AI AS A LEGAL PERSON AND ITS FUTURE WITH IP

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ABSTRACT

The two factors of production i.e., labor and capital which has been recognized for past 200 years has been evolved by replacing capital and energy into information and knowledge. For a Company to progress in recent times, information and knowledge are kept as the key factors of production. As the saying goes, 'Planning and organizing are required to man-over the hurdles in the economy' but it has been modified based on the upcoming generation as that 'In order to survive in an economy which is full of competitions all you need is information and knowledge'. Based on information and knowledge gained by a person he/she can be able to create something and in order to hold the creation and become an owner to it, one needs to register it and that's how Intellectual Property Rights (IPR) came into existence. IPR in a broad way means, the rights which are granted to one who creates and owns the works that results in human intellectual creativity. Here, the works may consist of anything which is created, invented and discovered which may be based on anything pertaining with industry, scientific, literary and artistic domains etc. Intellectual Property Rights in general covers vast area such as patents, copyright, trademark, industrial designs, geographical institutions, protection of layout design of integrated circuits and protection of undisclosed information (also known as trade secrets). This article not only examines the concept of Intellectual property rights but also talks about the growing trends in India which provides an insight on the positive and constructive effects that has had and is having on the economy.

Keywords: Intellectual property rights, trademark, economy, inventions, creativity.

INTRODUCTION

Intellectual Property Rights is related to intangible assets which include inventions, brands, artistic works and new technologies. To be specific, Under Intellectual Property Rights, the owner of one of the abovementioned abstract **'properties'** has certain exclusive right for one's creation, invention or discovery. The exclusive right includes for the creation of both artistic and commercial works. The former is enclosed under Copyright laws while the latter is enclosed under Patent laws. It is a well-known fact that Intellectual Property in India was established at all three levels i.e., Statutory, Administrative and Judicial levels. India had sanctioned the agreement which established the World Trade Organization (WTO) containing an agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) which commenced from 1st January 1995. Under the TRIPS agreement, the Government is entitled to provide protection for the legal systems and practices. Intellectual Property Rights are known to be the second-best solution provider for the problems that arise by the 'public good' based on the nature of

knowledge. They encourage the creators and invest in the Research and Development (R&D) which engages a **'bargain'** among the producers of knowledge and society, which is intermediated by the government.

LEGISLATIONS REGULATING INTELLECTUAL PROPERTY RIGHTS IN INDIA

- **Patents**

  The Patents Act provides a monopoly right to the inventor in order to exploit one's invention subject to the provisions of the Patents Act, 1970 for a stipulated period of time. The act was last amended and was effective from 1st January 2005.

- **Design**

  The Designs Act, 2000 recognizes the creation of new and original features of new shape, configuration, surface pattern, ornamentations and composition of lines or colors applied to articles which in the finished state appeal to and are judged solely by the eye and correspondingly the Designs Rules, 2001 came into force on 11th May 2001 after repealing the earlier act of 1911[1].

- **Trademark**

  The Trade Marks Act, 1999 was enacted by the recommendation of the World Trade Organization in order to comply with the TRIPS obligation. The main function of the act was to register the trademarks which meet the criteria for registration as per the provisions of the act and rules and also to maintain the Register of Trademarks. The Trade and Merchandise Marks Act, 1958 was replaced by The Trade Marks Act, 1999.

- **Copyright**

  The main objective of the Copyright Act, 1957 is not only to encourage the authors, composers, artists, and designers which provides an exclusive right to the owners but also protects their copyright in almost any country of the world. The act aids in stopping the infringement of the Copyright which is a punishable offense under the act.

- **Semiconductor Integrated Circuit Layout Design**

  The Semiconductor Integrated Circuit Layout Design (SICLD) Act, 2000 was enacted in order to provide protection of Intellectual Property of semiconductor integrated circuits layout designs and matters connected therewith[2].

- **Geographical Indications**

  The Geographical Indications of Goods (Registration and Protection) Act of 1999 was effective from 15th September 2003. Geographical Indication (GI) is defined as a sign used on products in order to identify its geographical origin and the quality it possesses. As the quality of a product depends on the geographical place of production, it is clearly evident that there is a relationship between the product and its origin of production.

ARTIFICIAL INTELLIGENCE

In recent years, Robots are confined to narrow and trained uses which we can identify in our day to day activities such as assembling our vehicles and moving our products behind the scenes. At present, Robotic tools have begun to take the center stage by constantly advancing artificial intelligence and machine learning tools which allows them to participate in the world of the mind as much as the world of muscle.

The term '**Artificial Intelligence'** was coined in the year 1956 which has become popular due to the increase in data volumes, advancement of algorithms and development in computer power and storage. Back then in the 1950's, the research on AI was purely based on subject-matters like problem-solving and symbolic methods. In 1960's, the US Department of Defense took an initiation on giving instruction to computers to mimic basic human reasoning which was continued by the Defense Advanced Research Projects Agency (DARPA), who were successful in producing intelligent personal assistants in the year 2003. Subsequently, virtual personal assistants such as Siri, Alexa, Cortana , etc became famous.

Artificial Intelligence (commonly known as AI) is defined as the ability of a computer or computer controlled robot to perform tasks which are usually connected with intelligent beings. AI has the similar characteristics of a normal human being such as the ability to write, listen and reason, discover meaning or learn from one's past experience.

Every single person in the present day scenario with a digital footprint would have experienced Artificial Intelligence. For instance, the e-commerce website which is being used by a lot of people uses Machine Learning (which is a type of Artificial Intelligence) to predict what a person may like to purchase subsequently and recommends those kinds of products. Applications like *Netflix* and *Spotify* with the help of Artificial Intelligence recommends music and movies based on what one has previously watched or listened. AI can also be used as a virtual personal assistant which are mobilized in various platforms such as android, ios and windows mobile.

TECHNIQUES OF AI/METHODOLOGIES OF AI

There is a rapid progress in the recent times regarding speedy recognition, identifying images, translation of languages and propagation of talking and texting virtual personal assistants which can be attained by the combination of three important concepts i.e., Neural Networks, Machine Learning, and Deep Learning.

Neural Networks are computer systems which are designed to classify information in the same way as a human brain does. The innovation of neutral networks has become very essential for teaching the computer, the ability to think and understand the world. It provides the computer to be faster, accurate and less biased[3]. These networks not only uses the data to make determinations but also helps them in making decisions. For instance, the network can look at any picture, recognizes and classifies it based on the elements of the picture. The data does not allow the network to be perfectly accurate.

Machine Learning (ML) is a type of Artificial Intelligence which provides the computer the ability to learn without being programmed explicitly. It emerged in the 1950s which relied on the data and statistical procedures that were classified by itself allowing the computer to **"learn".** It is a means of achieving Artificial Intelligence. Machine Learning not only allows to determine a text to be positive or negative but also emphasizes on making predictions about the future. Machine learning is the practice of using algorithms to train itself until it gets closer to the desired outcome and determine or predict about something in the world. Many 'Digital Natives' were built with the help of machine learning algorithms such as Netflix, Amazon, and Google.

Deep Learning takes the approach of Machine Learning one step ahead by implementing it to **'Artificial Neural Networks'.** Deep Learning is a part of a machine learning methods which was inspired by the structure and function of the brain i.e., the interconnection of large neuron networks. Artificial Neuron Networks (ANNs) are algorithms which mimic the biological structure of the brain[4]. The neurons in ANNs have discrete layers which connect the other

neurons. Deep Learning Technique and Artificial Neural Networks are some of the AI tools which are used for solving problems that are complex in nature.

IMPORTANCE OF ARTIFICIAL INTELLIGENCE

As we are well aware of the fact that AI helps a person in performing his tasks on a daily basis such as decision making and completion of their daily chores. One of the major changes that were brought by websites with regard to Online Customer Support was that they had started implementing bots in order to answer the queries posed by a customer. This had brought an immense relief on major companies in dealing with customers rather than appointing agents.

- AI helps in discovering data by automatic repetition by setting up a system and posing the right questions.

- AI adds intelligence to products which are put to use. For example, Siri was just an added feature to a product which was already in use i.e., the feature was added to apple products.

- AI helps in analyzing deeper data by using neural networks which have numerous hidden layers. Things which were impossible earlier has become possible with the help of incredible computer power and a large amount of data such as, to build a fraud detection system was an impossible task in earlier days. The accuracy of deep learning is purely based on the amount of data that is fed to them.

- AI accustoms itself through learning algorithms and does the programming by itself. The algorithm in this context becomes the classifier or the predictor. For instance, when an algorithm helps in teaching itself as to how to play chess, in the same way, it can also teach itself to predict as to what product to recommend subsequently in online.

- AI becomes more accurate through a deep learning process which can be achieved through frequent use by an individual. It has been established that AI techniques are used in the medical field to find cancer on Magnetic Resonance Imaging with the same accuracy as highly trained radiologists[5].

Artificial Intelligence is a median which has immense abilities than humans due to AI algorithms which aid an AI to learn and think differently than humans.

CHALLENGES FACED BY THE USAGE OF ARTIFICIAL INTELLIGENCE

Artificial Intelligence has been used constantly where it has brought a threat to every industry including the legal profession. The algorithms programmed in AI works in such a way where it outperforms the activities which are accomplished by humans quickly and efficiently. AI results wholly depend on the algorithms and the quality of data that is fed into the system. Biased data may yield biased AI learning outcome. Given a hypothetical situation, the data fed into an AI system shows that individuals from a specific region should be denied from receiving loans. The AI system is bound to make the same decision subsequently. Balancing privacy and openness of data has always been a challenging responsibility which brings out the ethical predicament. In order to fuel the growth of AI the data which was made available through the open and big data movements have been associated with the advancements in computing, machine learning, and behavioral economics.

With the widespread adoption of automation or robots, there is a redundancy in some activities. Firstly, automation or robots are the equivalents to Artificial Intelligence which states the fact that for any miscarriage that takes place automation or robotics cannot be held accountable. Secondly, AI has only been used in many developed countries. Therefore, it has limited impact on job markets in developing countries when compared to the developed countries. Furthermore, adoption of AI technology ultimately reduces the size of the workforce and often hinge on cost-benefits analysis.

AI AND LEGAL ARENA

As we are well aware of the fact that AI is one such innovation which has brought an impact on the society. It is flabbergasting to see how a machine can bring about a change in the functional ecosystem of the society. The connection between AI and law has become one of the controversial topics in recent times. Legal Profession in India has been innately conservative to adapt to technological upgradations which have been hindering the growth of artificial intelligence in law. At present, the AI researchers are engaged in bringing about a transformation in legal services through **Reinforcement Learning** which a process dealt in with training the AI to learn from their past experiences and determine the best course of action in order secure a high score. After scrutinizing the problems that would be created by reinforcement learning AI models, it was established that models with reinforcement learning have the capability of finding a plethora number of methods in order to achieve positive results.

Just last year it was announced that students at University College London and the University of Sheffield had successfully developed artificial intelligence software that can predict the outcome

of human rights cases by analyzing previous court judgments. This story certainly sounded like science fiction but the AI software came to verdicts with an astonishing 79% accuracy.

IMPLEMENTATION OF AI IN LEGAL ARENA

A company called **Neota Logic,** built an award-winning software with the AI-powered application has been providing legal services with the help of the AI applications that intelligently automate expertise, increases productivity, workflow and creates business opportunities[6]. It also creates automated programmes to handle anything from early case assessment to client advice.

Firms like **Foley & Lardner LLP** and **Akerman LLP** have made use of AI applications for legal services with the help of Neota Logic. It has been stated that AI applications have been used to intake client information and document automation wherein it helps in preparation for meetings and create various other legal documents such as contracts, employee handbooks, Non-disclosure agreements and compliance documents.

LawFlex uses a similar concept to put clients in touch with experienced freelance lawyers who bid for a range of legal work. All these advances are not only allowing lawyers within law firms to work more efficiently, but they are also changing the ways lawyers interact with clients, thus moving away from the traditional large solicitors' firm.

'**Blockchain**' is also revolutionizing the traditional contract. It is a public database for "smart contracts" which makes a private document accessible to the public and consequently makes it much more undesirable for contracting parties to breach the agreement or back out.

A programme called **'Contract Express'** uses a question and answer form to compile a draft contract from a set of coded instructions.

Artificial Intelligence is one step ahead of where it allows repetition of tasks to be replaced with tools like **ROSS**, an AI application which was created specifically for legal research. Ross intelligence has won the best AI product in legal, in the year 2018 at CogX Awards in London. Ross intelligence is built in with an ability which allows them to do more than ever humanly possible activities. By using Ross intelligence, one can receive pinpoint answers for any queries related to the law from published as well as unpublished case laws instantaneously. It is also trained in such a way where it improves our process of work, reduces costs and in due course helps in generating better results for the clients.

LAWS WITH REGARD TO ARTIFICIAL INTELLIGENCE

The applications and the algorithms designed with regard to Artificial Intelligence are monotonous. When there is a rapid progress in the advancement of technology, One cannot expect the legal regime to constitute or amend laws based on the whims and fancies of the people. However, in some countries laws have been constituted with regard to Artificial Intelligence.

- **Robocalls**

  Robocalls are one of many types of phone calls with prerecorded messages. In recent years, these calls have been increasing as it can be made from any part of the world without revealing the identification of the caller. The **Federal Trade Commission** (FTC) had prohibited these telemarketing calls in the year 2009 and made it mandatory that unless and until a telemarketer has the prior written permission of the consumer to transit such calls. Furthermore, **The Telephone Consumer Protection Act** (TCPA) has ensured to limit such calls or texts and had enacted a new rule in 2016 along with **Federal Communications Commission** (FCC) where the robocalls were applied only to political campaign-related calls or texts. These type of robocalls are covered under Level 1 automation i.e., The human operator performs the task and implements it via computer.

- **Spam**

  The Spam Act was enacted in the year 2003 and came into force on 10th March 2016. The reason behind the enforcement of this act is to not mislead the recipients and to prohibit such unconsolidated electronic mails which hail with an Australian link that is considered to be a spam. These are considered to be Level 2 automation i.e., where the computer determines the options.

- **Viruses, Trojan Horses, and Worms**

  The UK Parliament had passed **The Computer Misuse Act** in 1990 in order frame legislation and take control over Computer Crimes and Internet Frauds such as unauthorized access and modification of computer materials. These are recognized as Level 3 automation where the computer aids in suggesting options and the human operator is given a choice to either follow such recommendations or reject it.

- **High-Frequency Trading**

  It is a platform which is similar to program trading where powerful computers are used to transact an enormous number of codes within a stipulated period of time. High-Frequency Trading is associated with giving leverage to computers to exploit market inefficiencies that emerge from delay and participant response times. Financial Organizations make a livelihood by hacking our financial system in order to discover the areas of inefficiency and loopholes where they can legally loot the market participants. The **U.S. Commodity Futures Trading Commission** has dealt in proposing regulations with regards to automated trading that involves spoofing, flash trading, and quote stuffing. These are recognized to be Level 2 and Level 3 automation.

- **Drone Regulation**

  An unmanned aircraft system (also known as Drone) is an aircraft which is adopted by the **US Federal Aviation Administration** (FAA) where special regulations brought in with regard to other automation. Drones are meant to remain in the visual line of sight of the pilot. Drones are strictly covered under Level 2 automation.

- **Biological Weapons**

  The Biological Weapons Anti-Terrorism Act, 1989 prohibits buying, selling and manufacturing of biological agents for the purpose of weapons. These are recognized to be Level 6 automation i.e., The computer selects and implements an action and waits for the approval of the human operator. Weaponized automation covered under Level 2 automation is already in action such as Drone Strike.

LEGAL FRAMEWORK IN INDIA

The scope of Artificial Intelligence in India is not the same as other countries. Many of them aren't aware of this technology and do not have any knowledge about its outcome.

- **DATA PROTECTION**

  At present, India is known to have a second highest number of internet users in the world. The growth of AI is incumbent on access to 'Big Data' i.e., a large amount of data sets which contains information, structured or unstructured, including personal data accumulated from several known and unknown sources. The fluidity of 'Big Data' arises various issues related to data security. India has not enacted any specific legislation pertaining to data protection.

However, The legislature amended the **Information Technology Act, 2000** and has included **Section 43A** and **Section 72A** with respect to the right to compensate for improper disclosure of personal information. Subsequently, The Central Government has issued **The Information Technology (Reasonable Security Practices and Procedures and Sensitive Personal Data or Information) Rules, 2011.** These rules imposed additional requirements on those business entities which were related to the collection and disclosure of sensitive personal data.

'Informational Privacy' has been identified as being a facet of the right to privacy in the recent Supreme Court Judgment in **K.S. Puttaswamy & Anr. V Union of India & Ors**[7] where the Court had recognized the right to privacy as a fundamental right under Article 21 of the Indian Constitution as a part of the right to 'life and personal liberty'. The Supreme Court also held that there is a need for the comprehensive law with regard to data protection which deals with prominent issues such as the growing use of Artificial Intelligence in India. The reason behind such a comprehensive framework in India is that the Information Technology Act and the Rules were restricted only to certain kinds of information. Hence, Comprehensive Data Protection Framework is in need of that information that does not fall under Sensitive Personal Data Rules.

Added to the above-mentioned privacy issues, similar suit was brought before the Courts of India in **Karmanya Singh Sareen & Anr V Union of India Ors**[8] wherein the consent for the collection and sharing of sensitive data of consumers by Whatsapp with Facebook was challenged under the grounds of being in violation of Article 19 (1) and 21 of the Indian Constitution.

In the light of the Supreme Court Judgment in **K.S. Puttaswamy & Anr. V Union of India & Ors** which specified the need to formulate a comprehensive data protection framework. Recently, The Ministry of Electronics and Information Technology[9] had constituted a panel of experts under the chairmanship of Justice B.N. Srikrishna to identify and recommend the methods of addressing the issues related to data protection in India. The same has to be prepared in a form of a Data Protection Bill Draft that might be introduced in the Indian Parliament. **The Personal Data Protection Bill, 2018**[10] includes the data protection/security obligations on AI and similar automated decision making entities.

The Information Technology Act, 2000 also protects E-contracts under **Section 10A of the IT Act.** The validity of Electronic Contracts are considered to be the same as to contracts entered through the ordinary paper, provided it satisfies all the essential conditions of a valid contract. The IT Act also recognizes 'Digital or Electronic Signatures' and validates the same through electronic records. The contents of electronic records are accepted as evidence in all Courts of Law which is in accordance with the provisions of the Indian Evidence Act, 1872. With the advent of smart contracts, a question arises as to whether AI would be regarded as a competent person to enter into a contract if it satisfies the specific essentials of a valid contract i.e., Offer, Acceptance, Consideration etc. As it is clearly evident that robots or machines cannot qualify as a natural or legal person as per the definition of a **'Legal Person'** under the **Indian Contract Act, 1872.** Thus, a contract entered by AI of its own cannot be considered as a valid contract under the applicable law in India although it satisfies the essential elements of a valid contract. The Courts need to make sure that the agreed terms have been properly instructed to AI as in practicality the court's ability to understand the programming terms may not be conversant with those agreed terms.

PROTECTION OF INTELLECTUAL PROPERTY

As we all are well aware of the advancement of the technology and the innovation of Artificial Intelligence. With innovation comes imitation which leads to infringement and misappropriation. In order to protect one's innovation from getting imitated, one must enforce their Intellectual Property Rights. There is a wide variety of IP laws which would impact/affect the functioning of the Artificial Intelligence.

- **COPYRIGHT**

Copyright is a valuable IP asset for AI, as it secures the technology product (code and data) from the illegitimate use and reproduction. In many countries, there has been a requirement for creativity with regard to ownership of copyright works. **Source Codes** have been recognized as **'works'** under the Canadian Copyright Act and in other similar legislations.

In **Apple Computer, Inc. V Mackintosh Computers Ltd**[11], the Supreme Court of Canada held that computer programs embedded in ROM chips are **WORKS** protected by copyright. A similar conclusion was arrived by a US Court in the case, **Apple Computer, Inc V Franklin Computer Corp**[12]**.** These decisions are related to Artificial Intelligence in such a way that they extend to copyright protection not only to complex languages codes but also to

the resulting object code such as ROM. However, Copyright protection limits itself by giving protection to only to those ideas and principles which are expressed.

Some jurisdictions have enacted laws explicitly for **Software Protection.** For instance, Countries like Brazil have enacted laws related to Software Protection i.e., **Lei Do Software No. 9.609 of February 19, 1998[13].** Also, the European Parliament enacted the legal protection on computer programs related to main IP laws[14].

Indian Copyright Law have some requirements which have to be met for copyright protection in order for a **work** to qualify. Firstly, the 'modicum of creativity' standard has to meet which was laid down in **Eastern Book Company and Ors. V D.B. Modak and Anr[15]** wherein the Court held that a 'minimal degree of creativity' is required and there has to be some substantive variation and not merely a trivial variation. However, there is no substantive proof that an AI cannot meet the 'modicum of creativity'. Secondly, The AI has to satisfy the ownership of copyrighted works as per the provision of **Section 2 (d) of the Copyright Act, 1957** which states the meaning of the **Author**. There would be a difficulty in satisfying the second requirement as AI has been generally regarded to not have a legal personality. Thus, when it comes to works that are created by AI, a question might arise with regard to authorship as per Indian Copyright Laws. Data complications are copyrightable only when the raw data has been manipulated and organized into structured datasets[16].

Thus, when it comes to works that are created by AI, their authorship would be contentious under Indian Copyright Laws. There is no doubt that a human's involvement is required in kick-starting the AI's creative undertaking, however the process to determine who the author/owner is when the AI steps in to play a pivotal role in the creation of the work, continues to remain in a grey area.

- **PATENT**

Obtaining patent for artificial intelligence or software technologies has not been the most appropriate form. In **Alice Corp V CLS Bank International[17],** the Supreme Court of United States held that applying abstract concepts in IT environment will not be adequate to transform those concepts into patentable items. The Federal Court of Appeal in

Schlumberger Canada Ltd V Canada (Commissioner of Patents)[18] had decided that a method of collecting recording and analyzing data using computer programmed on the basis of a mathematical formula was not patentable. However, the same court in **Canada (Attorney General) V Amazon.com, Inc**[19] held that a data-processing technique might be patentable when only one of a number of essential elements is in a novel combination. According to **Article 52 of the European Patent Convention of 1953** which clearly reveals that Computer Programs are not patentable.

Artificial Intelligence plays an important role in the evolution of Patent Law. **Section 6 of The Indian Patents Act, 1970** states that an application for a patent for any invention can be only made by the true owner and first inventor of the invention or the persons assigned by such person[20]. Whereas, **Section 2 (y)** of the act states that the '**true and first inventor**' is confined to the extent of excluding of the first importer of an invention into India, or a person to whom an invention is first communicated outside India[21]. The above-mentioned provisions do not expressly impose the requirement of an inventor to be a natural person. It is evident that AI might fall under the definition of an inventor as per Section 2 (y) of the Indian Patents Act, 1970.

Earlier, The Patents Act prohibited the inventions in the field of software under the **Section 3 (k)** of the act which states that a mathematical or business method or a computer programme per se or algorithms are not considered as inventions and cannot be patented. Recently, after the Computer-Related Inventions (CRIs) guidelines were implemented in 2017, it was held that all software patents (particularly business-related patents) are routinely granted by the Indian Patent Offices. It is also well-established that, while establishing patentability, the focus should be on the underlying substance of the invention and not on the particular form in which it is claimed[22]. As per the Computer Relation Inventions Guidelines, an invention consisting of hardware along with software or computer program in order to perform the function of the hardware may be considered patentable. E.g. Embedded Systems.

Facebook was granted a patent in February 2017 and another Patent in April 2017 where in one of its Patent application it was stated that invention does not merely mean computer program. In addition, it stated that the invention included hardware limitation and provides technical improvements and benefits such as checking privacy settings associated with the user profile.

Apple's media management program was granted a patent in May 2017 which included a display screen associated with a computing device and an electronic device[23]. Similarly, **Google** was granted a patent on an invention titled **'phrase identification in an information retrieval system'**. Google stated that the invention is not based on algorithms or a computer program per se but it provides a technical solution to a technical problem[24].

- **INDUSTRIAL DESIGNS**

With the advancement in the AI techniques such as Alexa, Siri, and Watson, it is well recognized that many companies are working on various forms of smart intelligent machines that could aid overall and inclusive development. With regard to the creation of Industrial Designs, Computer-aided Design and Drafting (CAD) systems have confined itself to only geometric models and representations. An AI associated with the process provides mechanical solutions in a systematic and more creative way. **Section 2 (j) (iii) of the Designs Act, 2000** defines the **"Proprietor of a new or original design"** as the author of the design and any other person too, where the design has devolved from the original proprietor upon that person. Here, the determination of the rightful authorship is in question if an AI is behind the original design. This question remains to unanswered but it is hoped to be answered soon with the help of jurisprudence.

TASKFORCE ON AI

With the rights and obligations allocated through the Indian Constitution, Unfortunately, the Courts are yet to adjudicate upon the legal status of AI machines. The Ministry of Industry and Commerce in India has been recognizing the importance of AI to the nation as a whole. In order to facilitate growth and development of such systems in India, The Ministry of Industry and Commerce had constituted an 18 member taskforce which constitutes of experts, academics, researchers and industry leaders, along with the active participation of the Governmental bodies/ministries such as National Institution of Transforming India (NITI Aayog), Ministry of Electronics and Information Technology, UIDAI and Defense Research and Development Organization (DRDO) in August 2017, titled **"Task Force on AI for India's Economic Transformation".** Recently, The Task Force has published its report wherein a detailed recommendation is provided along with the subsequent steps with regard to the formulation of policy on AI in India[25]. The report has recognized the following major challenges in deploying AI systems on a large scale basis in India,

a. Encouraging data collection, archiving and data availability with adequate safeguards, possibly via data marketplaces/ exchanges.
b. Ensuring data security, protection, privacy, and ethical use via enabling frameworks, both regulatory and technological.
c. Digitalization of systems and processes with the Internet of Things (IoT) systems while ensuring safety from cyber-attacks and
d. Deployment of autonomous products (robots, autonomous vehicles) after careful study and mitigation of any impact on employment safety.

Specific recommendations have been laid down by the Task Force to the **Department of Industrial Policy and Promotion (DIPP),**

a. Set up and fund an "Inter-Ministerial National Artificial Intelligence Mission", for a period of 5 years, with funding of around INR 1200 Crores, to act as a nodal agency to co-ordinate all AI-related activities in India. There are three major activities in which the mission should engage itself with i.e., Core activities, Co-ordination and Centers of Excellence.

b. Setting up of digital data banks, marketplaces and exchanges to empower availability of cross-industry data and information. The report clarifies that there should be regulations enacted in relation to sharing and security of such data. The Ministry of Electronics and Information Technology (MeitY) might be the nodal agency for setting up such centers while the DIPP can drive through the formulation and implementation of the regulations related to data ownership, sharing and security/privacy. Furthermore, The report states that the Ministry of Commerce and Industry should create a data-ombudsman, similar to that of the banking and insurance industry to quickly address data related issues and grievances.

c. The report proposed that the **Bureau of Indian Standards (BIS)** should take the lead in ensuring that India proactively participates in and implements the standards and norms being discussed internationally with regard to AI systems.

d. The task force has recommended that the policies have enacted that foster the development of AI systems and has stated that two specific policies have to be enacted at the earliest i.e., Policy dealing with data and Tax-incentives for income from AI technologies and applications.

e. The report proposes that an education curriculum and strategy is put in place to develop adequate human resources with the required skill sets to meet the growing demands for professionals who can handle AI systems.

f. The report also proposes that inter-ministerial collaborations are constituted to ensure that India actively participates in discussions and meeting centered on AI in International forums. Added to that, the report also suggests that the government should leverage key bilateral partnerships with other nations to inculcate and encourage mutual discussions and exchange of knowledge and information pertaining to AI and regulations with regard to AI.

The recommendations specified by the Task force with regard to the growth and assimilation of AI-based technologies has to be taken into consideration and concrete action needs to be undertaken in India.

GOVERNMENT POLICIES AND THE CHALLENGES BEHIND IT

As we all are well aware of the fact that the development of AI has been largely market-driven to date. Government policy plays a vital role as it provides a direction for the industry. Many countries have come forward for the development and implementation of innovative policies and strategies with regard to AI development.

- In July 2017, China had promulgated an AI Development policy with the objective of making the country **'the front-runner and global innovation center in AI'**.

- The Japanese Government had announced the structure of the AI panel which was aimed to design a roadmap for development and commercialization of AI.

- The Korean Ministry of Science, Information, and Communications Technology (ICT) and Future Planning (MSIP) has laid out an outline with regard to the **Artificial Intelligence Information Industry Development Strategy** with an intention to strengthen the foundation of the growth of AI[26].

- In late 2016, The Korean Government had published their **'Intelligence Information Society 4th Industrial Revolution Medium-to Long-term Comprehensive Response Plan'**[27]**.**

CHALLENGES WITH REGARD TO THE DEVELOPMENT OF EFFECTIVE AI POLICY

The impact of Artificial Intelligence seems to be profound in a long run which has been a hindrance in developing effective AI policies.

- **The inadequacy of data for developing countries**

  Based on a recent study by **The United Nations Department of Economic and Social Affairs (DESA)** which demonstrates the awareness about the potential impact of new technologies prevailing in the market of low-income countries. Imparting knowledge about AI is mainly focused on developed countries and on contrary, little or no attention is given to the developing countries which have been one of the main reason for the non-development of effective AI policies.

- **Inconsistent Forecasting**

  Foreseeing on the impacts of AI has always been a strenuous task in every region. For instance, in 2013, Researchers at Oxford University without proper observation had made an estimation that nearly half of USA occupations were likely to be automated[28]. Contrary to that, In 2016, McKinsey had examined 830 occupations and came to a conclusion that merely 5% of them could be completely automated[29].

- **Lack of public debate**

  There seems to be an uncertainty in the future of AI. It is important to have a discussion with all the stakeholders of the society and ensure to impart knowledge to them. For instance, The first congressional hearing on AI in 2016 in the USA and the First session of the House of Lords' select committee on AI which took place in the United Kingdom in 2017 has been made accessible to the public[30].

- **Incapacity to understand**

  Government Officials and the policymakers aren't technical experts to understand the growth of Artificial Intelligence as they do not have adequate knowledge with regard to the subject. Hence, in order to formulate effective AI policies, the respected officials need to have adequate knowledge. In developing countries, the capacities of the Government Officials need to be enhanced.

- **Lack of meticulous classification of AI**

  AI, automation, and robotics have been used correspondingly. The classification among them results in the significance of the AI policy. For instance, Automation which is not AI-empowered may have more direct impacts on manufacturing industries in developing countries when compared to Artificial Intelligence.

The challenges faced by framing effective AI policy is based on today's scenario which includes Short-Term or Long-Term issues. Here, Short-term issues refer to the liability issues are related to algorithm bias, increased automated surveillance and driverless cars. Furthermore, Long-Term policy issues refer to those issues which might arise based on the advancement of the AI in future. To be precise if the growth of AI keeps changing rapidly then the consequences would be a never-ending process such as AI safety risks or geopolitical fluctuations with regard to human level or superintelligent AI.

FACTORS WHICH CONSTITUTE AN EFFECTIVE AI POLICY

It is important for the policymakers to think about the future aspects and not dwell on the past or past experiences. Instead, the policymakers must learn from their past experiences in order to address emerging technologies. Given the rapid development of technologies, the policymakers should have a firm grasp on the development and implications of AI[31].

- **Education and Skills**

  It would be prudent for the Government to build a workforce that would fit for the future but first sufficient knowledge should be imparted about the subject. In order to formulate innovative policies like other countries, the policymakers should be educated enough to know about the subject. This might include things such as entrepreneurship training to develop job creators as well as job seekers, adult education and reskilling to deal with the current and future technological transactions. To frame innovative policies for technological transactions which are likely to reduce the labor workforce, the Government should first strengthen their social protection systems in order to protect the workers who tend to lose their jobs. Finland has been recognized as the first country in Europe to pay its unemployed citizens a basic monthly income, in a radical pilot project which aimed at reducing poverty.

- **'Policy' rather than Regulation**

  Enabling innovative policies with restricted regulation is impossible. Hence, the Regulatory process needs to become adaptive and anticipatory. Effective Regulation should not only allow innovation to flourish but also safeguard society and environment. With the evolution of AI, the only way to balance these demands would require the sharing of effective practices and innovative approaches between Governments. Anticipatory regulation might provide a solution in developing AI but its effectiveness needs to be tested in practice. It gives priority to the needs of the policy and supports the development of emerging technologies.

- **Responsible AI development calls for Responsible Business**

  In order to create a positive impact, it is important to shape the economy, society and the environment according to the impact of the AI development. This can be achieved by corporations but it has gone beyond the concept of Corporate Social Responsibility (CSR) and reformulate their objective with the view of creating a **'Shared Value'.** Shared Value is not CSR but it measures the value not only across the three dimensions of sustainable development i.e., economy, society, and environment but also across the policymakers to further promote shared value so that it gets moved from CSR departments to the boardrooms.

- **Safety-Critical AI**

  It refers to those autonomous systems which could lead to serious consequences due to the malfunction or failure. This could cause adverse environmental effects, loss or serious damage to equipment, harm or injury to people or even death. The designers are facing real challenges in making AI safe. Hence, safety measures need to be taken in order to avoid such concrete problems and policies needs to be formulated considering such problems will not cause any damage which is foreseeable.

- **Building Trust between Stakeholders**

  In this data revolution era, technology is never a problem but building trust between governments, private sectors and citizens has been quite a difficult task. In a recent survey conducted by Omidyar Network in sixty countries, it was found with the sample that[32]:

  - The scale of distrust has been enormous with 3 out of 5 respondents having no trust in the government and businesses with the content of their phone or online conversations.

- Trust appears to be binary as most of the respondents do not distinguish strongly between the public or private sector.
- Trust drops sharply by 18% between those with primary and secondary education. An average of 58% of respondents with a primary school education reported data-trust, only 40% of the individuals with advanced degrees indicated data-trust
- Finally, Individuals with higher income exhibit less Data-Trust.

ARTIFICIAL INTELLIGENCE USED IN LEGAL ARENA

Artificial Intelligence used in legal arena or specifically in IP field would be a totally different concept compared to other Artificial Intelligences such as Google Duplex. Google Duplex is an AI which was introduced for accomplishing Real-world Tasks over the phone such as booking tickets, taking appointments etc. In addition to that, there was also a Japanese AI which had written a novel by itself and was likely to win a national literary prize. These above-mentioned AIs perform the tasks with the help of human interactions. The authors would like to say that an AI used in legal arena or specifically for IP should be unique when compared to other AIs. An algorithm must be innovated in such a way that an AI can scan the facts of a case and can derive itself to a conclusion without any human interaction. To be precise, an AI should be advantageous in such a way that as we IP professionals file statements such as opposition, counterstatements, evidences etc. which is done manually should be no longer in existence and an new era should be developed in the new future with new innovative policies.

CONCLUSION

The authors would like to conclude that the dependency on AI systems is likely to increase proportionately and is expected to bolster economic growth by an average of 1.7% across various countries by 2035. Companies can clearly determine and protect their Intellectual Property by registrations and documentation. In order to foresee the risk between third parties, clear agreements on Intellectual Property Rights needs to be established. The authors of this research article humbly submit that in the near future legal and tax principles are established which paves a way for innovative policies and fosters the development of AI.

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