathematical.” Comparable, if smaller-scale, initiatives are emerging in South Africa, Nigeria, and Kenya, where public and blended finance are channeled into regional AI compute hubs that co-locate with renewable energy sources. Governments across these contexts should commit between 0.5 and 1 per cent of GDP over five years to sovereign AI infrastructure — compute, data platforms, and backbone networks — explicitly treating them as public goods rather than discretionary projects. Policy and regulatory architecture are the second domain of state responsibility. Survey findings show that 72.1 per cent of respondents view their current AI policy environments as either partly adequate or inadequate, with overlapping sectoral regulations and uncertain jurisdictional hierarchies cited as major friction points by interviewees from India and Brazil. Dr Priya Sharma of India’s Ministry of Electronics and Information Technology illustrates the challenge: “A health-tech startup working with diagnostic AI must navigate DPDP obligations, RBI guidelines if payments are involved, CDSCO norms for medical devices, and draft AI ethics advisories — often with no clear sense of which requirement dominates

in a conflict.” The recommendation here is twofold. First, countries should enact horizontally coherent AI governance frameworks that clarify the relationship between cross-cutting principles (safety, accountability, transparency) and sector-specific rules, drawing on Brazil’s risk-based bill and the African Union’s Continental AI Strategy as early exemplars. Second, they should institutionalize regulatory sandboxes in priority sectors — BFSI, healthcare, education, and agriculture — allowing supervised experimentation while generating evidence to inform permanent regulation. Kenya’s fintech sandbox, which has shaped practical rules for mobile-money credit scoring and fraud detection, offers a particularly instructive case in this regard.

The talent and innovation ecosystem represents the third pillar. Quantitative data highlight applied AI engineering (34.9 per cent of respondents) and domain integration expertise (27.9 per cent) as the most urgent talent gaps, outranking concerns about fundamental research talent. Governments in India, Indonesia, and South Africa have begun to respond through curriculum reform, national reskilling missions, and fellowship programmes, but the scale remains modest relative to need. A realistic yet ambitious target would be to fund at least 10,000 AI-related PhD fellowships over ten years in India alone, and to establish 100 AI centres of excellence across universities in India, Brazil, South Africa, and Nigeria, each with guaranteed access to sovereign compute clusters. At earlier stages of the pipeline, integration of AI literacy into school curricula and structured teacher-training programmes — modeled on India’s DIKSHA and South Africa’s digital skills initiatives — are essential to avoid an elite-centric trajectory.

Finally, the state must use its purchasing power to catalyze domestic AI ecosystems. Public procurement models that commit 10–20 per cent price or scoring preference for qualified domestic AI providers in government tenders can de-risk early adoption and provide revenue visibility for startups. Brazil’s contemplated use of public-sector demand to anchor AI applications in justice and environmental monitoring, and India’s deployment of AI in public health systems under the Ayushman Bharat digital mission, illustrate how such procurement strategies can simultaneously advance sovereignty and service delivery.

16.2 For Industry: From Opportunistic Adoption to Sovereign Co-Creation

While governments build infrastructure and set the rules of the game, industry actors — banks, hospitals, ed-tech platforms, defense suppliers, and cross-sectoral technology firms — ultimately determine whether AI sovereignty translates into operational practice. Survey responses reveal that 65.1 per cent of practitioners view joint R&D and co-development with global AI players as the most valuable form of engagement, followed closely by technology transfer (60.5 per cent) and ecosystem support (53.5 per cent). Only 2.3 per cent favor limiting engagement to basic commercial relationships, underscoring that industry leaders seek deep but structured partnerships rather than arms-length consumption of proprietary APIs.

The multi-tiered model strategy described by CXOs across India, Brazil, and South Africa provides a useful blueprint. At the apex, Tier-1 systems — defense command-and-control, national identity platforms, systemic financial infrastructure — should rely on fully indigenous models and infrastructure, even if this implies slower initial progress. As Colonel Arjun Singh (Retd.), a defense technology adviser in India, put it: “For defense, AI sovereignty is non-negotiable. A backdoor is not a bug; it is a national security catastrophe waiting to happen.” At Tier-2, firms can fine-tune open-weight models such as Llama or Mistral on local data, creating culturally grounded, multilingual systems for education, agricultural extension, and customer service in India, Nigeria, and Indonesia. At Tier-3, governed use of proprietary APIs remains appropriate for low-risk tasks like content drafting or coding assistance, provided robust data-protection safeguards and localization roadmaps are in place. Carlos Mendes, CEO of a Brazilian AI startup, describes this practicality succinctly: “We are not trying to out-compete OpenAI in English. We focus on Portuguese contexts — Brazilian law, Amazonian ecology — and for generic tasks we rent frontier intelligence under our terms.”

Operationalizing this strategy requires industry to invest systematically in in-house capabilities rather

than outsourcing AI entirely to vendors. Concrete steps include allocating one to two per cent of payroll to employee reskilling in AI-related competencies; building internal model-risk management teams in BFSI; establishing clinical validation committees for health-AI deployments in India and Nigeria; and participating actively in sectoral sandboxes. Firms in South Africa and Brazil have also begun to contribute to open-source ecosystems — releasing locally trained models and datasets — recognizing, as one Kenyan ed-tech founder remarked, that “the public-good layer of language and cultural models cannot be built firm by firm; it requires a commons logic.”

At the same time, industry must not interpret “sovereign” as “unregulated.” Several interviewees, particularly in banking and healthcare, emphasized the importance of transparent model documentation, regular bias audits, and explainability standards for high-stakes decisions. In Nigeria’s healthcare sector, for instance, Dr Chiamaka Okonkwo insists that indigenous models must be held to higher, not lower, accountability standards: “If we build the models ourselves, we also own the mistakes. There is no foreign vendor to blame when a misdiagnosis harms a patient.”

16.3 For Academia: Re-Architecting Knowledge and Talent Pipelines

Universities and research institutes across India, South Africa, Brazil, Kenya, Indonesia, and Nigeria sit at the fulcrum of talent creation and knowledge framing. Yet their current structures often mirror imported curricula and research agendas, insufficiently attentive to the specificities of resource-constrained environments and local knowledge systems. The survey’s emphasis on applied engineering and domain integration, coupled with qualitative critiques from academic leaders, implies that incremental adjustments will not suffice.

Three shifts are critical. First, curricular reform must embed AI across disciplines rather than confining it to computer science departments. Business schools in India and South Africa should incorporate modules

on algorithmic governance, data-driven strategy, and AI ethics; medical schools in Nigeria and Brazil need training in clinical AI evaluation; agricultural universities in Kenya and Indonesia must teach remote-sensing analytics and advisory-system design. Professor Kwame Mensah, a vice-chancellor in Ghana (whose remarks resonate with African interviewees in this study), cautions that “education AI sovereignty is fundamentally about whose knowledge is encoded: whose knowledge, whose pedagogy, whose language is encoded.”

Second, research priorities should pivot toward problems where Global South contexts offer both urgency and comparative advantage — tropical agriculture, infectious disease, climate resilience, multilingual education — rather than seeking marginal contributions to already saturated topics in high-income settings. Funding mechanisms like mission-mode programmes for domain-specific models — India’s planned NeuroDx and KissanAI, Brazil’s BioBERTpt, South Africa’s AfrilM — need to be expanded and federated, with joint consortia spanning universities in Chennai, São Paulo, Cape Town, Nairobi, and Jakarta. Open-access publication and dataset-sharing should be strongly incentivised, both to circumvent paywalled journals and to enhance visibility of Southern research.

Third, academia must become an institutional counterweight to exclusionary dynamics. Scholarships for under-represented communities; active recruitment of students from rural and vernacular backgrounds; and dedicated funding lines for research in local languages are indispensable. As Dr Sharma notes, “An AI ecosystem whose talent pipeline is drawn only from English-medium, metropolitan elites is structurally incapable of serving the full complexity of our societies.” Interdisciplinary centres focused on AI ethics, gender and AI, and indigenous knowledge should be embedded within universities, providing policy advice to governments and critical scrutiny of both public and private deployments.

16.4 For Civil Society: Accountability, Inclusion, and Public Deliberation

Civil society organizations (CSOs), including digital-rights groups, patient associations, teachers' unions, and labor collectives, play a vital role in ensuring that AI sovereignty does not congeal into elite technocracy. The report identifies three broad functions for civil society across India, Brazil, South Africa, Kenya, Indonesia, and Nigeria.

First, monitoring and advocacy. CSOs can document AI-related harms — such as discriminatory lending in Indian BFSI, biased recruitment algorithms in South African firms, or opaque surveillance in Brazilian favelas — and channel these findings into litigation, regulatory complaints, or public campaigns. Organizations in Kenya and Nigeria have already begun to track algorithmic impacts on informal workers using mobile platforms, providing early warning signals that may not surface in official statistics. Second, public education. Given that AI literacy remains low beyond professional circles, CSOs are well placed to translate complex debates about data rights, algorithmic bias, and platform power into accessible narratives, so equipping citizens to participate in governance discussions. Third, participatory research and co-design. Collaborations between researchers and affected communities — such as farmer cooperatives in Indonesia, women's health groups in Nigeria, or teachers' unions in India — can yield more grounded metrics of AI "success" than conventional efficiency indicators.

Survey respondents implicitly recognize this role: 54 recommended more robust monitoring of AI deployments for rights violations and social harms, and 60 called for broader public engagement around AI risks and opportunities. To institutionalize this, governments and donors should earmark funding for civil-society participation in AI governance — through multi-stakeholder councils, ethics committees, and independent oversight bodies — and ensure these actors have access to information and expertise rather than being confined to symbolic consultation.

16.5 International Cooperation: Solidarity Without Subordination

The final component of the action agenda pertains to international cooperation, which survey respondents overwhelmingly view as necessary but conditionally beneficial. Joint R&D and co-development (65.1 per cent), technology transfer and open access to model weights (60.5 per cent), and ecosystem-building support (53.5 per cent) are highly valued, whereas purely commercial relationships with frontier labs attract negligible enthusiasm.

The IndiaAI Mission's engagement with global hardware providers illustrates a constructive pattern. While Google's Trillium TPUs contribute to India's compute stack, Indian authorities retain control over access policies, pricing, and data governance, and explicitly seek knowledge transfer to domestic teams. Similar principles underpin emerging partnerships between Brazil and European institutions around climate-aligned AI, and between South African research councils and German cooperation agencies around open datasets. Carlos Mendes distills the normative stance that should guide such arrangements: "We do not seek charity. We seek partnerships where our markets, data, and talent make us indispensable counterparties. That is the only basis on which sovereignty and cooperation can coexist."

Beyond bilateral engagements, there is a compelling case for a coalition of AI-sovereignty-seeking states, drawing inspiration from the historical Non-Aligned Movement. Such a grouping — potentially comprising India, Brazil, South Africa, Indonesia, Nigeria, Kenya, and others — could coordinate positions in G20, UN, OECD, and ISO forums, advocate for technology-transfer provisions in trade and investment agreements, and pool resources for shared AI infrastructure, including regional clouds and multilingual models. As the report's conclusion emphasizes, "no single Global South nation can achieve AI sovereignty in isolation; even India, with its scale, requires solidarity to avoid structural dependence."

In sum, the recommendations advanced here are a multi-actor, phased agenda grounded in the lived constraints and ambitions of practitioners across India, South Africa, Brazil, Kenya, Indonesia, and Nigeria. They demand a reorientation of statecraft toward infrastructural stewardship, of industry strategy toward co-creation rather than mere adoption, of academic practice toward contextually relevant research and inclusive pedagogy, and of civil-society engagement toward sustained accountability and public deliberation. The window for such coordinated action is narrow but still open. Whether these countries move from “data dependencies to digital destiny” will depend less on abstract declarations than on the disciplined execution of precisely the kinds of measures outlined in this agenda.

17. CONCLUSION: FROM DEPENDENCIES TO DESTINY

The ascent of artificial intelligence is the most consequential technological inflection since the industrial revolution, with implications that go beyond computational efficiency to encompass economic primacy, geopolitical autonomy, and cultural self-determination. For nations such as India, Brazil, South Africa, Kenya, Nigeria, and Indonesia — collectively representing over 3.5 billion inhabitants and the demographic fulcrum of the 21st century — the current architecture of AI development presents not merely a technological lag but an existential challenge to sovereign agency. This report, grounded in the candid assessments of 12 CXO-level executives from BFSI, healthcare, education, and defense sectors across these countries, alongside quantitative insights from 43 AI thought leaders, lays bare the structural dependencies that characterize their current position: 67.4 per cent identify compute scarcity as the principal constraint, 55.8 per cent decry reliance on proprietary foundation models, and 51.2 per cent lament talent deficits. Rajesh Kumar, CIO of a leading Indian private bank, articulates the stakes with characteristic precision: “We are constructing our entire digital banking transformation atop APIs and models we neither own, inspect, nor whose training data reflects our demographic realities. This is not merely technological risk, but sovereignty risk.”

What emerges from this empirical foundation is no

abstract manifesto, but a practical blueprint comprising six interlocking pillars — infrastructure sovereignty, model sovereignty, data sovereignty, talent sovereignty, economic sovereignty, and governance sovereignty — that together delineate the pathway from peripheral adoption to central agency. Infrastructure stands paramount, as Anil Verma, CTO of an Indian fintech unicorn, underscores with mathematical clarity: “Everything cascades from compute. At four dollars per GPU-hour on American clouds, model training remains the province of oligarchs; at seventy-eight cents through IndiaAI, it democratizes innovation for domestic markets.” The practitioner consensus rejects both naive self-sufficiency (zero endorsements) and passive consumption (2.3 per cent), converging instead on strategic hybridity: 58.1 per cent advocate leveraging global capabilities selectively while fortifying domestic foundations. Dr Priya Sharma of India’s Ministry of Electronics and Information Technology distills this philosophy: “Sovereignty does not rule out isolation. India commands representation at IMF, WHO, WTO fora — we require equivalent purchase in AI governance. Absent our voices in standards drafting and protocol design, we remain perpetual rule-takers.”

Sectoral deep dives illuminate the granularity of this endeavor. Banking leaders in India and Nigeria prioritize auditable models compliant with RBI and Central Bank mandates; healthcare executives in Brazil and South

Africa demand clinical validation attuned to tropical pathologies and maternal health idioms; educators in Kenya and Indonesia emphasize linguistic plurality and pedagogical augmentation beyond rote adaptation; defense practitioners across contexts insist on uncompromising autonomy. Regional differentiation sharpens these priorities further: India's digital public infrastructure — UPI's transactional scale, Aadhaar's biometric universality, DIKSHA's multilingual repository — furnishes population-scale testbeds; Africa's mobile ubiquity (80 per cent penetration) and renewable bounty catalyze frugal architectures; Brazil's risk-calibrated legislation pioneers regulatory statecraft; Southeast Asia's archipelagic constraints forge resilient edge paradigms.

The temporal architecture bifurcates cleanly. The near-term horizon (three to five years) targets operational baselines: 50,000 GPUs deployed across sovereign clusters, multilingual foundation models spanning 100 tongues, 1,000 data laboratories, annual training of 500,000 professionals, and sectoral sandboxes yielding evidence-based regulation. This scaffolding elevates the decadal vista — top-five innovation indices, net exporter status, regional governance architectures rivaling AU, ASEAN, MERCOSUR precedents — to credible prospect. International cooperation amplifies rather than supplants these exertions: India's Intel partnerships embed transfer protocols; Brazil-EU climate dialogues recalibrate for equatorial realities; Kenya's fintech sandboxes inform Nigeria-Indonesia pilots; Lacuna Fund's adversarial datasets bind IIT Kharagpur with ACTS Nairobi.

Execution, however, extracts its inexorable toll. The action agenda enjoins governments to function less as rule-enunciators than infrastructure stewards — allocating 0.5-1 per cent GDP to compute/data public goods, harmonizing DPDP-RBI-CDSCO silos, anchoring procurement at 10-20 per cent domestic preference; industry to graduate from API consumption toward Tier-1 indigenous cores and Tier-2 localized fine-tunes; academia to pivot epistemologies toward tropical agriculture, low-resource NLP, and multi-cultural ethics; civil society to put into practice vigilance via harm


documentation and participatory co-design. Colonel Arjun Singh (Retd.), Indian defense adviser, issues the non-negotiable: "For critical systems, sovereignty admits no compromise — a backdoor is not malfunction, but premeditated catastrophe." Dr Chiamaka Okonkwo, Nigerian healthcare pioneer, injects moral rigor: "Indigenous models command stricter accountability; we author both victories and failures." Carlos Mendes of Brazil crystallizes industrial realism: "We forfeit English generalism absent contest; Portuguese domains — jurisprudence, Amazon sentinels — become our sovereign moat."


This is no exhortation to absolute self-sufficiency, but a summons to disciplined practicality. AI sovereignty for India, Brazil, South Africa, Kenya, Nigeria, Indonesia, and kindred polities stands technologically viable, economically transformative, strategically not optional. Whether data dependencies turn into digital destinies hinges less on declarative intent than institutional sinew — sustained budgetary allocations, cross-stakeholder compacts, adaptive iteration against sandboxes and pilots. The empirical case has been marshalled; the temporal aperture narrows. Leadership now rests upon execution.

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