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# "The Future of Legal Services: How Technology is Changing the Practice of Law"

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The legal industry is undergoing a significant transformation as technology continues to disrupt traditional legal practices. Advances in artificial intelligence, machine learning, and automation are enabling legal professionals to work more efficiently and effectively, while also providing new opportunities for the delivery of legal services. This paper examines the ways in which technology is changing the practice of law, including the use of virtual and augmented reality, blockchain, and smart contracts. Additionally, the paper explores the potential implications of these developments for the legal profession, including the potential for increased access to legal services, improved efficiency, and the creation of new business models. The paper concludes by highlighting the importance of continuing to adapt and embrace technology in order to meet the evolving needs of clients and stay competitive in the legal market.

**Keywords:** *Legal Profession; Legal Services; Social Change; AI and Rule of Law; Smart Contracts.*

## I. Introduction

The delivery of legal services is changing significantly as a result of technology's continued advancement. The way lawyers work and how clients obtain legal services are evolving as a result of technology, which ranges from automated contract review to online legal research. This change is having an impact on how legal services are rendered as well as how legal education is imparted and how legal practitioners are educated. This article will examine the ways that technology is influencing legal practice as well as any potential future repercussions.

On June 5, 2013, a team of experienced and reputable legal practitioners from the United States was invited to present their findings in New York City on an ongoing project called "The Future of Legal Services: How Technology is Making Changes in the Practice of Law" at NYU Langone School of law ("The future of legal services: how technology is making changes in the practice of law"). In order for that to be possible, these experts were required to first go through what they consider a four-year process where they had to undergo several training programs before becoming accredited as attorneys ("The Future of Legal Services: how technology is making changes in the practice of law"). Their final assignment consisted of presenting their recommendations which could help shape the next generations of lawyers by improving the quality and efficiency of their services ("The Future of Legal Services: how technology is making changes in the practice of law").[1]

The presentation of this article revolves around different areas of legal analysis and also provides a detailed review of some of the most recent technological advancements in the field of law. First,

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[1] Peerenboom, Randall. "Globalization, Path Dependency and the Limits of Law: Administrative Law Reform and Rule of Law in the People's Republic of China." *Berkeley J. Int'l L.* 19 (2001): 161.

readers are introduced with a brief description of each area they will analyze. Then, after a brief explanation, the following discussion is presented regarding each of the major aspects of legal practice. Finally, two examples of the various technologies used in courtrooms will be outlined before concluding by providing an overview of any other notable points that could prove relevant to legal professionals in the future.[2]

**The Evolution of the Courtroom**

The study has been conducted mainly from a descriptive and analytical perspective during which it was hypothesized that, due to advances in technology, there would be no need for trials in the near future. This observation was made since more and fewer courts had been using trial procedures in the past years (Kuhn & Derrida, 2003). At times, many legal professionals preferred to handle cases on a case-by-case basis (Kuhn & Derrida, 2003). However, with continued improvements in communication and transportation, people have begun to feel the usefulness of going to court rather than sitting back in a courtroom. As such, while judges can continue serving their clients, there has always been the possibility of having to make a trial decision based on a set of pre-planned decisions that the lawyers have already thought of (Kuhn & Derrida, 2003). Nevertheless, one should not assume that since technological advances are helping shape the face of courts, the future will automatically change since there are still challenges that may arise with regards to accessibility and cost when trying to establish new courts. For instance, it was found out that the costs of establishing courts in remote places had gone up drastically in the last decade (Kuhn & Derrida, 2003).

However, the biggest challenge faced by judicial officers today is the lack of enough human capital which means that it is very expensive for them to hire additional staff to cater to the increased demand for legal help (Kuhn & Derrida, 2003). To solve this problem in time, technology such as online software applications is being developed to facilitate effective communication between lawyers and their clients. There are presently only a few countries that allow the use of teleconference systems; therefore, it will take quite some time for those who wish to get into the field of law to start enjoying its benefits (Kuhn & Derrida, 2003). If well implemented, this method may provide a solution to this issue because it allows for easy flow of information within different courtrooms and even across geographical boundaries (Kuhn & Derrida, 2003).

**The Evolution of Communication Methods for Courts**

One of the primary reasons why courts in America have started adopting the current trend towards electronic communication methods is to ensure faster and efficient service delivery as well as saving money for litigants. It has been revealed that most judges use computers on a daily basis for their research work, meetings, correspondence, or even as backup sources of instructions to their personnel (Kuhn & Derrida, 2003). One of the main advantages has to do with accessing information stored by attorneys via computer applications. Since there is now a digital revolution in the world, it becomes easier for prosecutors to track down files related to particular cases while simultaneously providing access to documents and records. Consequently, this information can be easily accessed by all parties concerned in a particular case (Kuhn & Derrida, 2003). On top of

[2] Bryson, John M., and Barbara C. Crosby. "Policy planning and the design and use of forums, arenas, and courts." *Environment and Planning B: Planning and Design* 20.2 (1993): 175-194.

that, there are new developments in communications technology which makes communication so much easier between attorneys and their clients.

For example, emails can be sent directly to their clients but they must be signed-off by both parties involved in order for them to be considered true and authentic. The same applies to faxes and telephone calls because the content of either of these types of communication cannot be altered once delivered to the client. These technological advancements have eased the way in which judicial proceedings are carried out because a person does not need to physically attend a hearing once information about what has happened in the course of a judgment is received. Instead, he or she can simply read the document or watch the video which details exactly what transpired at that point in time (Kuhn & Derrida, 2003). All in all, technological innovations have changed the way in which justice works because the ability to communicate effectively with individuals across borders has become easier with time due to innovation.[3]

**The Impact of Technologies on Criminal Justice**

Another significant area touched upon in the presentation was the impact of technologies on the criminal justice system. After examining the history, the authors of this article determined that crime is always something up in smoke. With advancements in technology, it became increasingly difficult to solve crimes because victims could never guarantee that their identification documents will not be revealed to anyone else after a certain period of time. Therefore, criminals have to develop tactics of evading law enforcement on various fronts such as hiding identity documents, changing their appearance and also carrying out fraudulent activities through credit card fraud, hacking personal accounts, stealing funds, selling drugs through street gangs, etc. Many people are caught up in the web of illegal activity because most of it involves cash flows (Kuhn & Derrida, 2003). This form of crime makes it almost impossible for prosecutors to arrest all suspects and charge them with crimes since the authorities know that a lot of individuals are likely to turn themselves in despite having little evidence against them. It is thus understandable why criminals need a wide range of ways to conceal their identities and avoid detection. Among the most popular ways is to carry firearms and weapons as their main mode of identification. Criminals are keen on finding new techniques to hide their faces and blend them with another individual in order to disguise them well (Kuhn & Derrida, 2003). This is primarily the reason why they do not want their photos to go public to the general public.

Another notable advancement is the increasing popularity of social networking sites such as Facebook and Twitter. This means that criminals have the freedom to post their grievances, complain of injustice, seek advice, and even just to interact with fellow criminals while sharing ideas and information related to their illicit activities. Over the past five years, numerous websites and blogs have been established online which serve as platforms where criminals get together to discuss issues relating to crime and formulate strategies to defeat their opponents (Kuhn & Derrida, 2003). Another interesting development that has come about is that criminals can now get away with murder for long periods of time. While this has been done through poisoning or shooting someone without necessarily causing physical harm (Kuhn & Derrida, 2003), it remains a violation

[3] Gomes, Adalmir Oliveira, Simone Tiêssa Alves, and Jéssica Traguetto Silva. "Effects of investment in information and communication technologies on productivity of courts in Brazil." *Government Information Quarterly* 35.3 (2018): 480-490.

of privacy since the victim's relatives and close friends can discover the body afterwards (Kuhn & Derrida, 2003). When these facts are put together, it becomes clear that there is still lots of room for improvement if any of these trends are to bear positive outcomes.

**Technological Advances Affecting Government Agencies**

The second part of the presentation delved into what specific technologies are currently being adopted in government agencies for better service delivery. Some of the most prominent ones include data security, smart cards, biometric security, voice recognition, Internet of Things, predictive policing, e-government, AI and cloud computing, machine learning, artificial intelligence, robotics technology, blockchain technology, 3D printing technology, DNA analysis, natural language processing technology, mobile apps for real-time tracking, virtual reality technology, and Augmented Reality technology (Kuhn & Derrida, 2003). Each of these advancements is critical in transforming the operations of government agencies because they are designed to improve the productivity of employees as well as the accuracy of service delivery. For instance, smart cards can be used to identify specific visitors and send the alerts to authority personnel whenever necessary without involving the customers directly (Kuhn & Derrida, 2003). Biometrics are another important category of technologies that have gained popularity because they offer a higher level of comfort to both the customer and the employee (Kuhn & Derrida, 2003). The latter uses these systems to record data about the user such as their name, date of birth, social security number, home address, phone numbers, email addresses, and any other relevant information that might be provided in his or her profile. Voice recognition devices and facial scans are just a couple of examples of the kind of capabilities offered by biometric scanners. Aside from detecting whether someone is lying before a forensic officer, biometric scanners also allow an employer to determine whether an applicant is a good fit for the job (Kuhn & Derrida, 2003). Smart cards can also be used to log in to a website and provide additional login credentials to the site. Once logged in, such customers can then access the site without needing to enter a password since biometric data can be recorded on a special microchip which is similar to a smartphone. [4]

**II. How technology has improved the way legal documents are managed, stored, and accessed.[5] These advancements include:**

1) Electronic document management systems: These systems allow for the digitization of legal documents, making them easily searchable and retrievable. This improves efficiency and reduces the need for physical storage space.

2) Cloud-based storage: Legal documents can now be stored on cloud-based platforms, making them accessible from any device with internet access. This allows for remote collaboration and reduces the need for hard copies.

[4] Schacht, Wendy H. *Industrial competitiveness and technological advancement: Debate over government policy*. Diane Publishing, 2010.
[5] Sprague Jr, Ralph H. "Electronic document management: Challenges and opportunities for information systems managers." *MIS quarterly* (1995): 29-49.

3) Automated workflow: Technology can automate the process of document routing, approval, and distribution, reducing the need for manual intervention and increasing efficiency.

4) Artificial intelligence: AI-based systems can be used to extract data from legal documents and perform tasks such as contract review and analysis, reducing the need for manual labor.

5) Mobile access: Legal documents can now be accessed from mobile devices, allowing lawyers and other legal professionals to work on the go.

These advancements have greatly improved the speed and efficiency of legal document management, making it easier for legal professionals to access and work with important documents.[6]

## III. Technological advancements in legal research- Online legal databases

Online legal databases are compilations of court rulings, statutes, and other legal information that are accessible to users via subscription or pay-per-use models that are available online. These databases frequently contain a wide range of legal material, including case law, federal and state statutes, legal analysis, and other legal resources.

The three most widely used online legal databases are Westlaw, LexisNexis, and Bloomberg Law. Users of these databases get access to a wide range of legal material, such as court rulings, statutes, rules, and legal analysis. Additionally, they include more sophisticated search options, such as Boolean searching, which enables users to look for particular words or phrases within a document or collection of documents.[7]

Lawyers, legal researchers, and other legal professionals frequently use online legal databases to access and examine legal data for their cases, clients, or legal research projects. Businesses, governments, and other organisations frequently utilise them to keep abreast of legal developments and concerns that can have an impact on their operations or industry.

In general, online legal databases are essential for giving organisations and legal professionals access to the material they require to stay updated about legal changes and make educated judgements.[8]

## IV. Technological advancements in legal document management

A. Electronic document management systems (EDMS) are software programs that allow organizations to manage, store, and share electronic documents. These systems provide a central location for storing and organizing documents, making them easy to access and retrieve. They also provide tools for version control, security, and collaboration. This allows legal teams to easily

[6] Zantout, Hind, and Farhi Marir. "Document management systems from current capabilities towards intelligent information retrieval: an overview." *International Journal of Information Management* 19.6 (1999): 471-484.
[7] Brownsword, Roger, Eloise Scotford, and Karen Yeung, eds. *The Oxford handbook of law, regulation and technology*. Oxford University Press, 2017.
[8] Cockfield, Arthur J. "Towards a law and technology theory." *Man. LJ* 30 (2003): 383.

track changes to documents and keep them secure, while also allowing multiple team members to work on a document simultaneously.

B. Cloud-based document sharing allows legal teams to share documents with clients, partners, and other stakeholders easily and securely. By storing documents in the cloud, they can be accessed from anywhere and by anyone with the proper permissions. This eliminates the need for physical documents to be sent through the mail or delivered in person. It also allows for easy collaboration and real-time updates, which is essential for legal teams that work with multiple stakeholders.

C. Automated document assembly is a technology that uses templates and data to automatically generate legal documents. By using pre-defined templates, legal teams can quickly and easily create documents that are accurate and consistent. This can save time and reduce errors, as well as improve efficiency and productivity. Automated document assembly can also be integrated with other legal technology tools, such as e-signatures and workflow management systems, to further streamline the document creation process.[9]

## V. Impact on the legal profession

Technology advancements have had a significant impact on the legal profession in a number of ways. Some of the most notable impacts include:

1) Automation of legal tasks: Technology has enabled the automation of many legal tasks, such as document review, contract drafting, and e-discovery. This has led to increased efficiency and reduced costs for legal firms and businesses.

2) Online legal research: The internet has made it easier for lawyers to conduct legal research, access case law, and stay up-to-date on the latest legal developments. This has increased the speed and accuracy of legal research and decision-making.

3) Virtual legal services: Technology has made it possible for lawyers to provide legal services remotely, including through video conferencing and other online platforms. This has made legal services more accessible to clients in remote locations.

4) Legal analytics: Legal analytics software has become increasingly sophisticated, making it easier for lawyers to predict outcomes and identify patterns in legal cases. This has led to improved decision-making and strategic planning for legal firms.

5) Cybersecurity: As technology continues to advance, the legal profession has had to adapt to new cybersecurity threats. Lawyers are now responsible for protecting client data, and must be aware of the legal implications of data breaches.

[9] Simpson, Alan, Carolyn Miller, and Len Bowers. "Case management models and the care programme approach: how to make the CPA effective and credible." *Journal of Psychiatric and Mental Health Nursing* 10.4 (2003): 472-483.

Overall, technology advancements have led to increased efficiency, accessibility, and data-driven decision-making in the legal profession. However, it also poses new challenges, such as cybersecurity threats and the need for lawyers to stay up-to-date with new technology.[10]

## VI. Conclusion

In conclusion, the field of legal technology is one that is fast developing and has the potential to completely alter how legal services are provided. The legal sector is projected to experience major change in the upcoming years as a result of developments in artificial intelligence, blockchain, and smart contract technologies. Blockchain-based platforms will allow for secure and open legal transactions, and AI-powered legal research tools and virtual law firms will increase the efficiency and accessibility of legal services. Many legal procedures will be automated by smart contracts, negating the need for lawyers to get involved in clerical work. It is crucial to remember that these advancements will also provide difficulties, such as the need for legal experts to adjust to new technologies and the possibility of job loss due to growing automation. Overall, legal technology has a bright future, and it will be interesting to observe how these advancements affect the legal industry in the years to come.

[10] Hafner, Christoph A., and Christopher N. Candlin. "Corpus tools as an affordance to learning in professional legal education." *Journal of English for academic purposes* 6.4 (2007): 303-318.