AI in Governance:

Leveraging Technology for Inclusive Growth and Effective Governance

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Introduction: India's Digital Governance journey

Initial **computerization** phase (1990s – early 2000s)
- Introduction of computers in government offices
- Basic digitization of records and processes

National e-Governance Plan (NeGP) launched in 2006
- Comprehensive initiative for e-governance across the country
- Introduction of Mission Mode Projects (MMPs) in various sectors

Digital India Program (2015)
- Umbrella program to transform India into a digitally empowered society
- Focus on digital infrastructure, e-governance, and digital literacy

Emerging Technologies Integration (2018 onwards)
- National Strategy for Artificial Intelligence by NITI Aayog (2018)
- Focus on AI applications in agriculture, healthcare, education, and smart cities

Current Phase: Comprehensive Digital Transformation
- **Focus on citizen-centric service design and delivery**
- **Exploration of advanced AI applications in policy formulation and implementation**

Key Areas of Impact

Education
- Analysing student data related to socio-economic and demographic parameters, academic performance and school characteristics, using **predictive analytics to monitor the progress of students identify at-risk students.**
- This analysis allowed for timely intervention in the form of programs and counselling for students and their families to **encourage student retention**, specially to address the needs of the most vulnerable children.

Agriculture
- crop monitoring and providing targeted advisory to farmers.
- This democratizes access to advanced agricultural insights, potentially benefiting even small and marginal farmers who traditionally might not have access to such technology.

Health
- Medical Imaging & diagnostics
- Extending reach (Telemedicine) , Early detection of diseases in remote areas with limited access to specialists

AI in Enhancing Accessibility and Reach

AI-powered chatbots as virtual assistants for government services

- 24/7 availability for disseminating information and facilitating access to government services
- Promising Personalized public services and proactive citizen engagement
- Prime examples: MyGov Corona Helpdesk, MyGov Saathi

Language support

- Bhashini project: Addressing linguistic diversity challenges in India
- Promotes inclusivity in government services and program across linguistic backgrounds

Ensuring inclusive access to government information and services

- Bridging gaps for citizens with disabilities and in remote areas
- Improving access for marginalized populations

Future Directions

Leveraging traditional government datasets for Actionable Insights and Improvements

- Mining public data assets in agriculture, taxation, and health available for insights enabling more informed policy making

- Analyze data from **government processes to optimize workflows**, reduce paperwork, and streamline decision-making

- Example: UK's HMRC (Revenue & Customs) AI based Connect system for combating fraud and tax evasion. Connect is a powerful risk analysis engine that leverages advanced analytics to combat fraud and tax evasion. HMRC has seen a substantial increase in successful investigations, achieving over £4 billion in additional tax yield

Challenges in AI Integration

Lack of AI expertise and research capabilities
- India ranks 10th globally in number of PhDs in AI, and 13th in presentations at top AI conferences
- Skill gap: High demand vs. limited supply of AI professionals
- Nasscom report: 51% gap between supply and demand
- Projected demand of over 1 million professionals by 2026
- Educate AI Providers and Implementors on Responsible AI Practices

AI Compute Infrastructure
- High cost and low availability of AI computing infrastructure
- Meeting higher energy consumption

Challenges in AI Integration & Governance: Creating enabling data ecosystems

- Collect and increase availability of data and knowledge in standard discoverable formats across data types (text, images, voice, video, etc. in multiple languages) that are not indexed, searchable or retrievable on an open data platform to fuel AI solutions.
- Use of these data sets for context specific personalization at country, state, organization/department and citizen level
- Need to identify and manage High Risk AI data sets and algorithms differently such as used for : biometric identification, profiling of individuals, providing essential services (water, gas, heating, electricity), healthcare, government schemes, law enforcement, deep fakes, administration of justice and democratic processes, crime analytics, Judiciary, *AI-powered devices accessing and manipulating individuals' thoughts or brain activities without consent,* etc
- Responsible & transparent approach to data governance given its growing prominence specially with Industry 4.0 and IoT
- There is a need for discourse on data driven architecture, data ownership issues and governance across Public Sector Organizations

Challenges in AI Integration & Governance: Creating enabling data ecosystems

- Define an AI Risk Assessment Process across all stakeholders and set up an AI Audit process to ensure adherence to AI Principles (and should be at least an annual process for High risk AI)
- Need to maintain a Centralized repository of High Risk AI Systems; Lay out clear governance structures and procedures to evaluate and identify, notify, maintain a registry and define compliance guidelines for such High Risk AI systems
- There is No explicit acknowledgement or inclusion of AI generated, deepfake or synthetic content in existing laws;
- Revision of platform guidelines in view of the disinformation and deep fakes and develop technologies for detection (AI for AI), real-time monitoring, content provenance, chain of custody (blockchain +AI)

Challenges in AI Integration and Governance: Privacy, security, and ethical concerns

- Need for robust AI regulation addressing privacy, security, and ethical regulations in AI applications
- Study existing and evolving AI technologies/algorithms and their impact on cyber security across diverse stakeholders :AI providers, AI implementors and AI Users following a **Risk based approach (such as** in **EU AI Act, 2023, UK AI Standards Hub, UK Guidelines for Secure AI System Development and NIST AI Risk Management Framework, 2023**)
- Identify compliance requirements for AI Providers & Implementors for critical infrastructure and high risk scenarios, including Registration and licensing for Critical Information Infrastructure (CII)
- Collaborate with Regulators, including Sectoral regulators to promote **Responsible AI Practices, (including Privacy, Security, Legal and Ethics by Design), Accountability, Equality, Inclusivity, Non-discrimination, Transparency, Explainability and post-launch monitoring for High Risk AI**
- Specially, for High Risk AI scenarios there is a need to oversee and manage the **Innovation Lab and Sandbox** Facility to promote safety and innovation
- Maintain a **repository of vulnerabilities** and threats and a **self regulation check list for High risk AI providers and Implementors**
- Ensure appropriate human-oversight for scenarios which are High risk.

Opportunities for India: Global Leadership in AI for Governance

- GPAI Summit 2024 in New Delhi: India's commitment to global AI leadership
- Potential for India to become a leader in developing AI governance solutions promoting inclusiveness, innovation, and sustainability
- Set standards for ethical and responsible AI use in governance
- Opportunity to develop scalable solutions for a large and diverse population
- Create models for AI-enabled participatory democracy

Q&A

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AI and Sustainable Governance

AI Systems for social good such that they contribute to the Sustainable Development Goals in areas such as education, health, transport, agriculture, environment, and sustainable cities, among others. For instance

Waste Management
- AI applications for identifying and sorting waste: Higher accuracy ranging from 72.8 to 99.95%
- In waste management logistics, AI can reduce transportation distance by up to 36.8%, cost savings by up to 13.35%, and time savings by up to 28.22%.

Resource optimization in urban environments using AI-IoT integration for data collection and analysis
- Providing relevant analytics to track and optimize resource utilization
- Example: Pune – AI application to **monitor water distribution through tankers is** improving efficiency and transparency in water supply management