The Digital Transformation of Law: Are We Prepared for Artificially Intelligent Legal Practice?

Larry Bridgesmith
Dr. Adel Elmessiry
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I. Introduction ....................................................................... 813
II. The Technology Enabled Collaboration Environment ...... 817
III. The Current State of AI in the Legal Field ...................... 819
   A. The practice of law is being transformed by AI .......... 819
   B. Legal academies are slow to adapt ......................... 821
IV. The Path Forward .............................................................. 822
V. Conclusion ......................................................................... 825

I. INTRODUCTION

We live in an instant access and on-demand world of information sharing. The global pandemic of 2020 accelerated the necessity of remote working and team collaboration. Work teams are exploring and utilizing the remote work platforms required to serve in place of stand-ups common in the agile workplace. Online tools are needed to provide visibility to the status of projects and the accountability necessary to ensure that tasks are completed on time and on budget. Digital transformation of organizational data is now the target of AI projects to provide enterprise transparency and predictive insights into the process of work.

This paper develops the relationship between AI, law, and the digital transformation sweeping every industry sector. There is legitimate concern about the degree to which many nascent issues involving emerging technology oppose human rights and wellbeing. However, lawyers will play a critical role in both the prosecution and defense of these rights. Equally, if not more so, lawyers will also be a
vibrant source of insight and guidance for the development of “ethical” AI in a proactive—not simply reactive—way.

As the face-to-face, on-site world of work transformed into one of remote working, virtual meetings, and advanced data analytics, legal teams were forced to quickly adopt the tools and techniques of online data sharing and virtual collaboration.

The courts were less responsive to the remote work environment. Access to justice by way of judicial relief almost ceased immediately after the pandemic hit. Courts closed and only gradually resorted to virtual meeting technology to conduct some elements of their business. Jury trials, the foundation of American justice, were delayed for many months creating enormous backlogs in U.S. courts for the remainder of 2020.1 Although hopeful voices are heard, justice dispensed through the courts remains inertia-bound in its traditions.2

Legal educators were compelled to adopt remote learning protocols or shut down entirely. The latter was not an option. Academics unfamiliar with Zoom before March 2020 found it was their new classroom. Converting onsite legal education into remote learning proved to be less than satisfactory to both professors of law and their students. One of the authors teaches at three law schools and one graduate business school. His experience revealed that professors were ill-prepared to easily embrace remotely-delivered, graduate-level education.3

The ‘Zooming’ of remote work was fast and furious in 2020. The global pandemic radically transformed business as usual in virtually every sector of the economy. Telehealth services exploded in number as contagion threatened even the customary physical visit in healthcare. Between March 2019 and March 2020, remote healthcare consultations increased 4,347% in the United States.4 Depending on the state or locality, non-essential services halted and face-to-face encounters were viewed as life-threatening. Zoom meetings zoomed from ten million per

3. One of the authors had been teaching law courses exclusively online at Arizona State University’s Sandra Day O’Connor School of Law for four years prior to 2020.
day in December 2019 to 300 million per day in April 2020. On
January 2, 2020, Zoom traded its stock at $68.72: on August, 21 2020,
shares were trading at $289.68—a micro-indicator of the impact of
COVID-19 on business as usual.

Most office work transitioned to the work-from-home model
practically overnight. Some businesses reported as many as 85% of their
employees exclusively working from home. The transition to a virtual
economy, workforce, and even social world will survive the pandemic. It
is projected that as much as 20% of the workforce will permanently and
exclusively work from home, including at least 50% of those employees
whose work will allow it.

An unexpected consequence of the 2020 global pandemic has been
the exponential increase of digital data generated daily by the explosion
of remote worker reliance on technology tools hosted in the cloud. The
legal sector is no different from any other sector in this respect.

As the growth of digital data transforms technology and its
commercial uses, it will also serve to transform the economy, social
norms, and legal relationships:

Now, we are predicting the fastest, deepest, most consequential
technological disruption in history and with it, a moment civilization
has never encountered before. In the next 10 years, key technologies
will converge to completely disrupt the five foundational sectors—
information, energy, food, transportation, and materials—that underpin
our global economy, and with them every major industry in the world
today. Costs will fall by 10 times or more, while production processes

5. Tom Warren, Zoom Grows to 300 Million Meeting Participants Despite Security
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become an order of magnitude (10x) more efficient, using 90% fewer natural resources and producing 10 times to 100 times less waste.

These technological disruptions are turning the prevailing extraction and exploitation, scarcity and central control model of production on its head, driving a new model of localized creation from limitless, ubiquitous building blocks—a world built not on coal, oil, steel, livestock, and concrete, but on photons, electrons, DNA, molecules and (q)bits.10

The digital transformation will modify how most industry sectors, including the practice of law and the education of lawyers, evolve. Although not without significant challenges, technological advances will alter the nature of justice and education and how they are delivered.11

The growth of digital data invites the advanced development of AI technology designed to convert huge troves of binary digits into economic value and efficiency. Digital data has been termed 'the new oil': deep underground and inaccessible to most.12 The treasures to be found in this resource require refining and distribution to the consumer. The complex intersection of international laws is a key example of a use case for AI applications that would fundamentally disrupt traditional legal practices and the role of legal professionals.13

As the delivery of legal services radically evolves through digital transformation, legal professionals and academics must keep pace in terms of the nature, efficiency, and cost-effectiveness of the services they provide. The next generation of communication technology has been unveiled by the pandemic and the rush to remote working.14

Our world also is one which is in a desperate search for justice. Charles Dickens’s A Tale of Two Cities is the terrifying story of what happens to individuals, communities, and nations when injustice reigns.

It is a story of extremes and of the havoc wreaked by such extremes, as the famous opening lines suggest:

It was the best of times, it was the worst of times, it was the age of wisdom, it was the age of foolishness, it was the epoch of belief, it was the epoch of incredulity, it was the season of Light, it was the season of Darkness, it was the spring of hope, it was the winter of despair, we had everything before us, we had nothing before us, we were all going direct to Heaven, we were all going direct the other way . . . . 15

Many decades later, technology has accelerated commerce, social interaction, and a perception of injustice that might exceed the era—the French Revolution—about which Dickens wrote. Can technology advances also serve the interests of justice and help avoid civil unrest? Can AI-driven dispute resolution bring both efficient conflict management as well as address the deeper needs of justice in a technology-driven culture? These are essential questions for the legal community, including those who train and educate lawyers.

In order to preserve legal frameworks without losing the high ground of principled rule making, standard setting, and practical application, prompt action is required. Legal practitioners as well as legal academics must coalesce to present a united front to persuade their constituents (clients, students, and others looking to them for guidance) that AI will serve to safeguard human legal rights, responsibilities, and remedies.

This paper will provide a roadmap to that destination.

II. THE TECHNOLOGY ENABLED COLLABORATION ENVIRONMENT

The 2020 pandemic mobilized the primary client source for lawyers—the corporate in-house legal department. In the post-pandemic economy, more than 80 global in-house legal and compliance officers described their number one operational goal using the terms “digital transformation,” “technology strategy,” and “automation.” 16 Specifically, through digital transformation these corporate legal leaders seek to achieve higher-value work and increased efficiency by:

• lessening time spent on lower-value tasks, allowing teams to focus on high-value-add missions;

streamlining organic productivity of what will be an increasingly remote workforce;
• driving organizational efficiency and productivity; and
• enabling better risk assessment and mitigation through IT/data analytics.  

In-house legal departments are far more focused on collaboration and the technology tools that facilitate it than their outside counsel counterparts. The COVID-19 surge for in-house counsel was 305%, compared to 43% for outside counsel. In a buyers’ market, client expectations cannot be ignored. LPM practitioners will be well served to incorporate the digital transformation goals of the corporate clients they seek to serve in order to maximize their value in the legal services ecosystem.

The Gartner Hype Cycle is an annual in-depth analysis of technology trends and its potential to impact the industries they serve. Legal technologies are analyzed in terms of their present ability to impact the legal industry. In developing technology applications, hype usually precedes practicality in terms of consumer usefulness.

While many legal technology applications have yet to fulfill their promise, Gartner identifies the four emerging trends which are beginning to meet the needs of the legal industry in 2020 as found on the “slope of enlightenment” and the “plateau of productivity.” They include:
• enterprise legal management (various integrated legaltech applications chosen to strategically meet the needs of the business);
• subject rights requests (user agreements which approve data usage);
• predictive analysis (AI applications using business data to anticipate risks and opportunities); and

17. Id.
19. Id.
21. Id.
• process automation (control dashboard for which scripts can be written to automate routine, repetitive, rule-based, predictable tasks). 22

The practice of law and the education of lawyers can ill-afford to be disengaged from the digital transformation of everything.

III. The Current State of AI in the Legal Field

In order to gauge the degree to which legal practitioners and academics are prepared to assist in maintaining a balanced view and usage of AI, greater understanding and participation in the global debate about “ethical AI” is essential. As primary participants in the search for “liberty and justice for all,” we must increase our involvement in all things related to AI as the pervasive ecosystem of human existence going forward.

Legal practitioners and academics may have different expectations and experiences concerning AI and the law. The fact remains that they both are critical players in the movement toward ethical and transformative AI development.

A. The practice of law is being transformed by AI.

It is not surprising that the digital transformation being adopted by businesses is already impacting the practice of law. The pandemic in combination with emerging technology development has delivered a “one two punch to the profession that will inevitably transform and reshape it in ways that would not have been thought possible years ago.” 23 Although the pandemic has increased the use of technology in the legal field, new ethical concerns are present as a result.

AI and its impact on the legal profession raise ethical concerns requiring lawyer knowledge, use, and counsel to conform to Codes of Professional Responsibility. Specifically, comment 8 to Rule 1.1, which was added in 2012, expands on the concept of competent representation in light of technological advancements in the legal field. Comment 8 states:

To maintain the requisite knowledge and skill, a lawyer should keep abreast of changes in the law and its practice, including the benefits and risks associated with relevant technology, engage in continuing

22. Id.
study and education and comply with all continuing legal education requirements to which the lawyer is subject.\textsuperscript{24}

Globally, and no less in the U.S., access to justice is decreasing, rather than expanding. The definition of access to justice according to the United Nations is “a basic principle of the rule of law.” The United Nations further explains, “In the absence of access to justice, people are unable to have their voice heard, exercise their rights, challenge discrimination or hold decision-makers accountable.”\textsuperscript{25} Furthermore, in the U.S. the Legal Services Corporation in 2017 determined that, ‘86% of the civil legal problems reported by low-income Americans in the past year received inadequate or no legal help.’ Moreover, the Legal Services Corporation found that the majority—around eighty-five to ninety-seven percent—of civil legal problems not fully addressed was due to a lack of available resources.\textsuperscript{26}

However, a nexus between the world of Legal Aid and advances in AI applications are not antithetical. The increased use of AI in the legal field can act as a means to improve compliance with Ethical Rule 1.1 and to solve the issues discovered in the Legal Services Corporation’s 2017 study. Specifically, AI applications in the practice of law can, 1) increase individual resort to self-help applications such as online dispute resolution and legal “bots” that guide a person through legal processes, and 2) “by allowing lawyers to work more efficiently, allowing them to serve more clients” in less time and at less cost.\textsuperscript{27} However, the ethical paradox in the use of AI in legal services is that lawyers cannot accept AI legal constructs without oversight and validation. Nor can AI substitute for human legal counsel and judgment.\textsuperscript{28} Either outcome could arguably constitute the failure of a lawyer to properly supervise legal services provided under their professional responsibility or the unauthorized practice of law.\textsuperscript{29} Not all commentators on the state of the legal profession facing technological disruption are “the sky is falling” alarmists. Increasingly, observers are finding more reasons for lawyers to improve their value as legal advisors. Rather than being fearful of an

\begin{thebibliography}{99}
\bibitem{Id.} Id. at 885.
\bibitem{Id.} Id. at 886.
\bibitem{Id.} Id. at 886–87.
\bibitem{Id.} Id. at 889.
\bibitem{Id.} Id.
\end{thebibliography}
autonomous machine takeover, lawyers who will help manage this transformation will find a payday in its success.

In a tech-driven world, lawyers must strive to stay relevant and technologically competent. Understanding even the rudimentary aspects of computers and smartphones allows lawyers to relate to their clients. More importantly, such knowledge allows a lawyer to respond to a client’s legal issues sensibly, imbued with a nuanced comprehension of how their problems arose. In order to uphold their obligation to clients, lawyers have to accept that traditional legal solutions may no longer cut it in today’s high-tech environment.30

The apparent practical, ethical, and economic issues assumed by the growth of AI in the legal profession, beg the question: where will they learn to thrive in the digitally transformed world?

Legal academics can step up to a higher level of learning and instruction if they can discard their disregard for practical education. Greater relevance to the profession they seek to develop and much-desired revenue enhancement for their institutions will be the result of bridging the practical and theoretical work of practitioners and academics.

B. Legal academies are slow to adapt.

Although AI has the potential to improve the legal field, legal academies are slow to adapt to the changing technology. It is axiomatic that:

Education is at the center of the future of the legal profession. There is pressure to provide an education to law school students which will make them competitive in the legal market. Law schools need to embrace the increased presence of AI as research tools in the legal profession and adjust their curriculum accordingly. Legal educators are aware of the impact of AI on the legal profession, but in general, the coursework students need is still in the developmental stages.31

The call to arms for preparing “practice-ready” attorneys has plagued the law school ethos for many years. It will only increase in volume as the digital transformation sweeps across the landscape of law, society, and commerce in unimaginable ways and in an exponential fashion. As one commentator noted:

Law schools need to provide educational classes on specific technologies and software which complement the practice of law, e.g., expose students to the basics of what constitutes artificial intelligence. What is the difference between general AI and domain-specific AI? How can AI machines think, act, and behave? How does cognitive computing interact with humans; how does AI continually learn and improve with the introduction of expanding or new data sets? What is an algorithm, a chatbot, a robo-advisor?  

Beyond the impact of AI applications in the practice of law, lawyers will play a pivotal role in determining, protecting from, and establishing the limits of AI to create pernicious outcomes for humans. To prevent algorithmic bias or the impact of biased data, lawyers must be conversant with the language and basic functional aspects of AI development.

Similar to teaching students to question the motives and testimony of a criminal informant, students should be taught to question the data produced by an AI program and avoid over-reliance on technology alone. Unfortunately, there are downsides to AI technology. Algorithmic biases associated with such technology (e.g., machines are programmed by fallible human beings) can reinforce attorney biases. Students need to learn to question the data they receive when utilizing such programs and interpret the data with a somewhat cynical/skeptical eye.

Moreover, overly broad tasks asked of AI programs can result in inaccuracies. Such operations need review and significant human oversight. Law students need to be aware of their role as supervisors/overseers of such programs and their output.

Perhaps this is the role that the legal academy can play which is most pressing today. Preparing law students and attorneys to assume a vital role in the creation of “Ethical AI” standards and regulations will require a massive retraining of those currently practicing and a re-engineering of the law school experience.

IV. THE PATH FORWARD

Academics are engaged in educating the human population regarding the risks and opportunities of AI. Most of the academics

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33. Id. at 484.
focused on “Ethical AI” tend to be engineering or public policy professors. However, the more multidisciplinary these coalitions become, the more effective they can be. The pervasive impact of digital transformation necessitates a more broadly constructed approach to addressing these issues. Law, medicine, pharmacology, engineering, architecture, literature, philosophy, psychology, and neuroscience are but a few of the areas of expertise needed to create collaborative initiatives to deal with the wide-ranging impact of AI on all the world’s citizens and organizations.

For example, the Institute of Electrical Electronic Engineers (IEEE) has dedicated much of its resources to developing a foundation for establishing standards for Ethical AI. The IEEE established a Global Initiative on Ethics of Autonomous and Intelligent Systems. Its mission is “[t]o ensure every stakeholder involved in the design and development of autonomous and intelligent systems is educated, trained, and empowered to prioritize ethical considerations so that these technologies are advanced for the benefit of humanity.”

Among the committees created to further this mission on behalf of the IEEE and the global population is its Education Committee. The group is comprised of educators and professors from multiple professional disciplines including engineering, education, law, philosophy, and public policy. Issues such as data privacy, data ownership, bias, and verification are matters every profession, business, and individual needs to know more about in order to avoid exploitation and ensure AI applications are as beneficial as possible. The means to audit and brand AI applications as trustworthy cannot be left to those whose economic benefit is derived from the data generated and its value on an open market. Like standards for unleaded gasoline and regulatory enforcement, AI must be subject to similar constraints that further its value and limit its potential for harm.

35. Id.
36. Id. (noting One of the authors is a member of this IEEE committee).
The European Union has recently published the results of its research and recommendations for the development of Ethical AI. Nine principles were pronounced as the foundations of Artificial Intelligence:

- **Human Dignity**: AI deployers should inform individuals that they are interacting with an AI system whenever confusion may arise, and individuals should be granted the right to refuse interaction with an AI system whenever this can adversely impact human dignity.

- **Prevention of Harm to Human Rights, Democracy, and the Rule of Law**: AI systems should be developed and used in a sustainable manner, and AI developers and deployers should take adequate measures to minimise any physical or mental harm to individuals, society and the environment.

- **Human Freedom and Human Autonomy**: Individuals should have the right to effectively contest and challenge decisions informed or made by an AI system and the right to decide freely to be excluded from AI-enabled manipulation, individualised profiling, and predictions.

- **Non-Discrimination, Gender Equality, Fairness and Diversity**: Member States should impose requirements to effectively counter the potential discriminatory effects of AI systems deployed by both the public and private sectors, and to protect individuals from their negative consequences.

- **Principle of Transparency and Explainability of AI Systems**: Individuals should have the right to a meaningful explanation of how an AI system functions, what optimisation logic it follows, what type of data it uses, and how it affects one’s interests, whenever it generates legal effects or has similar impacts on individuals’ lives. The explanation should be tailored to the particular context, and should be provided in a manner that is useful and comprehensible for an individual.

- **Data Protection and the Right to Privacy**: Member States should take particular measures to effectively protect...
individuals from AI-driven surveillance, including remote biometric recognition technology and AI-enabled tracking technology, as this is not compatible with the Council of Europe’s standards on human rights, democracy and the rule of law.

- **Accountability and Responsibility**: Developers and deployers of AI should identify, document, and report on potential negative impacts of AI systems on human rights, democracy and the rule of law, and put in place adequate mitigation measures to ensure responsibility and accountability for any harm caused. Member States should ensure that public authorities are able to audit AI systems, including those used by private actors.

- **Democracy**: Member States should take adequate measures to counter the use or misuse of AI systems for unlawful interference in electoral processes, for personalised political targeting without adequate transparency mechanisms, and more generally for shaping voters’ political behaviours and manipulating public opinion.

- **Rule of Law**: Member States should ensure that AI systems used in justice and law enforcement are in line with the essential requirements of the right to a fair trial. They should pay due regard to the need to ensure the quality, explainability, and security of judicial decisions and data, as well as the transparency, impartiality, and fairness of data processing methods.39

Which of those principles is unaffected by a legal framework? Lawyers and legal academics must participate in these ground-breaking initiatives. The legal academy must be the fertile ground in which research, writing, teaching, and exploration of the parameters of AI. It cannot be done alone in the silo of law. It must be deployed across multiple professional disciplines and in collaboration with them.

V. CONCLUSION

All is not without hope. The time to react and prevent damage to the legal framework of the world’s justice systems is not lost. In an exponential age, an exponential response is not unheard of. That is not to suggest that the train is not already in motion. However, anyone on the

39. *Id.*
platform must grasp the door handle and jump aboard promptly before the station is in the rear-view mirror.

Waiting to engage in standard-setting, regulatory reform, or even litigation of the issues generated by emerging technologies is inadequate. Lawyers must move their engagement in these pressing matters “further upstream.” Constructing a “smart-contract,” digital execution agreement places the lawyer at the forefront of change. Those who join forces with standard-setting organizations and lead in educating law students and practicing lawyers will address a vital absence in today’s legal tech and digital transformative moment.

This is no time to observe passively. The time to engage is now.