The Long and Short of AI Regulation

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The exponential growth of artificial intelligence is likely to bring in many opportunities and disruptions. Through proactive policy changes by the government, India could seize these opportunities and avoid large-scale disruptions.

Recently, there was a hue and cry to stop any further development of artificial intelligence (AI) in the West for at least a few months. Some scientists and industrialists supported this idea, while others opposed it. Prominent industrialist and investor Elon Musk, who partially funded the OpenAI platform, ChatGPT, advocated for halting AI research for six months. This is surprising, considering that Tesla fully utilises AI. It was likely that some industry lobby wanted to catch up in the AI race and not be left behind while others may have to upskill their processes and employees.

Arguably, while innovations can and should be regulated via policies, they cannot be stopped altogether. Innovations are in general beneficial for humanity and its advancements. As Albert Einstein supposedly said:

> Computers are incredibly fast, accurate and stupid. Human Beings are incredibly slow, inaccurate and brilliant. Together they are powerful beyond imagination. (Sreechinth 2016; Hempell 2006; Honore 2010)

Fear of Technological Advancements

Let us examine the scenario in India alongside the global landscape. Recall the time when computers first arrived; there was significant opposition from labour lobbies due to fears of job losses (Sætra and Danaher 2023). Today, even a high-school-dropout vegetable vendor uses a smartphone more powerful than the first computer that arrived in India. This handheld device facilitates digital transactions, record-keeping, communication, and much more.

Jobs in areas such as accounting, digital medical records, social welfare schemes, vaccination drives, and population databases managed by governing bodies have become easier and less painstaking. Despite the ongoing exponential growth of technology, both then and now, significant displacements in employment did not happen.

Then why is there so much fear now? Technological growth and advancements are exponential. In the past, the baseline was lower. It took 40 years to go from the first computer to smartphones for the masses. Now, with a higher baseline, the impact will be felt sooner.

Governance bodies need to ensure policy formulations that minimise job displacements, maximise opportunities, and capture low-hanging fruits (Center for AI Safety 2023). A case in point is the aggregation model. Whether in e-commerce, cab companies, hotels, or online insurance policies, to name a few, disruptions were felt. Middlepersons who had active businesses had to shift to different professions or become a part of aggregation models.

Going by past experiences, the professions of individuals largely remained the same, but the current fears are not unfounded. In the 1970s and 1980s, the population had time to get upskilled or reskilled for the usage of new tools that improved productivity drastically. But exponential growth with a large baseline is likely to impact faster; hence quicker actions need to be taken, and if all is done correctly, it will grow the productivity and skills of individuals.

Hence, governance bodies need to form policies that will reduce job disruptions and enable individuals to leverage technology advancements to their advantage. It is our argument that stopping technological development is not a solution. Rather it will be detrimental to the progress of humanity's past innovations. We argue that AI has the potential to create new jobs and improve the productivity of workers in all sectors and the overall living standard of the people.

It is essential for governments to formulate policies that assist workers in adapting to the evolving job market. These policies should encompass upskilling and reskilling programmes, along with providing job placement assistance. Governments should also allocate resources for education and training programmes that equip workers with the skills needed to thrive in the age of AI. In addition to government policies, businesses also

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Table 1: Impact Areas of AI-driven Automation

Fixed Process-oriented Tasks	Processes Based on Empirical Data
Real-time speech recognition, translation, and communication in different formats	Medical treatment
Health check-up reports and diagnoses	Predictions of earthquakes, hurricanes, stock markets, life-spans, etc
Financial processing and business analysis	Insurance premiums based on individual as well as population data; expected monthly claims and cash-flow management
Low-level software coding jobs	Fraud detection; facial recognition of terrorists
Drafting legal notices	
Timetable/calendar creation for groups of people for specific activities based on individual calendars	
Manufacturing automation; farming automation	
Drone delivery of medicines, groceries, etc	

Source: Authors' compilation.

have a role to play in helping workers adapt to the changing job market. Businesses should offer training programmes to their employees and should create flexible work arrangements that allow employees to balance work and family responsibilities, better known as work–life balance.

It is important to remember that AI is not a threat to human workers. AI is a tool that can be used to augment human capabilities. When used correctly, AI can help improve workers' productivity and create new values. Human talent, imagination, and intuition will not be replaced by AI. These are the qualities that make us unique and that will allow us to thrive in the age of AI. By working together, humans and AI can create a better future for everyone.

AI-driven Job Displacement

In the context of job displacement fears due to AI, it is crucial to identify the categories of jobs most and least likely to be affected.

The jobs most likely to be displaced by AI are those characterised by repetition, routine, and automatable processes. This includes tasks such as answer-sheet evaluation, health check-ups, and any execution based on fixed predetermined processes.

Conversely, jobs least likely to be displaced by AI are those that necessitate creativity, problem-solving skills, and social interaction. Occupations in the creative arts, design, research, and development, as well as those centred around complex interpersonal communication, are less susceptible to AI disruption.

Governments and businesses must collaborate to assist workers who are susceptible to AI-driven job displacement in their upskilling and enable them for new opportunities. Table 1 lists some of the areas which are likely to be impacted by AI-driven automation. While some of these await hardware and infrastructure development, given exponential growth, this will happen sooner rather than later.

Implications of Government Policy Formulation

We are of the view that most professions will see some degree of impact of AI sooner than later. McKinsey & Company (Manyika et al 2017) estimates that AI could displace up to 30% (or one-third) of jobs, in all sectors where automation is feasible by 2030. We concur that it will happen in all sectors starting with the process-driven categories. For example, we expect that a decade from now there will be neither a doctor nor a lawyer without an AI assistant.

Note that there are about 1 million (or 2,800 per day) publications happening every day in the medical field alone (Landhuis 2016). However, for an experienced doctor, it is impossible to handle and utilise so many new empirical discoveries.

The situation would be the same with the huge amount of legislation as well as similar cases that lawyers are likely to refer to in arguments. Also, after hearing the case, judges usually take a few days to pass the verdict based on related judgments. This process could be expedited from three days to a few hours of iteration with AI. This will be beneficial for countries like India where the pendency of cases runs into as much as 20 years.

Einstein's quote on humans and machines making the world an excellent place needs to be our vision. And to address and execute this vision seamlessly, governments need to focus on the following: (i) stress on fundamental education about AI and its applications; (ii) encourage AI experts from industries to contribute to the formulation of educational content; (iii) reskill and upskill

workers, where governments should support and incentivise businesses towards reskilling and upskilling; (iv) focusing on areas which will see an immediate impact with minimal risk and tangible impacts, followed by applications in more nuanced areas; and (v) governments as well as corporate bodies should plan to enable their members to continue with their lives with minimal impact in the case of jobs reduction.

Additionally, AI also has the potential to significantly impact global trade. Hence, it is important to consider its policy implications on trade too. Trade bodies, platforms, and standards-making organisations need to proactively factor in and ensure that countries have consistent regulations to facilitate cross-border trade considering AI-driven innovative designs, products, and services.

The context of AI presents a substantial challenge to intellectual property (IP) rights. Policymakers need to address IP rights and protection concerning AI-generated content. Questions may arise regarding who owns the rights to content generated by AI and how IP laws should adapt to account for AI's creative output. Policymakers must determine which generative AI technologies should be regulated and how to strike a balance between innovation, safeguarding IP and national security. Some AI technologies, particularly those with the potential for dual-use applications (civilian and military), can be subjected to export controls. For instance, imagine a famous teacher has uploaded thousands of their lectures on YouTube. With this publicly available data, multiple AI teachers can be created, making the owner of the original content redundant.

Establishing appropriate data privacy and protection policies is imperative in the context of AI, as all AI models are based on historical data. In the last few decades, the world has seen massive amounts of data being generated alongside the development of innovative applications making good use of this data. Generative AI often relies on such large data sets to become smart. Policymakers must consider regulations of data privacy and protection and how they will impact the flow of data across borders at individual, company and country levels. We have seen that countries are moving fast to adjust policies for data-related regulations like GDPR and CCPA, as more data gets accumulated and processed. Data localisation requirements could also have trade implications.

Establishing liability rules for AI-generated products is also essential. Manufacturers and sellers of AI-generated goods need to have clear responsibilities in cases of product defects or harmful impacts of AI. This will involve working towards the development of international standards and certification processes for AI systems, which can ensure interoperability and quality, facilitating seamless applications, and global trade in AI products.

Policies need to preclude dominance and monopoly. AI services are becoming rapidly important in business and global trade. Hence, policy also needs to ensure that service providers comply with relevant regulations and trade agreements that facilitate the cross-border provisions of AI services. The dominance of certain AI companies in global markets may raise concerns about competition. Strong competition is a hallmark of a good market and policymakers need to ensure that policies are aligned to avoid dominance.

Trade policies should encourage ethical use of AI and government policies must ensure investments in education and upskilling of workforce so that they are equipped with the skills needed to work with AI technologies.

Encouraging collaboration and information-sharing between countries, in the form of bilateral and multilateral agreements, will also be crucial for addressing global trade challenges related to AI. Multilateral forums can be effective platforms for discussing and harmonising AI-based policies and governments need to establish mechanisms for ensuring compliance with AI-related trade regulations and agreements. They should also set norms to manage deviations.

Policymakers also need to engage with various stakeholders, including industry experts, academia, and international organisations, to develop a coherent and effective policy framework that promotes the responsible use of AI in global trade while fostering innovation and economic growth.

Recently, some companies have come up with AI-driven "virtual girlfriend" chatbots that talk to men, learn their likes and dislikes, and chat with them. Soon, they might come up with a 3D model. This was never imagined to be a reality and needs to be regulated since such products could harm humanity. Complexities of IP rights, liabilities, and ethical issues will not get resolved automatically. They need to evolve proactively.

Key Opportunities

To harness the full potential of AI-based technologies, governments should strategically identify sectors plagued by significant bottlenecks such as execution delays and resource constraints. By doing so, these sectors can benefit from AI implementation without adversely affecting the existing workforce with job displacements (Cave and *Éigeartaigh* 2019).

For instance, take the case of the Indian judicial system, where there is considerable scope to enhance efficiency and expedite justice delivery. Training an AI model on a data set of court verdicts, which relies on various factors such as presentations by opposing parties, legislation, and precedents, could significantly reduce the time taken by the judges to draft verdicts—from three to five days down to a fraction of that time. This aligns with the vision expressed by the Chief Justice of India and has the potential to boost the productivity of Indian courts by five times.

Addressing crime-related incidents is another domain where AI can play a pivotal role in enhancing public safety by observing and notifying authorities of any anomalous activities and behaviours. It also has the potential to address bottlenecks of emergency phone numbers of public services like 100 (or 911 in the United States [US]) for police.

In the healthcare sector, particularly in a country like India facing a shortage of doctors, AI can be a transformative force. India has a shortage of doctors, with 834 people per qualified doctor. This is much higher than in the developed countries, such as the United Kingdom—3.2 doctors per 1,000 people and

the US—2.6 doctors per 1,000 people. By automating routine tasks such as scheduling, documenting, and managing patient records, AI allows doctors to focus on more intricate responsibilities like diagnosis and treatment planning. AI can also help doctors to make better decisions by providing them with data-driven insights. For example, AI can help doctors identify patients who are at high risk of developing certain diseases or who are likely to respond well to certain treatments. This not only increases doctor productivity by five times but also helps mitigate the impact of doctor migration to developed countries, lured by higher salaries and better working conditions. By using AI to improve doctor productivity and decision-making, India can improve the quality of healthcare for all citizens.

Second, in the areas plagued by bottlenecks, governments can enable AI in areas wherein there is an opportunity for cost reduction. For instance, there is a significant opportunity to take advantage of AI in drug discovery to substantially reduce both the time and costs associated with the process. Governments should establish policies to streamline investments in scientific and data-driven approaches while discouraging inefficient and unnecessary practices.

Agriculture is another priority area where AI can be employed to reduce risk factors, costs and enhance productivity. By employing AI solutions, governments can optimise resource utilisation, improve yield prediction, and provide farmers with valuable insights into productivity.

These are just a few examples of how governments can strategically employ AI to address challenges and capitalise on opportunities. Establishing committees dedicated to addressing these issues and tapping into these opportunities should be a priority for governments looking to harness the transformative power of AI for societal benefits.

To conclude, the landscape of generative AI evolution presents a huge and transformative opportunity for society at large. Using the potential of this exponentially growing field necessitates the necessary support and facilitation, including meticulous crafting of a comprehensive policy framework. By doing so, we not only mitigate potential liabilities but also unlock unprecedented opportunities, fostering an environment of innovation and progress. We need a policy infrastructure which ensures a level playing field, promoting fair competition and equitable access to the benefits of this big change. As we witness this evolution and era of transformations defined by generative technologies, the judicious formulation of policies becomes the key facilitator and moderator that helps us leap into a future where the immense possibilities of generative AI evolution are realised responsibly and sustainably.

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