



REVIEW ARTICLE

SCIENCE AND TECHNOLOGY'S INFLUENCE ON LAW: THE PERSPECTIVE OF JURISPRUDENCE

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ABSTRACT

There are gaps and obstacles in legal practice and administration, including cyber security vulnerabilities, intellectual property issues, negative effects on labour and privacy and data protection concerns. It is vital to understand the function of legislation in governing science and technology, as well as the ethical implications of scientific study and modern technologies. With the advancement of the internet, technology, genomics, telecommunications and other fields of science and technology, legal scholars and law schools have placed a larger emphasis on the intersection of law and science and technology. This article discusses the relationship between law and artificial intelligence and jurisprudence. It explains how law and AI (Artificial Intelligence) are related to jurisprudence in the context of sociology, moral judgments made by AI and the problems that AI faces while making moral judgments. Later in the chapter, a future perspective on AI is discussed. The article focuses on the necessity of AI in law because, while AI offers numerous benefits, like enhanced creativity, services, safety, and lifestyle, it also generates numerous anxiety and concerns about undesirable consequences on human autonomy, privacy and fundamental rights and freedoms.

KEYWORDS

Vulnerabilities, legislation, jurisprudence, judgments, fundamental

1. INTRODUCTION

1.1 Definition and Evaluation of Law

Jurisprudence is the Law's Philosophy. Law is a principle and regulations that are established in a community by some authority and applicable to its people, whether in the form of legislation or of custom and policies recognized and enforced by judicial decision. In fact, law is defined in a variety of ways by a variety of jurists (Davis, 2018). Jurist is one who has thorough knowledge and experience of law, especially an eminent judge, lawyer or legal scholar. Socrates, Aristotle, Cicero, Thomas Aquinas, William Blackstone, Austin, Salmond, Dr. Allama Iqbal, Maulana Maududi, Asma Jahangir and Hina Jillani were famous jurists throughout history (Davis, 2019).

To evaluate the law, even before the existence of mankind, the concept of law existed. Since time immemorial, there has been a concept of reward for good deeds and punishment for disobedience. All of the world's scriptures forbid mankind from lying, cheating, being dishonest and stealing. Similarly, all scriptures mention the reward for good deeds, which is the foundation of law (Dove, 1996). Even in the recorded history of humanity, law existed in the earliest communities that inhabited this planet.

1.2 Jurisprudence and its Definition

The study of law and the concepts that govern it is known as jurisprudence. Jurisprudence can alternatively be defined as a set of interwoven beliefs and concepts that have evolved over time and provide us with control over our behavior and protection of our interests. Jurisprudence is defined by Cicero as the philosophical part of legal knowledge. According to Austin, it is the "theory of positive law." He refers

to positive law, also known as jus positivist, as the law enacted by a political superior to regulate the behavior of individuals under his power (Gul and Nofely, 2021). Moreover, according to Salmond, jurisprudence is the science of the foundational principles of civil law. He emphasizes that jurisprudence is concerned with a specific type of law, such as civil law or state law. There are three types of jurisprudence known as analytical, social and theoretical. The analytical branch specifies axioms, defines words and prescribes ways for seeing the legal order as a logical, internally consistent system (Liu, 2021). The sociological branch of law studies the actual impacts of law in society as well as the impact of social phenomena on substantive and procedural aspects of law. The theoretical branch assesses and critiques legislation in light of the objectives or goals that have been proposed for it.

2. SCIENCE AND TECHNOLOGY

Technology has undoubtedly had a substantial impact on work life in a variety of businesses and practice areas. The practice of law has no exception. The study of law, science and technology connections has grown tremendously, with the subject being included in syllabus, courses, journals, conferences and among other things. Aside from that, legal scholars and practitioners are becoming more cognizant of the importance of scientific and technical advancements (McKamey, 2017). In general, law refers to a set of rules established by social organizations to govern members' conduct and to enforce such behavior by the enforcement of punishments. Science on the other hand, is the systematic methods to knowledge constructions and organizations in the form of testable explanations and predictions about the universe. As scientific and technical breakthroughs, law and science progressed, the two disciplines grew increasingly intertwined.

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Various countries' legislatures have enacted a slew of legislation to address the social effects of science and technology. In the age of the internet, for example, the legislature has enacted laws and measures dealing with cybercrime. Law aims to limit the negative effects of science and technology by addressing issues such as risks, rewards and ethical consequences. The court system also strives to provide remedies to those who have been wronged as a result of the negative consequences of scientific and technical advancements (Miller, 2017). On the other hand, science has supported the judicial system with modern technology such as polygraph exams, scientific evidence collecting, electronic recordings that can be used as evidence in court and so on. Science also aids in the admission of evidence, autopsy findings and other aspects of judicial procedures. As a result, although being two separate disciplines, science and law are interdependent in modern society due to breakthroughs in research and technology.

3. USE OF TECHNOLOGY IN THE REALM OF LAW

There are thousands of statutes that deal with the legalities and illegalities of science procedures, projects and equipment since the last few decades. In recent decades the use of computers, printers, networks, smart phones, apps, social media, websites, gadgets, notebooks, tablets and so on has brought innovation and ease in the field of law. Now, computers, laptops, cell phones and other gadgets are used to create and handle most of all legal documentations. All the information that we get from various devices or gadgets is processed with a database system. Furthermore, new legal technology can increase efficiency and productivity (Schroeder, 2017). For instance, routine tasks can be performed more swiftly and easily with today's technology. Most judges and lawyers can complete a court paperwork quickly if they have a template to work off. Besides that, technology in the legal field helps to optimize the workflow.

Lawyers must be able to communicate with colleagues and clients quickly and readily, as well as collaborate to perform complex legal work efficiently. Using software to manage their legal matters can help them to construct step-by-step processes, make simple checklists for everyday activities and stay on track with critical dates. Apart from this, clients want to be involved, therefore having easy systems in place to keep them informed is beneficial. A client portal may be useful in this situation (Surden, 2019). Clients can return a completed form to their lawyers with the press of a button in some solutions. Therefore, it makes for better client service. There is a dispute about what constitutes good law and what constitutes bad law in many parts of the world. A positive feature is that the current technology in gadgets has thousands of applications that assist lawyers, judges and litigants with legal updates, case status, case studies, legal studies and other things.

Similarly, the entire world is embracing the concept of online courts, e-filing and e-courts. In addition, a new notion of automated legal systems based on technology is gaining traction, with the potential to take over the system in the next decades. Since over a decade, the concept of webinars, online seminars and online sessions has existed in the IT field. During the Covid-19 pandemic, this concept was extremely successful. This notion is also assisting legal systems all across the world. Similarly, judges in several nations use the same software applications to conduct court sessions. This way, daily routine labor has been carried out while maintaining social distance and without infecting thousands of individuals through routine jobs.

4. ARTIFICIAL INTELLIGENCE AND LAW

Artificial intelligence is an incredible concept that has existed for several decades. Artificial Intelligence is a computer program's ability to learn and think. Everything that includes a programme doing something that we would ordinarily associate with human intelligence is termed artificial intelligence. AI is sometimes defined as the simulation of human thought processes in a computerized model. The concept of artificial intelligence gives both negative and positive impacts. Because AI is evolving on a daily basis, hardware and software must be upgraded on a regular basis to keep up with the latest requirements. Machines necessitate repair and maintenance, both of which incur significant expenditures. Because they are extremely complicated machinery, their construction necessitates ridiculously high prices. Besides that, with its applications automating the majority of the job, AI is making humans lazy. These inventions have a tendency to get people addicted to them.

However, artificial intelligence applications offer huge benefits and have the potential to disrupt any industry including the legal sector. Law companies started using AI-based software to automate lower-level duties, allowing attorneys to focus on more complicated analysis and client contact. An attorney's ability to investigate, advise and assist their

clients is dramatically enhanced by AI. AI-based solutions are already being used by certain large firms to improve their processes. Furthermore, lawyers and judges can use artificial intelligence to manage their workloads and safeguard their clients' best interests by being able to evaluate more papers in less time and with more accuracy.

Artificial intelligence also can analyze similar cases with similar facts and provide a statistical analysis to predict litigation outcomes accurately. Lawyers can confidently advise clients on how and whether to proceed with litigation using this tool. Regarding the law for artificial intelligence, if something unexpected happens due to the usage of AI, the only remedy available is compensation. This is because there is no proper legislation for artificial intelligence in law. It is known that a machine cannot be held liable for any bodily injury or death of a human. At the same time we cannot ignore the loss that was suffered by a human. Therefore, compensation is available in the majority of the cases.

5. JURISPRUDENCE IN ARTIFICIAL INTELLIGENCE

The majority of legal AI researchers believe they will be able to create machines capable of taking the place of lawyers and making legal decisions. Nonetheless, it's challenging to speak of legal AI as a unified field. Numerous artificial intelligence researchers have yielded to observation and experience and attempted to work around the inherent difficulties in the law. Several of these have embraced the case-based approach, while others remain adamantly committed to the rule-based approach. Regardless of one's position on whether legal expert machines can or should replace humans, or on the best approach for developing legal artificial intelligence systems, researchers invariably produce programmes that adhere to the same jurisprudence theory, formalism. Zeleznikow and Hunter establish a jurisprudential basis for the representation of legal concepts as rules in H.L.A. Hart's theory.

6. SOCIOLOGICAL PERSPECTIVE IN ARTIFICIAL INTELLIGENCE

A study or science of institutions dealing with legal phenomena can be classified as legal sociology. The widespread use of artificial intelligence technologies in a variety of social domains including law enforcement has reignited interest in using sociological tools to analyze the social nature, antecedents and consequences of artificial intelligence (AI). According to certain sociologists, artificial intelligence is not only a socially constituted business but also socially constitutive in the sense that when deployed in a social environment, AI systems can take on social roles, conduct social practices and form social relationships.

The automation of simple repetitive tasks involving low-level decision-making was widely considered to be the future of artificial intelligence early on. However, because of more powerful computers and the collection of massive data sets, AI has swiftly advanced in sophistication. Machine learning, which is known for its ability to filter and analyze large volumes of data and learn over time, has revolutionized a variety of disciplines, including legal fields. Sociologists are helping to research artificial intelligence development and application but greater participation is needed (Susskind, 1986). Many more artificial intelligence sociotechnical systems will be developed and incorporated into businesses and communities in the next few years as a result of commercial and public investment in AI sociotechnical systems.

7. MORAL JUDGMENT IN ARTIFICIAL INTELLIGENCE

It is possible that AI cannot make moral judgements because it does not have a first-person viewpoint and hence cannot make moral judgments, even whether the judgments are objectively true or erroneous. As natural lawyers point out, the last say in determining the substance of the law is in the hands of moral judgements. As a result of the same premise, legal positivists argue that law is not ultimately established by moral judgements. Natural law and positivism both recognize that morality plays an important part in the practice of law and justice. Ronald Dworkin and Lon Fuller were two of the movement's most renowned proponents. Although their ideas varied greatly in depth and emphasis, they both agreed on the need of moral judgement in deciding what the law is.

If computers are incapable of moral thinking and natural law best describes the essence of law, computers can only play a limited role in legal interpretation. That is not to imply computers cannot play a role, but it also does not mean they cannot. Consider Ronald Dworkin's theoretical framework as an example. He saw the two sorts of nested judgements that he encountered in legal interpretation as distinct entities. Whether anything is a good fit is entirely subjective. It assesses the degree to which a legal theory conforms to pre-established canons of authority. On the other hand, justification demands a normative judgement. Comparing

opposing legal theories to determine their compatibility with existing standards is critical. Even under Dworkin's anti-positivist jurisprudence, computers might play an important role.

They may one day, maybe very soon, be able to judge fitness more accurately than humans. It is difficult to assess justification if one lacks the capacity to develop moral judgments. We find some evidence for this position in the present status of artificial intelligence. As of right present, you cannot choose your own moral or immoral final objectives. It is up to us, as humans, to establish the objectives of the AI. There are two major approaches to "machine morality": top-down and bottom-up. Using a top-down approach, humans may define general moral concepts for AI. Once things are in place, AI may be limited or guided in a variety of ways in its pursuit of its objectives. Finally, AI cannot establish its own principles and objectives. It is a means to a goal, not an end in itself.

In the second bottom-up method, the AI is provided with knowledge about numerous scenarios and the moral (or other desirable) acts that should be done in each. AI can evaluate and steer moral decision-making processes. Consider, as well, the reality that this technique depends on human input. Someone having a point of view must choose whether activities are acceptable and unacceptable in a particular scenario. AI depends on human judgements to find patterns. There are, of course, alternatives to the standard top-down or bottom-up paradigm for determining morality. Among the most well-known is the "reflective equilibrium" explored by John Rawls and others. A reflective equilibrium is shown by the back and forth between broad moral principles and intuitions about morality in particular settings. Each provides information to the other and, hopefully, corrects it. Three types of guidance are required for AI to attain reflective equilibrium: broad principles, intuitions about the optimal outcomes in particular circumstances, and procedures for resolving conflicts or tension between them.

8. DIFFICULTIES OF ARTIFICIAL INTELLIGENCE MAKING ITS OWN MORAL JUDGEMENTS

Artificial intelligence may be able to make its own moral judgments once it has the necessary inputs from humans. However, this is unlikely to be the case in reality. As a result of change, there is a problem. Changes in circumstances may necessitate fresh moral assessments. That being said, if the relevant distinctions are present in the old data, artificial intelligence should be capable of dealing with them. It is not uncommon, however, for new information to be contextualized within preexisting moral frameworks by making new moral judgments. Therefore, new human judgments may be required for artificial intelligence to adapt as circumstances change over time. Additionally, moral values may change. The reasons for this are obscure. It's possible that morality is advancing. As time goes on, we may become more knowledgeable. In other words and this isn't necessarily a bad thing, values may change over time. No matter how you slice it, morality doesn't seem to be a stable thing. In order for AI's moral judgments to remain accurate, it will require new human input as morality evolves.

It is inevitable that human beings will have to make additions or alterations to AI's moral principles, the concrete moral judgments it treats as correct or both. A second, related issue is error. This implies that our moral judgements are likely to be faulty. They will confuse artificial intelligence to the degree that they are polluted by misconceptions, confusions, self-interest, or plain errors. In statistics, the slogan is "garbage in, rubbish out." Both human teaching and moral decision-making patterns may introduce mistakes into artificial intelligence principles, to the degree that both sources are used to generate artificial intelligence principles. Due to human error, it may be necessary for humans to intervene to fix AI ethics' errors. For as long as artificial intelligence engages in moral reasoning that relies on human perceptions rather than on its own, all of these issues can be expected to come up. Because moral judgments require a subjective perspective, Artificial intelligence would likely need to achieve subjectivity in order to replace human moral reasoning.

9. THE FUTURE OF ARTIFICIAL INTELLIGENCE IN LAW

Without a question, the twenty-first century is technologically sophisticated. Who knows, maybe in the future we'll be able to reap the same or even better benefits from artificially intelligent devices. In terms of assisting lawyers in doing things faster, better, and cheaper, artificial intelligence has arrived. For the time being, the available technology is limited, but the possibilities are exciting, and availability, quality and pricing will all soon come together in products that are far too beneficial to in-house legal departments to ignore. Artificial intelligence's ability to search for and identify problems before they emerge, combined with the

luxury of giving in-house lawyers more time to think and advise, appears to be altering the game for legal services procurement and delivery. Besides that, lawyering necessitates human-to-human interaction, inventiveness, advanced language processing, a thorough awareness of how society operates and a degree of experience earned only by humans.

As a result, human lawyers will be indispensable for the next ten years or so. Lawyers will not become obsolete as a result of the development of new legal technologies. Instead of disappearing, legal professionals' jobs will evolve to become more engaged with technological applications in their respective fields. This indicates that artificial intelligence will most likely transform rather than abolish the work done by lawyers. Indeed, as our population ages and more individuals enter retirement than enter the workforce, the likely scarcity of lawyers can be mitigated in part by the deployment of artificial intelligence. Similarly, AI could lower the cost of legal services, putting critical legal needs like wills within reach of the average worker. In short, artificial intelligence's impact on the legal industry is yet to be determined. It is the responsibility of jurists to attentively evaluate advances in science and technology and via their contributions, incorporate such innovations into legislation.

10. CONCLUSION

The above suggests that there may be a limit to the use of artificial intelligence in the legal profession. The first-person perspective may be necessary for making moral judgments and for legal and judicial practitioners to make moral judgments. AI may be limited to the realm of science or science may not be able to fully capture the first-person perspective. We may have found a way to prevent AI from taking over all aspects of our legal system if all of that holds up. To a number of us, this is welcome news. It ensures that human beings will continue to have a place in the law indefinitely. It also provides a reason for legal practitioners, both judges and lawyers, to acknowledge the important role that moral and other value judgments play in the practice of law and the administration of justice.

Many of us believe that participants in the legal process are not being as transparent as they should be about how their moral judgments influence the work they do in their respective fields. It merely seeks to identify a possible limit to the role that artificial intelligence (AI) can play in the field of law and possibly related professions. As part of its investigation into that potential limit, it suggests that artificial intelligence may advance to the point where people will no longer have any meaningful role to play in the scientific world, such as those of physics, chemistry or biology. Doctors, architects and other professionals who perform technical tasks may find themselves in a similar situation. People, on the other hand, may still possess the unique ability to make moral judgments as well as other types of value judgments.

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