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Pragmatic Impact on the Criminal Justice Regime with Artificial Intelligence as a Catalyst: A Critique

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Abstract

Criminal Justice Administration is in a slow process of direction due to lack of appropriate management and operation. Management and Operation of systems can be done by effective Institutional mechanism that will help in proper detective and investigative procedures coupled with fair prosecution and punishment. In this regard the vital role played by law enforcement agencies, criminal courts, Correctional agencies and NGOs or community-based programs. Thus, to serve justice it is necessary that it seems to be served by making the criminal accountable for their actions. It requires an in-depth knowledge of legal and ethical principles as well as the ability to implement the procedural policies. One of the key challenges in criminal justice administration is balancing the need for public safety with the protection of individual rights. This requires a careful balance between enforcing the law and respecting the rights of suspects and defendants. The use of technology especially AI, such as, electronic surveillance officers, digital forensic investigators, drone pilots, real-time crime analysts, social media researchers and accident reconstructionist, body cameras, and DNA analysis, has helped to increase transparency and accountability in the justice system, while also providing more accurate and reliable evidence. Various mechanisms used in Court Proceedings, by law firms and professionals are also playing a vital role in judicial enrichment. The improvements made in criminal justice administration with the help of Artificial Intelligence help in providing better justice for criminal cases. The Author surmises the need for reforms in criminal laws which will successfully render appreciation of evidence and acceptance of technological innovations for future administration of criminal justice.

Keywords: *Criminal, Justice, Artificial Intelligence, Courts, Judiciary*

1. Introduction

Chronic *"It is not only the case that the truth is needed to do justice, the court must do justice in finding the truth[1]".*

The Indian criminal justice system has been grappling with several issues, such as pendency of cases, long hearing dates, lack of judges and officers and lengthy court procedures leading to delayed justice. All these issues have resulted in a dropdown of confidence level among the people. They are not ready to accept the justice administration system which provides for an accountable reconciliation system. However, with the initiation of Artificial Intelligence (AI) mechanism in different forums, criminal justice system is also moving forward for a better equipped justice delivery system. The Criminal Procedure (Identification) Bill, 2022, which gave limelight to the recognition of digital evidences such as biometric data, digitally received physical and biological samples of convicts. Thus, implementation of these techniques will help in improving the efficiency of law enforcement agencies, investigation procedures, assists investigation officers, reduce the procedural and humanly errors and creation of AI enabled database to provide all the details of Crime Scene Investigation occurred anywhere in the Community.

AI has played a vital role many stages of crime scene investigation such as analysis of minute biological materials present at crime scenes, forensic analysis made at discovering pattern signature in gunshot, detection of bullet waves, estimating the possible legal authorities in investigation. AI has also helped

the Jail authorities to monitor the criminals inside and near the vicinities of Jail premises with the help of drone and AI surveillance mechanism. This will to an extend control the illegal activities and imports happening in the Jail.

It is commendable that the Parliamentary Standing Committee on Home Affairs has recognized the need for a comprehensive review of the criminal justice system in India. The recommendations of the committee provide for wide-ranging consultation and research which will have extensive insinuations for the criminal justice system in the country. The stress made on a comprehensive legislation will be appropriate step rather than amendments due to advent of technology. A systematic and holistic reforms in the criminal justice administration will be the need of the hour.

The committee's focus on three key criminal laws -- IPC, CrPC and the Indian Evidence Act -- is also welcome. These laws form the backbone of the criminal justice system in India, and any reform in these areas is likely to have a significant impact on the system as a whole. Overall, the committee's recommendations represent a significant step towards a more just and effective criminal justice system in India. It is now up to the government and Parliament to take these recommendations forward and enact the necessary reforms to bring about lasting change.

In this Article the Author surmises the need for reforms in the Criminal Justice Administration by pin pointing the provisions which needs a change and the effect of AI in criminal cases.

The Author also focusses on the various cases and crime investigation where AI played a vital role.

Objective of the Study

This Article mainly focusses on the importance of appropriate mechanisms for identifying and analysing criminal justice administration in India. The Article put forth the importance of Artificial Intelligence in Crime detections and Court proceedings. The study also comments on the need for the change or reform in the various laws that help in fair and speedy Justice.

Application of Artificial Investigation in Justice

Criminal Justice system has been transformed into a virtual format, remains an unavoidable consequence of irony in the society as the way people live that occurred as a direct result of the rapid advancement of information technologies. AI tools enormously contribute in the field of Criminal justice dispensary system in every means from assisting the Adjudicating authorities to other stakeholders in the criminal proceedings to ensure speedy and effective remedies, by implementation of the procedural rights and obligations that have been assigned to them. The development of neural networks and the ongoing application of artificial intelligence, the body of published research in the field of science proposes that the traditional system of criminal justice be entirely replaced by the electronic (automated) implementation of criminal proceedings. This would include criminal cases being evaluated based on their individual merits. As per the Crime rate analysis survey taken in Tamil Nadu there is still an increase in the crimes. The below mentioned table will provide an idea on the certain crimes happening in Tamil Nadu.

Table 1- Crime rate analysis in Tamil Nadu – Crime Survey: Tamil Nadu – 2021

Sl No	Crime analysis report
1.	Total crimes in Tamil Nadu have registered a decrease of about 45.1% during the year 2021 with a total registration of 7.56 lakh cases, out of which 3.22 lakh cases were registered under the Indian Penal Code.
2.	In property crimes Rs. 177.9 crore worth of property was stolen, out of which property worth value of Rs. 115.3 crore were recovered. Cash/ Jewellery theft constituted a substantial portion, both in terms of number of cases registered as well as the value of property stolen. As much as 34.7% of all theft reported were cash/jewellery and these thefts amounted to the loss of 61% of the total property.
3.	Accidents have increased by 11.7% during this year. Totally 55,682 cases of Road accidents were reported in the state during 2021, out of which 14,747 (26.5%) involved fatalities. Two wheelers were responsible for 42.2% of the fatalities.

Tamil Nadu Police Portal[2]

In all these crimes mentioned above AI can be used as a effective tool in crime scene investigation. Thus, Artificial intelligence (AI) not only as a tool for preventing and predicting crimes, but also for solving crimes and reducing recidivism. AI is utilised to improve the outcomes of law enforcement by

decreasing time-consuming procedures and human error. This is accomplished through the analysis of video and images. The ability of AI to recognise faces enables the establishment of an individual's identification as well as their location, which significantly improves the effectiveness of crowd monitoring[3]. AI face recognition analyses a person's clothing, skeletal structure, and movement patterns in order to identify anomalous or suspect behaviour among large groups of people. These behaviours include shoplifting and unsafe driving in violation of traffic laws. It is particularly useful for the identification of vehicles, as AI programmes can be taught to read licence plates even when the resolution is low or there is little ambient light. AI has the potential to be of great assistance in the investigation of crimes committed online, such as those involving human trafficking, money laundering, fraud, and sexual abuse, through the use of closed-circuit television (CCTV) monitoring.

Artificial intelligence can reduce the number of crimes committed by identifying suspicious activities and assisting investigators in identifying suspects more quickly. This results in improved public safety as well as increased community confidence in law enforcement and criminal justice in general

Courtrooms are another important setting for the application of AI. Processing low-level or degraded DNA evidence that, ten years ago, would not have been able to be used in DNA testing and analysis is one way in which artificial intelligence (AI) contributes to the improvement of DNA testing and analysis in forensic laboratories and the work of forensic investigators. In addition, investigations that dated back decades have been revived in order to present evidence of homicides and sexual assaults that occurred in the past in hopes of identifying the perpetrators of these crimes. The employment of AI in this way brings down the number of cases that go unsolved, which in turn increases people's faith in the judicial system.

Another application of artificial intelligence is predictive justice, which is the statistical study of a vast amount of case law data, primarily consisting of previously given court decisions, with the goal of predicting the results of legal proceedings. It is possible that this will assist judges in focusing their attention on instances in which their expertise will be of more use. On the long run, it has the potential to improve the stability of justice around the world by providing economic stakeholders with a greater number of harmonised court decisions, so assisting with better prediction.

AI is also able to anticipate recidivism by analysing hundreds of thousands of data points relating to the criminal justice system in order to forecast new offences committed by fugitives. This type of AI application can be very helpful for practitioners in warrants services, as it can increase the number of fines recovered and allow for a more optimised allocation of resources, both of which contribute, over the course of time, to the achievement of the goal of quicker wheels of justice.

Artificial Intelligence mechanisms in Criminal Justice

John McCarthy, widely regarded as the pioneer of the field of artificial intelligence (AI), is credited with coining the term "artificial intelligence," which he defined as "the science and engineering of constructing intelligent machines." In theory, artificial intelligence (AI) deals with the computing and processing of laborious activities with the assistance of machines and without the need for direct human participation. Applications of artificial intelligence can be found in a wide variety of spheres, including but not limited to agriculture, industry, education, finance, communication, healthcare, and so on[4]. In addition to this, AI has the potential to become an integral component of the ecology of the criminal justice system, where it can revolutionise both the way crimes are investigated and forecasted.

AI and Evidence

Electronic evidence permeates daily life, but proving it is difficult. The perpetrator or device configuration must be followed to find the source. One then needs a copy of the original evidence and a certificate of authenticity. Electronic evidence is admissible in court under Indian Evidence Act sections 65A and 65B. Section 65A contends that electronic records may be proved in accordance with section 65 B. Section 65B also allows electronic evidence to be presented either as primary evidence (the original computer resource) or as secondary evidence.

Indian Evidence Act section 65 A and 65 B allow the submission of printouts or copies of electronic records instead of the originals, which may be difficult or impossible to present for court verification. Nonetheless, significant procedures have been implemented to assure the authenticity and integrity of these copies, which seem to defeat the purpose of these regulations[5]. Section 45 of the Indian Evidence Act, 1872 has to be reframed to include scientific expertise as to include criminal justice system[6].

AI and Cross Examination

Cross Examination is defined as "The questioning of a witness at a trial or hearing by the party opposed to the party who called the witness to testify[7]". Cross-examination is used for the purpose of discrediting a witness in front of the fact-finder by any one of several different methods. This is most likely the most effective strategy for unearthing the truth and identifying the witness's fictitious articulations. It is important to keep in mind that a mistake or omission in the cross-examination of a witness does not automatically result in a violation of the principles of justice.

Artificial intelligence can be used to determine where the witness is lying by analysing his vital changes such as increased pulse rate, blood pressure, incapability to look right, non-movement of any body part other than the lips while talking, and recurrent blinking of eyes. These AI machine findings can bring further findings on the person.

AI and Legal Research

Today's AI-driven document review software boosts productivity and the capacity to mark a document as "essential" for the research[8]. This allows humans to focus on fewer relevant documents and prioritise tasks that require more human participation[9].eg. ROSS intelligence created by IBM.

AI and text mining

Text mining employs natural language processing (NLP) to standardise and arrange unstructured text in documents for analysis. AI robots can utilise text mining to swiftly examine the social media remarks and thoughts of a person testifying[10].

AI and Court Proceedings

When a witness is from a different country and speaks a different language, Artificial Intelligence can aid translate the court language in real time. AI for Speech-Recognition, Face Recognition and Translation can read lips at sentence level with 95.6% accuracy, compared to 86.4% for humans[11]. Technology can also help evaluate and analyse video evidence of aiding hearing-aid users in court. The Supreme Court launched SUVAS, an AI-based translation engine, to translate English legal papers into nine vernacular languages. Another example is the Supreme Court's SUPACE portal, which analyses vast volumes of case filing data to help judges identify key facts and issues in new cases.

AI and Forensic science

Al technology aids cybercrime detection and investigation. This helps forensic experts quickly identify the issue. Al helps solve crimes fast and cheaply. They can focus on cybercrime hotspots. Al can find criminal behaviour in investigators' unstructured data. Even though for identifying behavioural attitudes psychometric evaluation is involved, but it will definitely smithereens the concept of self-discrimination[12]. Al delivers cognitive-data analytics to quickly absorb and analyse data. It may also help cops search felony convictions for suspects. Al can identify components in analysed photos and films.

AI and Crime Investigation

As governments seek quick growth, every region's infrastructure is getting smarter. Smarter, linked infrastructure provides real-time data to governments. AI and real-time data can help detect crimes and improve the justice administration in India.

Criminal Procedure (Identification) Bill, 2022 - An outline

Criminal Procedure (Identification) Bill, 2022 replaces the Identification of Prisoners Act of 1920[13]. This bill seeks to obtain a person's, forensic details such as fingerprints, footprints, dimensions, photos, etc. The states and union territories will notify of data collection, preservation, and retention in their control. It introduced clauses for collecting "biological samples," "behavioural features," blood, semen, hair, swabs, and DNA profiles under section 53 and section 53A of the Code of Criminal Procedure (CrPC). It's important to note that the Lok Sabha is still considering the DNA Technologies (Use and Application) Regulation Bill, 2019.

The National Crime Records Bureau (NCRB) is going to be the major organisation in charge of keeping the records up to date. The information will be distributed to various law enforcement authorities[14]. Even though the step taken is a little towards achieving the aim and objective of the digital world it foresees two major issues namely privacy and equality and privacy at the forefront. The substantial change has also occurred in the category of persons who direct the collection of data. The Bill gives power to the Officer in charge of a police station, or of rank Head Constable or above. In addition, a Head Warder of a prison. Metropolitan Magistrate or Judicial Magistrate of first class. In case of persons required to maintain good behaviour or peace, the Executive Magistrate[15].

Thus, even though the acceptance of digital evidence is at the forefront the need to reforms in the age-old Act are very important. These mechanisms by Artificial Evidence will only help in serving justice and preventive crimes to thousands of people.

4. Conclusion

AI is definitely part of our life. Machine learning and AI algorithms have improved healthcare, finance, security, and transportation. It boosts creativity and reduces court delays. AI also helps lawyers and courts conduct fair and transparent investigations. AI and current technology cannot replace lawyers and judges because they lack emotional intelligence. Before applying AI to Indian law, privacy problems must be addressed[16]. AI requires a lot of data, but there is no legal framework for collecting and protecting data for legal and judicial purposes. Before integrating AI into the legal system, legal officers and lawyers must be properly trained. To reflect current court trends and case laws, legal databases must be updated often. Thus, AI must be applied to the judicial system through evidence and investigation, not hit and trial for a better future.

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