



TECHNOLOGY IN UPGRADING INDIAN COURTS

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ABSTRACT:

*" Serve the heart of justice
with the brain of technology "*

Technology is driving a new revolution in all spheres of human life. Richard, in his book 'Online courts and the future of the courts' articulates that the technology will bring about an engrossing decade of legal sector and transform our traditional conservative courts. It has brought various changes in our way of working and living and such changes indubitably have an adverse effect on the administration of justice since judiciary is a vital part of the world. Technology modernizes the judicial system resulting in an enhanced efficiency and equitability. This paper investigates the role of brave new technology in upgrading the Indian courts. Our paper commences with the role, working and the present pace of technology in the Indian legal system. Then the uses and impact of various software programmes, stylometric techniques and Information Technology are explained. Further, the authors, herein discuss the existing technologies in the International courts and Indian courts. The paper is concluded with the scope of emerging technologies such as Big Data, Artificial Intelligence, Machine learning and Blockchain in transforming the Indian courts into e-courts.

Key words: *Indian courts, Information Technology, Big Data, Artificial Intelligence, Machine Learning, Blockchain.*

INTRODUCTION:

The Indian courts desperately need to find conclusions to the loads of unsolved cases which are pending after numerous episodes of trials. As per the National Judicial Data Grid (NJDG), nearly 3,23,21,676 civil and criminal cases are in pendency. The role of technology is that it streamlines the judicial process and paves the way for an efficient speedy disposal of cases at reasonable costs to clear up backlogs. It provides trouble-free access to information and justice resulting in an enhanced transparency, accountability and credibility of adjudication. It will bridge the glaring justice gap if optimum utilisation of the resources are ensured. Other than Allahabad High court, none of the 24 High courts have utilised more than 50 % of the funds allocated for the technological infrastructure which shows that e - Court project in India is moving at a snail's pace.

THE BRAVE NEW WORLD OF TECHNOLOGY:

The progression in upgrading the courts mainly depends on the utilisation of software technologies that promotes a sound judicial system. Technology has brought revolutionary innovations in the field of law such as the remarkable stylometric techniques for identifying deceptive statements, infrared cameras for optical tracking (Pupil Center Corneal Reflection), spectrogram, voice prints and forensic voice analysis for speech detection and speaker identification, 3D scanning technology in Crime Scene Investigation (CSI) etc.,

Use of Software programmes:

The computerization of courts promotes the court management system which includes case management, file management, document management, docket management



etc., As of 2020, there are various court management software programmes such as

JISPRO, a part of Integrated Justice Information System (IJIS) for administrative hearings,

INCODE for automation and advanced communication between defendant and court personnel,

WINJURIS for tracking court records, document imaging,

MAYORS COURT for tracking payments, probation, bonds etc.,

CMS360 for collections, jury and docket management,

JUSTICE ALIGN and BENCHMARK for e-filing of cases

ECR (Electronic Court Records) and EDMS (Electronic Data Management Systems) for document management etc.

In criminal cases, GPS, cell site and geo location data are helpful in detecting the defendant's as well as witness' presence at the time of the offence.

TECHNOLOGIES IN COURTS OF DEVELOPED NATIONS:

The United States federal judiciary is extensively using Artificial Intelligence and Blockchain technology. The developed nations like US and Canada have already deployed AI to assist judges in granting parole and bail. Estonia is developing its legal framework by investing in the field of AI and progressively creating the E- law system through Blockchain technology. Machine learning has predicted the violation of 9 articles of the European Convention of Human Rights with 75% accuracy which

shows how extensively machine learning is used in the European legal sectors.

INFORMATION TECHNOLOGY IN INDIAN COURTS:

India has also adequately deployed the Information Technology software programmes such as NICNET, COURTIS etc., in its judicial system. The Information Technology plays a pivotal role in modernizing the judicial system. The incorporation of IT helps the judiciary in clearing up the issue of pendency and in improving the efficacy of the courts while ensuring security. The National Informatics Centre (NIC), a primary constructor of E-Government applications was established under the Ministry of Electronics and Information Technology. It has streamlined and simplified the registry functions of the court and has provided easy access to information.

The following are the various software applications that have been introduced by

NICNET:

NICNET is a satellite based national informatics network which provides computerization. It is a two-way data communication infrastructure that helps in decision making.

COURTIS:

COURT Information System plays a prominent role in providing informatics service. This integrates the judicial, administrative and miscellaneous functions of the courts. It coordinates the District Court computerization and interconnects the Supreme Court and High Courts.



LOBIS (List of Business Information System):

LOBIS is the backbone application of the court that schedules day to day cases and enlists fresh, pending and disposed cases in a chronological order eliminating irregularity.

COURTNIC:

COURTNIC is an information system that has been used since 1993. COURTNIC provides status information on the pending cases on the Apex court. It answers about 200 queries of the litigants and advocates regarding the pending cases information at nominal charges. Case status site provides the latest status of the case, daily orders which are available after they are duly signed by the court, court judgement, cause lists, court websites etc.,

JUDIS (Judgement Information System):

JUDIS is a comprehensive online case law library which helps in finding the precedents and case citations since it consists of the complete text of all judgements of the Supreme Court and several High Courts.

IVRS (Interactive Voice Response System):

IVRS provides case status through telephone at free of charge.

SCOPE FOR EMERGING DOMAINS OF SCIENCE:

The Indian judiciary is still sticking to the conservative legal systems which is the main cause for weakness of the judicial wing. The sustainability of Indian courts depends on the successful implementation of potential technological advancements which will certainly strengthen the Indian judiciary and will help in overcoming the hurdles involved

in decision making. We authors, have discussed the indispensable role of the modern technologies such as Big Data, Artificial Intelligence, Machine learning and Blockchain in upgrading the Indian judiciary.

BIG DATA:

Big Data is the aggregation of a voluminous and a variety of data. Big Data technology aims in extracting, analysing and processing the information which the traditional data processing software finds difficult to deal with. This technology speeds up the court process since a tremendous amount of data are analysed instantly. Usage of algorithms help to predict the conclusion of new cases by analysing similar cases tried at the same jurisdiction. The public data collected and analysed by this software can be conceded as evidence.

LexisNexis, the largest search database, provides electronic accessibility to legal and journalistic documents from more than 60,000 legal sources.

Westlaw includes more than 40,000 databases of case laws, law reviews, statutes, administrative codes etc.,

Juristat, a Big Data start-up, optimises the litigation strategies providing actionable analytics to law firms.

The handling of big data is very complex. Some of the challenges faced in the implementation include security breaches, inadequate data protection laws etc., There are many cloud based services for data security and many more innovations of IT that are yet to come. Thus, the role of Big Data analytics in this digital era and its potential to transform judicial administration cannot be ignored.

**ARTIFICIAL INTELLIGENCE:**

Artificial intelligence or machine intelligence, an emerging domain of science refers to the demonstration of intelligence by machines in contrast to human intelligence. It also refers to machines that reflect the cognitive functions of human mind such as learning and problem solving. The unique feature of AI is the unbiased decision making. AI assists the judges in determining the appropriate sentence and in granting parole and bail. AI powered machines can identify and solve the problem with best precision and calculate the probability of success. AI systems improve their performance through learning from human like experience.

AI enables the legal professionals to carry out the due diligence process i.e., confirming the facts and figures and evaluating the decisions to guide their clients effectively. AI tools such as Kira systems, Leverton, LawGeex, e-bravia, Contract Intelligence (COIN) etc., are used for quick contract review. Wevoice is a web based mediation technology for amicable online divorce. AI helps in generating electronic bills for the working hours of lawyers. It is capable of predicting the outcomes of legal proceedings with 86.6 % accuracy.

" AI will not replace lawyers but lawyers who use AI will replace those who don't ".

AI which ensures authenticity and accuracy will certainly make the professionals more productive and efficient and will bridge the justice gap for a sustainable justice delivery system.

MACHINE LEARNING:

Machine learning, an application of Artificial Intelligence is the study of computer algorithms that access data and can improve

its efficiency through its own experience. The prime objective of machine learning is to come up with accurate, faster and cost efficient decisions and predictions. Natural Language Processing (NLP), a field of Machine Learning predicts the future judicial decisions by analysing and manipulating the texts of the legal proceedings and such predictions help in identifying the important factors of judicial decision making. Machine learning algorithms help in assessing the extra-legal bias influencing the decision making as the biased decision of a single landmark case can overturn decades of decisions. The algorithms speed up the anomaly detection process by determining the patterns of behaviour and identifying the behavioural breaches. It alerts the judges based on the historical statistical data and helps in de-biasing the law. Machine learning is also capable of rendering verdict and evaluating the effect of decisions. The risks involved in implementing machine learning can be rectified once the working of algorithms with its well defined rules are well understood by the decision makers. Machine learning is where the fairness of law lies. Therefore, Indian Courts should pay a conscious attention to it.

BLOCKCHAIN:

Blockchain, a revolutionary technology is a decentralised public transactional ledger. It provides a completely digitalized courtroom infrastructure through an electronic approach to legal proceedings. Blockchain technology can be used in cyber security because of its decentralised nature and cryptographic algorithm. The same makes it hard to hack. It can even provide supportive evidence for cybercrimes. It integrates hyper connected networks while ensuring reliability and accountability. It protects the digital



expressions of evidence by cryptographically sealing it and hence enhancing providence and authenticity. Sec 164 of CrPC demands the high bar admissibility of electronic evidences and Blockchain with the guarantee of data security helps in proper documentation of the chain of custody without breaching privacies. E- bundles, a block chain supporting digital system enables the litigants to access the data without concern for security. Block chain is capable of creating smart legal contracts and automates the legal operations. The significant role of Blockchain in Intellectual Property Rights is that it reduces the approval time of patents and trademarks. The rise of Blockchain technology is inevitable as it has become one of the go-to tech tools of today due to the transparency and accountability it offers. Embracing it will transform the legal sector.

CONCLUSION:

In this digital era, it is imperative that the courts adapt to the innovative technologies. Though there are challenges in the implementation, the benefits that can be reaped from these technologies can't be denied. It is possible to overcome these challenges by confidently pursuing further innovations and enacting appropriate laws. Just because a technology is available, it does not mean that it will replace the traditional legal system. A proper implementation with appropriate laws will promote the advancement of courts. The online dispute resolution will certainly bridge the justice gap and enhance the principles of law i.e., Equity, Justice and Good conscience.

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