



LEGAL FRAMEWORK AND ARTIFICIAL INTELLIGENCE: A MACRO REVIEW

Dr. Prashant Vithal Kadam

Professor in Economics

Garodia International Learning Centre,
Mumbai

Mrs. Arati P Kadam,

Assistant Professor in Computer Science,
Dhempe College of Arts & Science,
Panaji-Goa.

Abstract

The increasing trend of Artificial intelligence in almost every sector of the economy has given rise to a new Digital Revolution across the globe. It has made the public to rethink in terms of integrating the information, analyzing of data, and using the resulting insights to improve decision making. It has started changing the world digital order asking for an effective balance between the society, the economy and the governance. The net investments and the revenue on Artificial intelligence has been on the rise. The world has been benefitting a lots. However, there have also been a rise in the mis-use and abuse of AI thereby making it prone to various risks and challenges. The world at large including the European Union, US, China are still in the process of having effective regulations for the AI systems. Some countries have devised their own regulations as per the requirements. India also has been on its way in creating an effective legislation. The paper has taken a macro review of the efforts of the international community towards the regulation of the AI in its different forms.

Keywords: *AI, Competitiveness, Legislations, Government, Frameworks*

I. Introduction

Artificial intelligence refers to the capabilities of machines to perform certain tasks. It involves the development of computer systems that can perform tasks that humans usually do requires the development of deep neural networks. AI allows machines to achieve specific goals by analyzing and understanding the data they collect. Deep learning allows them to learn by acquiring vast amounts of data. AI was first

used in 1956 by cognitive scientist and professor Marvin Minsky. The rise of AI began in the 21st century due to the development of powerful computer hardware and the ability to collect vast amounts of data. In the 1980s, a form of AI known as Expert systems was adopted by corporations all around the world. In the same year, the Japanese government began funding AI. In the 1980s, AI became the subject of mainstream research. A form of AI program called Expert Systems was adopted by corporations around world. AI is an emerging area of policy in India, and various government efforts have ambitious plans and intentions to promote its development. The thrust of the Digital India initiative is to transform India into a knowledge-based society. This was supposed to be achieved through the provision of digital infrastructure, which will be a core utility for every citizen. The government also started supporting research and training in AI. In 2017, the Commerce and Industry Ministry formed an Artificial Intelligence task force to explore the potential of AI in India. It was set up to enable the country to become one of the world's top AI-rich economies. The objective of the task force was to develop a strategy to enable India to become a leader in the field of artificial intelligence. As per the Artificial Intelligence Global Market Report 2021, the global artificial intelligence market was expected to grow from \$40.17 billion in 2020 to \$51.56 billion in 2021 at a compound annual growth rate (CAGR) of 28.4% and is expected to reach \$171.02 billion in 2025 at a CAGR of 35%. The major players in the artificial intelligence market are Google, IBM, Baidu, Microsoft, Apple Inc., Isoft, NVIDIA corporation, Samsung Electronics Co. Ltd. and Micro Strategy Inc. The country however has a still has a long way to go in terms of addressing the various issues that it faces. Some critics have however pointed out on the increasing threats from AI in infringing of the personal data and privacy. There has been absence of regulations to protect the interests of the people being adversely affected by AI. A need has emerged to regulate the diversified structure of AI and its applications. The current research has analysed a macro review of the legal framework for the innovative digital infrastructure of AI.

II. Review of Literature

Michael Cheng-Tek Tai (2020) studied the impact of AI on the different aspects of industrial and its social applications. The study recommended the need for bioethics principles for AI to reap its maximum benefits by the world.

Vinuesa, Azizpour et al (2020) emphasized on the importance of AI in achieving the sustainable development across the globe but there needs to within the regulatory frameworks which otherwise can result in gaps in transparency, safety, and ethical standards thereby having its adverse impact on the society at large.

Matjaž Perc, Mahmut Ozer and et. al (2019) analysed the growing significance of AI amidst the determination of the liability in terms possible torts. The study stressed on the juristic challenges due to artificial intelligence, resulting in the claimant suffering a loss or harm.

Marda Vidushi (2018) discussed the growing penetration of artificial intelligence (AI) in the Indian economy and stressed on the integration of the technical limitations of AI in the policy frameworks in line with the three main stages of bringing machine learning (the most popular subset of AI techniques) to deployment—the data, model and application stage. The study focused on potential risks that arise from data-driven decisions in general, and in the Indian context in particular.

Rowena Rodrigues (2020) analysed the gaps in legal issues and human rights arising from Artificial Intelligence(AI). The article recommended the need for constant evaluation of the different dimensions and attributes of AI.

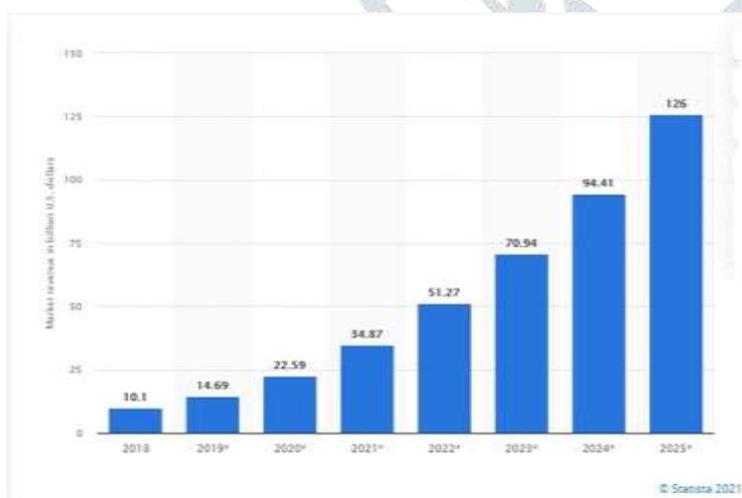
Alpana Abhishek & Others (2021) analysed the research work being carried out in various domains of AI in line with the legal systems. The study further held that the increasing number of legal cases can be sorted out with the help of the tools of Artificial Intelligence.

Almieda Patricia, Josivania Faras (2021) developed a regulatory framework for AI and stressed upon the need for effectively regulating AI based on contemporary governance techniques, and social values legitimated via dialogue and scientific research.

III. Methodology of the Study

The study has been descriptive in nature. It is purely based on the secondary source of data. Though, some interactions were made with AI professionals, but most of its data has been collected from reports, articles etc.

IV. Investments Growth in Artificial Intelligence

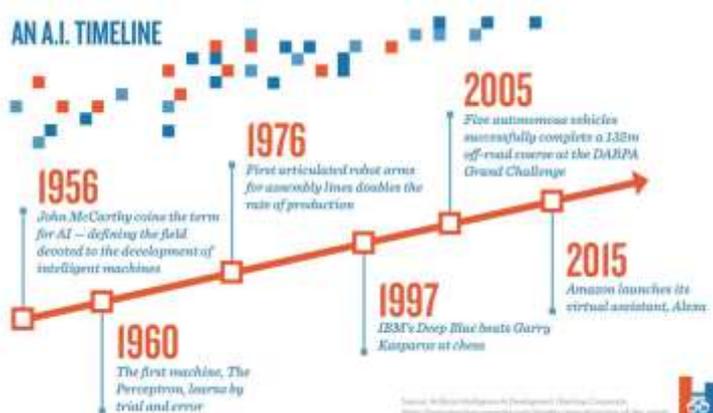


There has been increase in the net investments in the domain of AI accompanied by a rise in the earning of the revenue associated with AI. Further, there is a gradual shift from the governmental governance of AI to the private sectors - the prime movers behind strategic

technologies, from networked systems to nuclear energy, and supported foundational work on AI techniques. Today, most of the governments mostly rely on private companies to build their AI software, furnish their AI talent, and produce the AI advances that underpin economic and military competitiveness. (Zachary Arnold, Rahkovsky, & Huang, 2020). In fact, today almost all the countries irrespective of their levels of economic development have adopted the AI in harnessing the opportunities to develop their economies and make them competitive. The race for the dominance in AI starts from China, US, UK, Germany, Canada, France with India at its tenth position in AI usage and applications. The increasing penetration of AI however has also given rise to different types of risks and challenges which needs to be addressed on a priority basis.

V. Need for an Effective framework for Legislations

The usage of AI has captured the competitive spirits of the e-commerce and the corporate world. Even the Social media platforms have been using artificial intelligence technologies such as natural language processing to understand text data, and image processing for facial recognition. In other words, the concept of AI is no more a novel innovation, but infact has become a day to day need of the society and its different stake holders. However along with the increasing applications, the socio-legal challenges have also emerged. The very concept of AI has been defined differently in different regions. The regulations are not uniform across the world. Sometimes, regulations try to create a legal definition of AI that is not clear enough to apply to certain systems or processes. For example, when it comes to bots, a law requires disclosure of certain details of an account. Article 22 of GDPR provides for the right not to be subject to a decision based solely on “automated processing, including profiling” with legal or significant impact. AI laws also refer to driverless vehicles. These legal definitions of AI determine whether the law applies to the particular AI process or system. There are various regulations related to AI technology. These regulations apply to various uses cases and industries, and they have various legal requirements and ethical codes.



There are regulations specific to the use cases of AI technology in healthcare and finance. For instance, the regulatory approach for a medical decision support tool that uses AI software might change if the software has clear limitations. Further, even the software code can vary as a result of machine learning inviting privacy violations, criminal liabilities, and reputation risk. An

autonomous vehicle can cause property damage. AI can generate fake images and videos that can be used to spoof facial authentication systems and commit theft.

These complex systems automate decisions that were traditionally in the human realm. Law attempts to codify policies which are often driven by ethical or moral principles. There are a wide range of voluntary

codes for AI ethics, principles, oaths, tools, and declarations. Some of these are global, some are country specific, and some are also directed to a use case. A company might make misleading statements such as “only using ethical AI” or “developing AI for good” even though their operations are not in compliance with the relevant voluntary code. In some cases, AI can be used to enforce ethical rules. For instance, deep fakes, which are computer generated audio clips that are similar to a human voice, can be used to enforce AI ethics. Much of the data analysis conducted by artificial intelligence today is driven by algorithms. As its evolution continues, it can now collect and analyze vast amounts of personal information. AI has affected the volume, variety, and velocity of information about every aspect of human life and has thus become the limelight of a global public policy issue. There is a need to protect the society from the use of personal information in AI, but without affecting the growth and development. However, privacy legislation is a complex process and lacks uniformity at the global level.

VI. Legislating the Artificial Intelligence

Due to the increasing use of AI, companies operating in this space are also facing various legal and regulatory risks. There are various frameworks being created to address these issues. The AI systems around the world have been caught in the regulatory framework of ethics. In the US, for instance, AI systems belonging to companies such as Google, Facebook, and Goldman Sachs are under investigation for allegedly violating ethical rules. Some of these include: Analyzing patients' medical records for racial discrimination; Allowing users to get credit limits smaller than those of women; and allowing Cambridge Analytica to access the personal data of over 50 million users. The right to privacy is also undermined by the use of facial-recognition technology in public places. While AI systems can improve the welfare of humans, they also need to respect the laws related to data protection. NGOs are working to raise awareness about the human rights risks posed by AI. Tech companies are also taking action to address these issues. Negligence is a legal issue where an AI-powered system makes a decision that has the potential to cause harm. Even if the developer did not foresee the harm it would cause, they should still be held liable. This is especially true in areas where there has already been an accident or fatality.

In 2021, General artificial intelligence bills or resolutions were introduced in at least 17 states and enacted in Alabama, Colorado, Illinois and Mississippi. In Colorado, the statute prohibits the use of any external consumer data or information sources to create discriminatory models or policies. Further in Illinois, the amended Artificial Intelligence Video Interview Act has made it clear that the selection of the employees on the basis of the AI should not result in racial discrimination. Recently, the Chinese Cyberspace Administration (CAC) has made the companies using algorithms to get it approved from the government for approval or risk being fined and having their services terminated. It should be noted that while western regulators focus on fears such as violation of privacy, whereas Chinese regulators are concerned with collecting private data on their citizens but are concerned about AI's ability to influence people in ways deemed undesirable by the government.

The European Union also has been proactive in its legislative framework for Artificial Intelligence. In its draft on Artificial Intelligence Act, it has a provision which bans certain AI practices outright and mandate that AI applications deemed “high risk” meet strict data governance and risk management requirements. This includes requirements on testing, training, and validating algorithms, ensuring human oversight, and meeting standards of accuracy, robustness, and cybersecurity. The policy is widely considered to be one of the first of its kind in the world which would, if passed would have profound and far-reaching consequences for organisations that develop or use technologies incorporating artificial intelligence. Businesses would need to prove that their AI systems conform with these requirements before placing them on the European market. These legislations however can hamper the growth of small and medium scale enterprises and even startups as the approval of algorithm based AI is a time-consuming process. Giving government regulators the power to limit broad technology categories is not the approach that built the internet or the smartphone. That’s why the AI regulation should be linked to our societal and sustainable goals giving organizations flexibility in achieving such goals.

The Indian government has also been proactive in its attempts in regulating the Artificial Intelligence to protect the interest of the people who have been adversely affected in terms of data mis-management, privacy violations etc. In 2017, the Right to Privacy was made as a fundamental right. The draft Personal Data Protection law was introduced in Parliament in December 2019 and was meant to provide the legal framework for the right to privacy of Indian citizens. ... It has also carefully analysed the bill that covers cross border transfer of data and the use personal data by government and private companies.

The Government of India has prioritized building up a Digital India and has launched various schemes related to AI. According to NITI Aayog has adopted a three jagged theory:

- ✓ Initiate projects which involve the full proof concept of AI
- ✓ Building an atmosphere and ecosystem of AI in India.
- ✓ Collaboration with contributors and professionals.

In 2018, the planning commission of India, NITI Aayog introduced the National Strategy on Artificial Intelligence [NSAI]. Various provisions regarding the application of AI were discussed.

Four committees were set in motion by the Ministry of and Information Technology to analyse multiple ethical issues. The Bureau of India Standards has launched a new committee for systematic and levelled AI. The government is working on various safety parameters to limit the risk associated with its interaction. The NITI Aayog also formed AIRAWAT – AI Research, Analytics and Knowledge Assimilation platform which has emphasized on AI Specific Cloud Compute Infrastructure.

In 2020, NITI Aayog drafted documents based on responsible AI principles in terms of Inspecting and operating principles of AI, Crystal clear design, Formation of the legal and technical network, Creation of new Techniques and tools for a responsible AI and representing India on a global standard.

To conclude, it can be said that on account of diversified levels of applications of the AI in different parts of the world and its different codes regulating the AI, a uniform legislation may not be feasible. However, the general code of conduct in the interest of the welfare of the human civilization can be made applicable to every stakeholders of AI apart from the national legislations. The defense sector applications of AI

however need to be regulated at the global levels as it can result into robotic bio-techno wars among the nations on petty issues of dominance. Thus its very much important that unless we have global standards for regulating AI it can be a persistent threat to mankind. Safety should be the top priority.

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