ETHICS, GOVERNANCE, AND APPLICATION OF ARTIFICIAL INTELLIGENCE (AI) IN THE PUBLIC SECTOR: A PATHWAY TO A VIKSIT BHARAT

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Abstract

As India marches towards the vision of a 'Viksit Bharat' (Developed India) by 2047, the integration of Artificial Intelligence (AI) in the public sector has emerged as a transformative force. This paper explores the multidimensional role of AI in enhancing government efficiency, public service delivery, and national security, aligning with the seminar's theme of indigenous values and digital awareness. While the application of AI offers unprecedented opportunities for administrative reforms and e-governance, it simultaneously presents critical ethical challenges, including algorithmic bias, data privacy concerns, and the lack of transparency. This study analyzes the current landscape of AI in India's public sector, evaluates the existing governance frameworks, and proposes a robust ethical roadmap. It argues that for India to maintain its sovereignty and security in the digital age, AI adoption must be rooted in democratic reforms and indigenous ethical values, ensuring technology serves as a tool for inclusion rather than exclusion.

Keywords: Artificial Intelligence, E-Governance, Digital Sovereignty, AI Ethics, Public Sector Reforms, Viksit Bharat.

1. Introduction

The 21st century is often described as the era of the Fourth Industrial Revolution, characterized by the fusion of the physical, digital, and biological worlds. At the heart of this revolution lies Artificial Intelligence (AI). For a nation like India, with its vast population and diverse demographics, AI is not merely a technological novelty but a necessary tool for effective governance. The Government of Gujarat and the Knowledge Consortium of Gujarat (KCG) have rightly emphasized "Digital Awareness" and "Technological Sovereignty" as pillars for revitalizing India.

In the public sector, AI has the potential to redefine the relationship between the state and the citizen. From predictive policing to personalized education, and from automated welfare distribution to smart healthcare, AI

applications are reshaping the administrative landscape. However, the rapid deployment of these technologies raises profound questions regarding ethics and governance. As India strives to secure its unity and sovereignty, it is imperative to examine how AI can be governed to align with democratic values and indigenous ethical standards.

The 21st century is witnessing a paradigm shift in the way nations are governed, driven largely by the Fourth Industrial Revolution. At the center of this technological upheaval lies Artificial Intelligence (AI)—a tool that promises to redefine the boundaries of human capability. For a nation like India, which stands at the cusp of becoming a global superpower, the integration of AI into the public sector is not merely a choice but a strategic necessity. As India marches towards the ambitious goal of a **'Viksit Bharat' (Developed India) by 2047**, the administrative machinery must evolve from traditional bureaucratic structures to agile, digital-first systems. The Government of Gujarat, through initiatives like the Knowledge Consortium of Gujarat (KCG), has rightly identified that building a global knowledge-driven society requires a synthesis of modern technology and foundational values.

However, the deployment of AI in governance is distinct from its application in the private sector. While corporate AI focuses on profit maximization and consumer engagement, the public sector utilizes AI to fulfill the constitutional mandate of welfare, justice, and equity. In a country with a population of over 1.4 billion, the scale of governance is unprecedented. From ensuring food security to managing traffic in smart cities, and from streamlining tax collections to fortifying national borders, AI acts as a force multiplier. It offers the potential to transform the government from a reactive entity—which responds only after a grievance is raised—to a proactive guardian that anticipates the needs of its citizens.

This research paper explores the theme of the seminar, **"Unity, Security and Sovereignty,"** through the lens of digital transformation. It argues that India's unity is strengthened when technology bridges the gap between the administration and the remote citizen. National security is bolstered when AI-driven surveillance and cybersecurity measures protect the state from hybrid warfare and cyber-terrorism. Furthermore, sovereignty in the digital age is no longer just about territorial borders; it is about **'Data Sovereignty'** and **'Technological Independence.'** As highlighted in the seminar tracks, preserving India's sovereignty requires reducing dependence on foreign algorithms and hardware, fostering an indigenous ecosystem of innovation.

Yet, this technological trajectory is fraught with ethical peril. The uncritical adoption of AI systems imported from the West often brings with it biases that are alien to the Indian context. Issues of algorithmic transparency, data privacy, and the digital divide threaten to create a new form of inequality, potentially undermining the democratic reforms discussed in this seminar. Therefore, this paper posits that the revitalization of India cannot occur through technology alone. It requires a governance framework deeply rooted in **"Indigenous Values"**—

values such as *Antyodaya* (welfare of the last person), *Sarvodaya* (universal upliftment), and *Dharma* (righteous duty).

By analyzing the current landscape of AI in India's public sector, evaluating the associated ethical challenges, and proposing a value-based governance model, this study aims to provide a roadmap for responsible AI adoption. It seeks to answer a critical question: *How can India leverage the power of Artificial Intelligence to modernize its administration while remaining true to its democratic ethos and cultural heritage?*

1.1. Theoretical Framework: Public Value Theory in the Age of AI

1.2. To understand the impact of AI on governance, it is essential to analyze it through the lens of 'Public Value Theory'. Traditionally, public administration focused on efficiency and cost-reduction. However, as scholars like Mark Moore have argued, the primary goal of the public sector is to create value for citizens. AI serves this purpose by acting as a force multiplier. It transitions the government from a reactive entity—which responds only when a citizen complains—to a proactive entity that anticipates needs. For example, predictive analytics can help municipal corporations anticipate water shortages or traffic congestion before they occur. However, this technological shift must be balanced with the 'Social Contract' theory, ensuring that the state does not violate the implicit trust of its citizens while gathering data for these predictions. In the Indian context, this aligns with the constitutional mandate of a Welfare State, where technology is not an end in itself but a means to achieve social justice.

2. Applications of AI in the Public Sector

The application of AI in the public sector is vast and growing. Unlike the private sector, where the primary goal is profit maximization, the public sector utilizes AI to enhance social welfare, ensure justice, and improve the efficiency of service delivery.

2.1. Enhancing Service Delivery and E-Governance

AI-driven chatbots and virtual assistants are revolutionizing citizen grievance redressal systems. For instance, the use of AI in the 'UMANG' app allows citizens to access government services seamlessly. In agriculture, AI models analyze satellite data to provide farmers with real-time advice on crop health and weather patterns, directly supporting the agrarian economy which is central to India's indigenous identity.

2.2. Healthcare and Public Safety

The implementation of AI in public health, particularly demonstrated during the COVID-19 pandemic, showcased the ability of data-driven systems to track disease spread and manage vaccination drives (e.g.,

CoWIN platform). Furthermore, AI algorithms assist in diagnostics in remote areas where specialist doctors are scarce, thereby democratizing access to healthcare.

2.3. National Security and Digital Sovereignty

Aligning with the seminar's focus on "Security and Sovereignty", AI plays a pivotal role in modern defense and cybersecurity. AI systems can detect cyber threats in real-time, protecting critical digital infrastructure from hostile actors. This contributes to "Technological Sovereignty," ensuring that India is not dependent on foreign entities for its digital security.

2.4. PM GatiShakti: AI in Infrastructure Logistics

One of the most significant applications of AI in India's governance is the PM GatiShakti National Master Plan. This platform integrates data from 16 ministries, using AI and GIS-based technologies to plan infrastructure projects efficiently. By analyzing vast datasets, the system predicts logistical bottlenecks and suggests optimal routes for roads and railways. This not only reduces project costs and time overruns but also exemplifies how AI can drive the physical development of a nation, acting as a catalyst for economic sovereignty.

2.5. Bhashini: Breaking Language Barriers

India's linguistic diversity is both a strength and a challenge for governance. 'Bhashini', the National Language Translation Mission, leverages AI and Natural Language Processing (NLP) to bridge this gap. By enabling real-time translation of government services and digital content into Indian languages, Bhashini ensures that digital awareness is not limited to English-speaking elites. This initiative directly supports the seminar's track on "Digital Inclusion," ensuring that the benefits of technology reach the grassroots level in their mother tongue.

2.6. DigiYatra: Seamless Travel Experience

The DigiYatra initiative by the Ministry of Civil Aviation utilizes Facial Recognition Technology (FRT) to enable paperless entry at airports. While this significantly improves efficiency and passenger convenience, it serves as a prime example of the balancing act required between technological adoption and privacy, necessitating robust data protection standards.

3. Ethical Challenges in AI Deployment

While the benefits are immense, the unbridled use of AI in governance brings forth significant ethical dilemmas that must be addressed to preserve democratic reforms.

3.1. Algorithmic Bias and Inequality

AI systems learn from historical data. If the historical data contains biases—whether based on caste, gender, or region—the AI will replicate and potentially amplify these biases. In the context of policing or welfare distribution, a biased algorithm could unfairly target marginalized communities, threatening social harmony and the constitutional promise of equality.

3.2. Transparency and the "Black Box" Problem

Democratic governance relies on accountability. However, deep learning models often operate as "black boxes," where the decision-making process is opaque even to the developers. If an AI system denies a citizen a loan or a welfare benefit, the state must be able to explain *why*. The lack of explain ability undermines the transparency required in a democratic setup.

3.3. Privacy and Data Sovereignty

The extensive collection of citizen data for training AI models raises concerns about privacy. Without robust data protection laws, there is a risk of state surveillance or data misuse. Ensuring "Information Sovereignty" means keeping Indian citizens' data secure within national borders and protected by rigorous legal frameworks like the Digital Personal Data Protection (DPDP) Act.

3.4. Case Study: The Aadhaar Verdict and Privacy Rights

A critical turning point in India's digital governance journey was the Supreme Court's judgment in *Justice K.S. Puttaswamy (Retd.) vs. Union of India (2017)*. The court declared the 'Right to Privacy' as a fundamental right under Article 21 of the Constitution. This judgment serves as a cornerstone for AI governance in the public sector. It implies that any AI system deployed by the state—whether for surveillance or welfare distribution—must pass the test of legality, necessity, and proportionality. This legal precedent mandate that the state cannot deploy invasive AI technologies without a valid law and a legitimate state aim, thereby safeguarding democratic

3.5. The Threat of Deep fakes and Disinformation

One of the most alarming challenges identified under Track 3 of this seminar is the rise of misinformation and disinformation. With the advent of Generative AI, the creation of 'Deep fakes'—hyper-realistic doctoring of audio and video—has become dangerously easy. In a democratic nation like India, deep fakes can be weaponized to manipulate public opinion, disrupt elections, or incite communal violence, thereby threatening national unity. The challenge for the public sector is twofold: first, to develop AI tools that can detect such synthetic media (AI-countering-AI), and second, to create legal frameworks that hold perpetrators accountable

without stifling freedom of speech. Digital awareness campaigns are crucial here to educate citizens on verifying the authenticity of digital content.

3.6. Dependence on Foreign Tech and Digital Colonization

Technological sovereignty is a prerequisite for national security. Currently, a significant portion of the AI infrastructure—from cloud servers to chip manufacturing—is dominated by foreign tech giants. Relying heavily on foreign algorithms for critical government functions (like defense or energy grids) creates a vulnerability described as 'Digital Colonization'. If diplomatic relations sour, these services could be withdrawn. Therefore, the push for 'Atmanirbhar Bharat' in the AI sector is not just an economic slogan but a strategic necessity to ensure that India's data and digital destiny remain in Indian hands.

4. Governance Frameworks: Global and Indian Context

To mitigate these risks, a strong governance framework is essential.

4.1. Global Perspectives

Globally, regions like the European Union have introduced the AI Act, classifying AI based on risk levels. These frameworks emphasize human oversight, safety, and privacy.

4.2. The Indian Approach: NITI Aayog and Beyond

India has adopted a unique approach termed "AI for All." NITI Aayog's national strategy focuses on leveraging AI for economic growth while ensuring social inclusion. However, as the seminar theme suggests, there is a need to integrate "Indigenous Values" into these frameworks. This involves moving beyond Western compliance models to a framework based on 'Dharma' (righteous duty), ensuring technology acts as a servant to humanity rather than a master.

5. Revitalizing India through Value-Based AI

To truly revitalize India through digital awareness, the governance of AI must be rooted in the country's cultural ethos.

- **Human-Centric Design:** AI in India should prioritize the "Antyodaya" philosophy—serving the last person in the queue. Technologies must be accessible in regional languages to bridge the digital divide.

- **Democratic Oversight:** As discussed under Track 2 of the seminar themes, strengthening constitutional institutions is vital. Independent audit bodies should be established to review government AI algorithms for fairness and constitutional compliance.

- **Indigenous Knowledge Systems:** AI can be used to digitize and preserve Indian Knowledge Systems (IKS), from Ayurveda to ancient architectural texts, ensuring that India's heritage is preserved for future generations.

5.1. Gandhian Ethics and AI: The Digital Talisman

Mahatma Gandhi gave a "Talisman" to the nation: to recall the face of the poorest and weakest person and ask if the step being contemplated is of any use to them. In the age of Artificial Intelligence, this indigenous value serves as the ultimate ethical compass. Before deploying an AI algorithm for public distribution systems (PDS) or housing schemes, policymakers must ask: *Will this algorithm include the most marginalized, or will it exclude them due to digital illiteracy?* Integrating this 'Antyodaya' philosophy ensures that AI acts as a tool for social cohesion rather than a mechanism for exclusion.

5.2. Dharma and Algorithmic Accountability

Indian Knowledge Systems emphasize the concept of 'Dharma'—which translates to duty, righteousness, and cosmic order. In the context of AI governance, 'Dharma' implies that the creators and deployers of AI have a moral duty towards society. Unlike Western utilitarian models that focus on the 'greatest good for the greatest number,' an indigenous framework based on Dharma would insist on the welfare of all (*Sarvodaya*). This approach mandates that AI systems must be designed with an inherent moral code that respects human dignity and societal harmony.

5.3. Capacity Building: Mission Karmayogi and AI

Integrating AI is not just about installing software; it is about upgrading 'Humanware'. The Indian bureaucracy faces a significant skills gap regarding emerging technologies. To address this, the government's 'Mission Karmayogi' aims to upgrade the skills of civil servants. Expanding this mission to include mandatory AI literacy for government employees is essential. A clerk in a remote village or a district collector must understand not just how to use an AI dashboard, but also how to interpret its data critically. Without this human-in-the-loop approach, there is a risk of 'automation bias', where officials blindly trust the machine's output even when it is factually incorrect.

6. Conclusion

The integration of Artificial Intelligence in the public sector is not a matter of 'if' but 'when' and 'how.' As India moves towards 2047, AI offers the tools to leapfrog development challenges and secure national sovereignty. However, technology is a double-edged sword. To ensure that AI strengthens rather than weakens India's unity and democratic fabric, it must be governed by a framework that balances innovation with ethics. By adopting a model of AI governance that is transparent, accountable, and rooted in indigenous values of inclusivity and welfare, India can set a global example of responsible technological leadership.

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