YOJANA MAGAZINE ANALYSIS
(February 2024)
(Part 2/3)

TOPICS TO BE COVERED

PART 1/3

- **INDIA'S VISION FOR HARNESSING AI FOR GLOBAL GOOD**
- **AI IN INDIAN GOVERNANCE & PUBLIC SERVICES**

PART 2/3

- **POTENTIAL & CHALLENGES OF GENERATIVE AI.**
- **USE CASES OF GENERATIVE AI IN GOVERNANCE**

PART 3/3

- **ROLE & SCOPE OF AI FOR CITIZEN SERVICES**
- **CYBER SECURITY CHALLENGES IN THE ERA OF AI.**

TOPICS (PART 2/3)

- **POTENTIAL & CHALLENGES OF GENERATIVE AI.**
- **USE CASES OF GENERATIVE AI IN GOVERNANCE**

VAJIRAO & REDDY INSTITUTE
India's Top Potential Training Institute for IAS

+918988885050
+918988886060

www.vajiraoinstitute.com
info@vajiraoinstitute.com

POTENTIAL & CHALLENGES OF GENERATIVE AI.

- Generative AI is a **subset of deep learning**, which means it uses **artificial neural networks**, and can process labelled data using supervised learning methods.

- Generative AI is **a type of artificial intelligence technology that can produce Various types of content, including text, imagery, and audio.**

- Generative AI is also used for **many special-purpose chatbot tasks**, like Government chatbots, can be used to help citizens and visitors get access to the right information on various schemes and policies.

- Generative AI has the potential to give society intelligent guidance on how to approach some of the biggest problems, like climate change and pandemics.

DOMAINS WHERE GENERATIVE AI IS MAKING AN IMPACT

- **Writing:** Generative AI can be used for writing emails, resumes, press releases, speeches, etc. The Large Language models (LLMs) are the engines behind this task performed by AI.

- **Reading:** Apart from writing, Generative AI is good a reading also. For example, an e commerce company having multiple email ids can read among them to identify whether

any complaint has come from any email id. Accordingly responses are framed to find the adequate solution.

- **Chatting:** Generative AI is used for many special purpose chatbots like the government chatbots can help citizens with information about various services.

CONCERNS ABOUT GENERATIVE AI

- **Gender Bias:** LLMs are trained on text from the internet, which reflects some of humanity's best qualities but also some of its worst, including some of our prejudices, hatreds, and misconceptions.

- **Job losses:** A second major concern is who will be able to make a living when AI can do our jobs faster and cheaper than any human can?

  o To understand whether this is likely to happen, let's look at radiology. As per various reports, some five years ago, it was said that AI was becoming so good at analysing X-ray images that in five years, it could take radiologists' jobs. But we're now well past five years since this statement, and AI is far from replacing radiologists.

- **Hallucinations & Misinformation:** Another concern is that it can sometimes 'hallucinate' inaccurate information with complete confidence. It can even invent its own references, sources, and deep fakes that are non-existent.

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- **Plagiarised content:** LLMs sometimes output plagiarised content. If any enterprise uses that in their operations, only they are held accountable when the plagiarism is discovered, not the Generative AI model.

RESPONSIBLE AI

Lots of governments, businesses & developers care about such concerns and have been working to make sure that AI is built and used responsibly. Some of the key dimensions of implementing responsible AI are:

- Fairness of information to ensure that AI doesn't perpetuate or amplify gender biases.

- Transparency of information is vital to ensuring ethical decision-making. Users should have accessible, non-technical explanations of Generative AI its limitations, and the risks it creates.

- Privacy is another dimension for implementing responsible AI by protecting user data and ensuring confidentiality.

- Safeguarding the AI systems from malicious attacks.

- Ethical use of data, ensuring that AI is used only for beneficial purposes.

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USE CASES OF GENERATIVE AI IN GOVERNANCE

Intelligence in AI applications stems from having a strong ability to **solve problems through reasoning, learning, and subsequently incorporating diverse human functions.**

Governments may embrace **AI in general and GAI in particular** in their activities. One way to do that may be through undertaking **capacity enhancement programmes** in areas like Data Science and Decision Science where government employees may develop a better understanding of AI in general and GAI as well.

GAI, like other AI tools, could play an important and critical role in the digital transformation of governments and public sector undertakings. This technology will help governments to be nimbler and more agile in their decision-making and connect with stakeholders more effectively.

CASE STUDIES

- The governments of both the **United States and Singapore** have initiated the integration of Chat GPT into their administrative systems.

- Similarly, in **Japan**, the Yokosuka City Government has begun employing Chat GPT to support its office operations.

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- **The Government of Estonia** has been piloting several AI-related initiatives.' For example, it has tested machine learning software to match job seekers with employers, developed a machine vision AI solution for better traffic management, and piloted programme under the **Ministry of Justice** to integrate **GAI** for processing judgements in small **claims disputes where the payment amounts to a maximum of 7000 Euros.**

  o Estonia has also introduced **'Suve'**, a digital assistant developed to offer precise and trustworthy answers to queries from the public.

- In **Singapore**, the Smart Nation initiative utilises AI to optimise traffic management, improving urban planning and public transportation.

- The **US FEMA employs AI for critical satellite imagery analysis** to bolster **disaster response** and resource allocation.

- The **UK's NHS leverages AI** to inform healthcare policies and manage resources effectively. Further **NHS will soon deploy GAI on top of existing AI tools for diagnosis and recommending possible treatments for critical illnesses,** which require complex detections to be made quickly like heart disease and strokes. This initiative of UK is funded by the government's new **AI Diagnostic Fund.**

CHALLENGES IN USING AI

- **The credibility of its outputs:** The quality of the data it ingests plays a large role in the credibility of the outputs it prepares.

- **Accuracy of its output:** The responses of GAI to factual responses are relatively accurate. However, for prompts that require subjective deliberation, GAI applications often fail to provide satisfactory responses.

- **Privacy:** The use of GAI requires organisations to expose their data to GAI systems. This activity has to be done carefully so that the internal information assurance protocols and privacy of the data do not get breached.

- **AI needs to establish FATE:** GAI systems need to establish how they can address the principles of FATE, namely **Fairness, Accountability, Transparency, and Ethics** in AI.

  o Addressing these FATE principles requires investment in the governance of these platforms.