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Use of ICTs and Artificial Intelligence to Overcome Judicial Trial Delays in Pakistani Courts

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ABSTRACT

The employment of information and communication technologies (ICT) and artificial intelligence (AI) backed software tools in the judicial practice has drawn a lot of interest due to its performance in everyday tasks including voice recognition and text processing etc. AI software have, however, revealed crucial, precondition, procedural, and result flaws during the application procedure, posing hazards to ethics. This research paper draws a comparison of AI software applications which are being practiced in United Kingdom, Australia, India and Pakistan. The software comprised *ReadyTech's caseHQ, LIMBS, Case Flow Management System (CFMS)*. The available data was reviewed qualitatively based upon the software characteristics and needs of the legal systems of the relevant countries. The study found that Pakistan is way behind in using this technology to support its legal system as compared to UK, Australia and India. The study recommends smart use of AI technology to help reform the judicial system especially for speedy trial.

Introduction

Due to fast development in technology many areas of human activity are expected to be swapped by newer technologies. Advanced technology is reshaping the practice of law by using artificial intelligent systems. These changes can limit the scope to which people are engaged in judging by highlighting on technology to deal with disputes of civil nature (Sourdin, 2018).

By the end of 2018, the Commission of the Council of Europe decided to use artificial intelligence in national judicial system by making rules in written form. Principles were made based upon both basic values and important logical requirements in order to develop different algorithms. However, the use to AI instruments are different in different parts of word which start from distribution of

cases, dispensation of different judicial verdicts and go up to the resolving of cases by a robot (Zlatescu & Zlătescu, 2019).

Many legal experts getting benefits and expecting more. Although, for decades, Artificial Intelligence and law has been working for the creation of social, reasonable, and reliable AI that is in accordance with local customs, it can still inspires in providing arrangements & customs etc (Verheij, 2020).

AI based technologies have prompted legal experts to rethink core criminal justice issues. The researcher analyzed different outcomes between AI and law, keeping in mind the law which effected human rights (Završnik, 2020).

Development of advanced Artificial Intelligence System, not only, perform faster but also forecast better than human beings. But at the same time human beings have few attributes which can't be gained by any machine like originality, and serious thinking. By considering the both sides, an innovative pattern of judicial system can be produced. With the help of human beings, several algorithms needs to be applied to decide the punishment (Das, Ashrafi & Ahmmad, 2019).

Artificial intelligence's impact has permeated every part of life and work, and its worth has been regularly explored and acknowledged by business, government, and academia. The creation and implementation of an intelligent and smart referee system will be critical to the creation of a smart court that can improve judicial efficiency to some extent by the automatic removal of false cases and assurance of judicial justice. Its preliminary stage and can have flaws in getting solutions but these issues can be addressed once for all. Rather than worshiping of technology, essential human interaction is necessary in this regard (YAO, & Hui, 2020).

Artificial intelligence in the courtroom is mostly used in collection of data, multi-level litigation, dispute management platforms, calculation and management of judgments. At the same time IT based application in the legal sphere is now hampered by a lack of data authenticity and integrity, artificial intelligence's limiting of its own traits, and judges' mistrust. Courts, in China, are encouraging the development of E courts that is most significant aspect of the country's domestic grid power plan and the judicial implementation of E-government (Mingtsung & Shuling, 2020).

Literature Review

Use of ICTs fasten the organizational efficiency and transformation to cater the needs of institutional targets. Information and Communication technologies enhances the quick change in processes and renovation (Davenport, 1994). Literature supported this similar view in the work of Kraemer and Dedrick (1997) that incorporation if ICTs in the management system of any sector reflects the organized and technological rich strategic vision of that sector. However, besides the needs of the organizational structure, political picture within the organization and intentions of the employees affects the diffusion of innovative strategies in ICT (Markus & Robey, 1988).

Talking about technological advancement, the creation of legal AI necessitates the close coordination and combination of technical staff and legal specialists. The goods that have been developed go above the current state of theoretical legal

research, and some technologists do not comprehend the court's requirements. Computers are used to implement the more simple legal ideas that technical workers can comprehend. As a result, significant advancement in judicial information measure is challenging. Sweeping statements and analogies are not appropriate for the use of AI in areas of law that call for value judgments and the judge's discretion. Clearly defining and further researching countermeasure routes would surely mitigate the negative consequences of judicial AI, indirectly enhancing judicial effectiveness (Kramer, Kinn, & Mishkind, 2015).

The administration of justice has been significantly influenced by technological advancements. Lawyers, both practitioners and scholars, can no longer afford to overlook the technology's promise. The emergence of new domains in legal informatics, use of AI in law, has opened up previously unimaginable possibilities. However, creating an artificial intelligence system capable of performing a variety of adjudicating tasks and cognitive processing is not the only necessity for applying artificial intelligence in the judicial automation process. A thorough examination of its legal compliance is also required. Regular training sessions for judicial staff would be required in order to meet the benefits of AI (Dymitruk, 2019).

Artificial intelligence technology is becoming increasingly widely used in the sphere of legal cases. Intelligent software contains functional modules including guiding, prompting, and deviation warning that can help courts with penalizing, case pursuing, and computerized document preparation during the litigation process, lowering litigation expenses and increasing trial efficiency. However, intelligent software has revealed necessary, precondition, procedural, and result problems during the application process, posing ethical dangers and challenges. As a result, we need to specify the role of such technology as a supplemental trial tool, determine the scope of certain applications, and lay down moral standards for judicial AI. To control the employment of such technologies, several hearings and evaluation should also be in done (Aini, 2020).

The methodologies, used for artificial intelligent (AI), are historical and legal, epistemological, and comparative scientific. Artificial intelligence has been defined as a computer's ability to replicate human intelligence while doing particular activities. Artificial intelligence is also built to handle difficult integral activities including data gathering, processing, storage, generalization, and other information-related tasks. The advent of artificial intelligence technology into all realms of public life, it has been suggested, necessitates effective legal oversight of all aspects of their use. Development of cyber security systems along with other legal measures should kept in mind before the implementation of artificial intelligent system (Zubenko, Vodolymyrovych, Popovich & Ilin, 2021).

Speedy Justice has struggled with lengthy delays for many years, which has fueled the development of AI to address the issue. Understanding and analysing the effects of AI on quick trials and how AI might speed up judicial processes is crucial. Keen observation is key while practicing law under AI (Sousa, Fidelis,Bermejo, Gonçalo, & Melo, 2022).

Even if we claim that using AI in the legal system, meant to help judges manage cases, we still need to develop methodical and futuristic fundamental norms. To define the extent of application, it is required to create a suitable framework and

fundamental foundation for purposeful reforms in judicial system. If legal standards are to be created at this time to define the area of use for judicial AI, they can only be operational in theory, and it will be challenging to show their regulatory consequences (Petit, 2017).

Material and Methods

The current study is a conceptual research paper based on the review of the ICTs and AI applications in the judicial systems of United Kingdom, Singapore, Australia, India and Pakistan. A conceptual framework is merely a less modified form of a theory and is made up of assertions that relate abstract ideas to actual information. Methodologies and conceptual frameworks are created to explain or give context to a variety of abstract events (Leshem & Trafford, 2007). The current study is basically a conceptual paper. Data are not the prime requirement of conceptual paper rather the focus is on suggesting and incorporating new associations and relations among ideas. The responsibility is to improve the logic behind such relationships in constructs instead of empirical testing (Gilson & Goldberg, 2015). In the first part, data was collected from the selected countries' IT software use to support and up speed their court trials. In the second part ICTs and AI use of the selected countries have been compared with the Pakistan.

Use of Technology in UK, Singapore and Australian Judicial System

The greatest common law system in the world is practiced in the UK. Its legal system is four times as large as that of Australia, with more than 500 courts and tribunals, 121 prisons, and a yearly population of millions of people. In order to bring Her Majesty's Courts and Tribunals Service (HMCTS) into the twenty-first century, Ministry of Justice realised that it would need a thorough overhaul and investment in cutting-edge technology to enable it to manage the network and have a clear picture of capability and resources throughout the system. As part of a £1 billion reform effort launched by HMCTS in 2016 to improve access to justice in legal system ReadyTech, an information technology based company of Australia, was selected for the Arranging and Listing service (Chandra, Gupta & Agarwal 2020).

To upgrade the standard of service that is given to the members of public & legal professionals, this software is being implemented in courts and tribunals throughout England and Wales. It allows optimal use of case hearings by reducing clerical tasks so that the skilled staff can focus on other multifaceted areas of hearing management. In this way case hearings will proceed when scheduled. Some judicial applications, supported by the CASEMAN package's system, which is a component of the Local County Court Management System (LOCCS) are being used in United Kingdom (Garg, 2020).

The judicial system in the UK has been under scrutiny due to COVID-19 disease and a delay in the court cases reached 54,000 as unheard cases in start of 2021. The HMCTS experience has demonstrated how technology can be crucial in reducing wait times and related systemic inefficiencies. The technology platform of ReadyTech also produces data in order to provide understandings that enable the judicial system to be handled effectively and allocate resources where required (Chandra, Gupta & Agarwal 2020).

Video conferencing is a typical function of judiciary. Each court has a keyboard available for the attorneys to use while submitting written arguments in real time. According to the complexity and character of each case, their Differentiated Case Management (DCM) set up gives numerous identification to various petitions in lower courts. Visitors to courts can also access a touch screen to view information about different cases. Similar problems are present in Australia's more disjointed justice system. The scope and size of ReadyTech's initiative with the Ministry of Justice, however, ought to give some solace that a flexible solution is on the table. Larger organisations within the Australian court systems may consider using this software to help those operation that covers the entire trial lifecycle as they, too, modernise their own systems (Garg, 2020).

Indian Perspective

To increase efficiency and cut down on wasted time, India has implemented a number of methods to channelize the judiciary's activities. Online tool called LIMBS makes it easier and more transparent to track matters involving the Indian government's central branch. The related administration is informed about forthcoming significant cases including the appeals, contempt cases by computer-generated SMS alerts. Additionally, LIMBS has an e-document vault and Unique Digital Locker (UDL), which let users upload records that can serve as data catalogue. Besides that, LIMBS offers a resized summary report of cases that have demonstrably improved how legal procedures operate in ministries. It features an organised database with all pertinent data about a case going back to its beginnings (Bharuka, 2020).

The use of IT for electronic case filing and online hearings has increased significantly during the COVID-19 pandemic. By holding 1,81,909 virtual hearings between the start of the lockdown in 2020 and 8th of January, current year, India's apex court became a world leader. The All these developments was possible by adopting Machine Language (ML)-based apps include SUPACE, which can create a legal brief, and SUVAS, a language learning tool used to translate decisions (Kraemer & Dedrick, 1997).

Use of ICT and AI in Pakistani Courts

Artificial intelligence (AI) has obtained significant prominence on a national and international scale as one of the key components of a developing and stable economy, as well as effective government and the administration of justice. This industry is given a very high importance in Pakistan by both the government and the judiciary, particularly the National Judicial Committee, under the Honorable Chief Justice of Pakistan. Both established and developing nations have implemented automation in their judicial systems as a means of speeding up the process and providing a superior quality of service to the litigant public, the bench, the bar, law enforcement agencies, and other participants. Along with cutting expenses, it also makes information accessible and increases accountability and transparency. Because of this, Pakistan's National Judicial Policy Making Committee (NJPMC) has given automation a high priority and created a distinct subcommittee to handle all IT initiatives and keep track of the development. The committee is currently known as the National Judiciary Automation Committee (NJAC), and a sitting Supreme Court judge serves as its chairman. The persistent twin issues of backlog and delays in

pending lawsuits have already been addressed by a judicial policy that has been developed with an effective framework of activities. To accomplish swift case resolution, improved justice system, and other judicial objectives, a second automation strategy and effective framework of activities are currently under development. (Jafferi, 2010).

Review of IT Software Applications at Apex Courts of Pakistan

With a search engine on the Intranet as well as the Website, it stores relevant data such as case initiation, case fixation (cause lists), online court hearings (OCP), case law (CLMS), etc. One of its module is Online Court Proceedings (OCP) which use enormous TV/Monitor screens placed in the court premises as well as on the websites to show real-time information that is being maintained regarding the progress of case proceedings. Case Law Management System (CLMS) is another module that is used to maintain information regarding case judgments/orders with the help of powerful search engine on Intranet and website and Sindh High Court is using this application. Case Record Management System (CRMS) maintains information in the record branch about the cases which are disposed. Stored information of the disposed cases is also in process at some Courts. Similar to this, the public and advocates are given free information about case fixation, hearing, etc. in person or even over the phone. In particular, the relevant advocates are given the same details by SMS alerts and emails using the Case Information for Public Information Desk application software. All apex courts are using these above mentioned software. Case Information for SHC Bar is another important module of CFMS in which information regarding case is provided to the Bar Office for Cause List printing and circulation.

Bringing more ICTs and AI to Pakistani Courts

Pakistan needs a lot of improvements in order to get benefit from rapidly progressing IT services. Using artificial intelligence (AI) can bring positive results for the judicial system of Pakistan. According to Rohith and Sunil (2021), if cases are tracked manually, information about them would be dispersed, making it lengthy and challenging to group cases of a same nature. These difficulties might be eliminated digitally with the help of IT. The use of artificial intelligence and common algorithms can aid in grouping situations of a similar kind using data in the form of a structured database. As a result, departments will have time to draught a joint response to these complaints, which can then be argued in court as a single, clubbed case.

The idea of "smart data collection", as discussed by Sousa, Fidelis,Bermejo, Gonçalo and Melo (2022), needs to be prevailed. Authors discussed that comparing this method to traditional analytics, one advantage is that it is less prone to human interpretation bias or subjectivity. For instance, if any user chooses any specific of the court's name when submitting a case, the AI backed system will give whole data within specific time. The system will be able to tell you, when choosing an attorney, what proportion of cases they have won in the past.

Policymakers and scholars can identify contentious regions where there is a large number of litigation coming from ambiguity in policies by using a structured database. Same point was raised by Poppe (2019) who said that available data can act

as a catalyst for bettering policies by harmonizing, streamlining, and simplifying them with the intention of reducing needless litigation.

Deep learning-based text mining is a technique for converting unstructured text into organized data set. Data mining enables computers to go –through all documents available in different formats, like doc, pdf, exel etc, that are spread across multiple pages. The users will be able to get pertinent information with great precision and speed thanks to text mining of these publications. The system's introduction of objectivity will assist the legal system in promptly determining the procedures to be taken to reduce pendency. According to Eom and Zhang (2004), Artificial Intelligence (AI) can help in generating required documents automatically which can save the time and money of parties. In this way authenticity of documents could also be assured. By using this technology unwanted delays, due to missing documents, can be minimized.

An IT supported legal system can achieve whole revelation of the case procedure with the use of the Internet. In this way Justice in court may become more visible. AI can urge the record keeping system to save notes across the process and accomplish the effect of thorough monitoring of the judicial procedure with the aid of big data and a unified platform as written by Kelly (2021).

It is reasonable to anticipate that as technology develops, artificial intelligence software will be used in adjudication to a greater extent. Talking about technological development Alarie, Niblett and Yoon (2018) said that the characteristics of supplementary tools for AI software must therefore be explained before its implementation. The use of such software is now a norm in the adjudication industry.

Conclusion

Globally ICT and AI technology is being used and developed in the legal sector extremely quickly. When the facts are fully established and simpler to write, it is expected that the AI based technologies will be utilized more frequently. Even in complex and difficult instances, the technology based trial mode may be implemented. It is mostly based on the advancements in machine deep learning and neural networks. Further efforts should be focused on increasing the application proficiency in legal proceedings. In case of Pakistan's legal system we are still very behind in getting benefit from the advancement of technology. There are thousands of pending cases in Pakistani courts and these delays can be minimized by the use of Artificial Intelligence. This paper makes a contribution by attempting to explain every step of the judicial application of AI through careful incorporation with the established judicial model. The purpose of the study is to illustrate how artificial intelligence can help in the field of justice, as well as its functional expectations, restrictions, and hazards. Additionally, it examines the legal implications of artificial intelligence, the ethical concerns brought on by its advancement, the reaction impulse, the complete integration barriers of AI and legal reasoning, and potential problem-solving approaches. Furthermore proper training of court staff, lawyers and judges should be mandatory especially at the start of any new application or software. Pakistan can get its pending cases issues resolved by optimal utilization technology based systems for its legal proceedings.

Recommendations

Based upon the conclusion following recommendations are made:

- Supreme Judicial Council should play its role to make rules for the use of Technology based applications for judicial system.

- Information Technology experts should be hired who can develop customized applications for justice system;

- Need more encouragement for the use of ICTs in media and communication field which will be beneficial for quick flow of information;

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