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The Future of Law and Computational Technologies: Two Sides of the Same Coin

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The rapid advancement of artificial intelligence ("AI") introduces opportunities to improve legal processes and facilitate social progress. At the same time, AI presents an original set of inherent risks and potential harms. From a Law and Computational Technologies perspective, these circumstances can be broadly separated into two categories. First, we can consider the ethics, regulations, and laws that apply to technology. Second, we can consider the use of technology to improve the delivery of legal services, justice systems, and the law itself. Each category presents an unprecedented opportunity to use significant technological advancements to preserve and expand the rule of law.

The deployment of AI raises many interesting questions about the application of existing law and regulation. AI also presents an opportunity to improve our existing approaches to fundamental principles of justice, including the ways that we approach fairness, accountability, and transparency. Computational technologies offer the distinctive capability to embed law, regulations, respect for human rights, and democratic principles directly into processes, products, systems, and platforms by design and default. Equipped with this knowledge, our mission ought to be to use law and regulation to guide the development, deployment, and maintenance of AI toward improving society, without unnecessarily impeding innovation.

Technology has also demonstrated the potential to revolutionize legal-services delivery, thus improving access to law and legal services for everyone. In the United States, estimates are that more than 80% of the impoverished, and more than 50% of the middle class, lack access to legal services, according to findings from the Legal Services Corporation and cited in Access to Information, Technology, and Justice: A Critical Intersection. Even the legal needs of businesses can go unmet. Computational technologies hold great promise to automate the delivery of various legal services for this wide spectrum of recipients. For basic legal needs, access to legal services might come in the form of smartphones or other devices that are capable of providing users with an inventory of their legal rights and obligations, as well as providing insights and solutions to common legal problems. Better yet, AI and pattern matching technologies can help catalyze the development of proactive approaches to identify potential legal problems and prevent them from arising, or at least mitigate their risk.

As legal technologies advance, savvy lawyers will use them to augment their services. Innovative lawyers will embrace emerging technologies as a way to replace low value, repetitive tasks with increased efficiency, reduced costs, and greater value for their clients. By doing so, lawyers can also aim to play increasingly important roles as part of interdisciplinary teams that focus on solving some of society's most "wicked problems." One obvious area in which lawyers can begin to demonstrate this value is through updating laws, regulations, and governance frameworks for new technologies and our rapidly emerging digital society.

But history shows that innovation in the delivery of legal services has been slow. The lack of innovation in legal-services delivery stems, at least in part, from regulations that prohibit lawyers from sharing fees with, and receiving investment from, anyone who is not a lawyer. The practical result of this is that lawyers and technologists rarely collaborate on legal services delivery projects.

But change is underway. Today's sophisticated legal-services clients demand demonstrable efficiency, quality, and better outcomes. An increasing number of lawyers work strategically with allied professionals to improve processes, better manage projects, embrace data-driven methods, and leverage technology to improve legal services and systems. Basic technologies and AI are slowly making their way into the legal industry, from legal aid organizations and courts to large law firms, corporate legal departments, and governments. Recognizing the failure of the existing legal market to produce adequate access to legal services, jurisdictions such as the United Kingdom have loosened legal-services and lawyer regulation. Likewise, several U.S. states, including California, Utah, and Arizona, have undertaken regulatory reform efforts.

We risk squandering abundant opportunities to improve society with computational technologies if we fail to proactively create frameworks to embed ethics, regulation, and law into our processes by design and default. Law, regulation, and ethical principles must be front and center at every stage, from problem definition, design, data collection, and data cleaning, to training, deploying, monitoring, and maintaining products, platforms, and systems.

In a fast-moving, digital world, law must exist closer to the action. Does a world in which "code is law" require law written in code? We shortchange our future when we fail to envision the possibilities. We must establish audacious goals and commit to overcoming the obstacles to achieve them.

To move forward, technologists and lawyers must radically expand current notions of interdisciplinary collaboration. Lawyers must learn about technology, and technologists must learn about the law. They must work together to develop a shared vocabulary. Multidisciplinary teams with a shared commitment to law, regulation, and ethics can begin to proactively address today's AI challenges, and advance our collaborative problem-solving capabilities to address tomorrow's increasingly complex problems. Lawyers and technologists must work together to create a better future for everyone.

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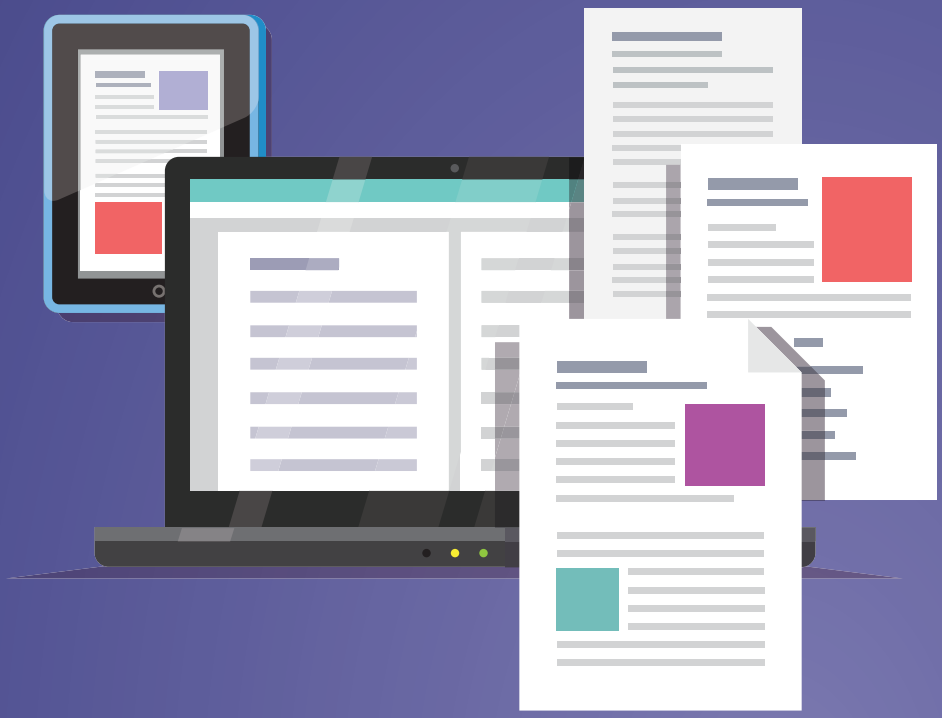
Interested in learning more about Dan's work?

Here are links to his profile at Northwestern University, his research efforts to build a Legal Services Innovation Index and his blog, LegalTech Lever. If you want to connect, Dan's also on Twitter @DanLinna and LinkedIn.



Leveraging Technology to Improve Legal Services

A Framework for Lawyers

By Daniel W. Linna Jr.

Technology will revolutionize the delivery of legal services. In fact, it had better. Let's face it: the current legal-service delivery model needs updating. Experts estimate that about 80 percent of the impoverished and more than half of the middle class lack access to legal services.[1] Small businesses and startups often go without legal services. Even large companies say they do not get what they need from their lawyers.

Technology can help lawyers solve these problems, but it is not a silver bullet. Lawyers need to do more than subscribe to a suite of the latest apps. In fact, they should not start with technology. Instead, lawyers should carefully examine their business models and commit to a course of sustained innovation, improvement, and development of better legal-service delivery models.

People, process, and technology

The legal industry is evolving rapidly—from legal aid and the consumer legal market to complex work in corporate legal departments and large law firms. The pace of change will continue to accelerate. For practicing lawyers, it may feel overwhelming, particularly when combined with the growing hype about artificial intelligence and automation. But practitioners, academics, and prospective and current law students must understand where the future lies for the legal industry. To guide that thinking, it is useful to analyze legal services through a framework commonly used to evaluate other industries: people, process, and technology.

People—almost exclusively lawyers—drive the traditional legal-service delivery model. Under the traditional conception,

lawyers produce value and mostly view others as overhead. But there remains great potential for others to contribute value for clients when delivering legal services. Many point to the healthcare industry to illustrate appropriate industry diversification and specialization. For example, trained phlebotomists, not doctors, draw blood. With this in mind, Washington State introduced (and other states continue to explore) limited license legal technicians[2]—legal professionals restricted to practicing within particular subject matters and tasks.[3] Change like this has only begun. As the legal industry evolves, lawyers must embrace opportunities to enlist not only legal specialists but also other professionals such as project managers, technologists, and data scientists.

As for process and technology, lawyers at all levels have largely ignored these disciplines. Lawyers and legal services organizations seldom think beyond substantive legal expertise when offering their services. Law firms, for example, tend to emphasize to clients that they have the best lawyers. Clients, on the other hand, do not view expertise as a differentiating factor for the majority of the legal work they procure. They believe that many lawyers possess sufficient expertise to handle the vast majority of their legal problems. Further, clients want law firms who understand them and their businesses and who deliver excellent results with efficiency and quality improving over time.

Satisfying these clients requires attention to process improvement and technology. Given the current state of the industry, lawyers at all levels have great opportunities to differentiate themselves from competitors by demonstrating their ability to increase the efficiency and quality of their services through improved processes and technology.[4]

Technological competencies

To improve legal-service delivery, all lawyers must improve their technology knowledge and usage. I have placed technology for lawyers into five categories: competency, personal document and information management, business operations, data analytics, and automation.

Competency

Lawyers have a professional obligation to deliver legal services competently, which includes technological competency.[5] To fulfill this obligation, lawyers must understand metadata, cybersecurity, and e-discovery, to name just a few technology topics.

Personal document and information management

Most lawyers spend the majority of their time drafting e-mails and documents. Yet too many lawyers use computers as little more than elaborate typewriters. For example, lawyers should know how to use styles and dynamic cross-references in Microsoft Word, create PDFs with bookmarks and hyperlinks, and analyze data and create charts and graphs in Microsoft Excel.

FAST FACT

Experts estimate that approximately 80 percent of the impoverished and more than half of the middle class lack access to legal services.

Lawyers must make greater use of document automation tools rather than using old documents as precedents and relying on the find-and-replace command. Competency with document and information management tools helps lawyers improve efficiency and quality. It also paves the way for better organizational knowledge management.

Business operations

Lawyers have many options when it comes to back-office technology, case management systems, and other tools to help them run their practices. For example, e-mail is a terrible medium for managing projects, including communicating about projects. Yet most lawyers spend the bulk of their time working from their inboxes, which results in time wasted searching for information and documents. Lawyers must embrace new platforms that foster project management, collaboration, and better communication.

Data analytics

Lawyers can use data to improve both legal-service delivery efficiency and quality, which includes improved substantive outcomes. While "big data" tends to dominate this discussion, lawyers should start by establishing metrics, capturing "small data," and creating a data-driven decision-making culture. Small data opportunities include systematically capturing information about matters that help lawyers improve fee

and outcome predictions. Lawyers frequently make these predictions for their clients. Seldom, however, do we keep score and assess how lawyers can improve future predictions through data collection and analysis. Lawyers must have a basic level of competence in this arena to spot opportunities to collect the right data, use external data sources, and engage other experts, such as data scientists.

Automation

Today's technology is sufficient to automate tasks performed by lawyers. Thus, any claim that artificial intelligence cannot replace lawyers is demonstrably false. Perhaps the finer point some want to make is that technologists are decades from creating conscious machines. But today's expert systems and artificial intelligence—largely machine learning—can be used to automate many tasks currently performed by lawyers, and that list will grow over time.

Expert systems can be described as "Turbo Tax for law." Legal aid organizations such as Michigan Help Online[6] and Illinois Legal Aid Online[7] use expert systems with document automation to help people solve basic legal problems. Law firms and legal departments use tools like Neota Logic[8] and ThinkSmart[9] to automate tasks, manage knowledge, and guide users to solutions. Lawyers should not only consider how expert systems can solve end users' problems, but also how to use them to capture senior lawyers' knowledge for use by junior lawyers.

Machine learning and other branches of artificial intelligence have far-reaching potential for automating higher-level lawyer tasks. Machine learning is the technology behind the technology-assisted review of documents. As proven in studies, technology-assisted review outperforms humans when reviewing and classifying documents as relevant or not relevant.[10] This same technology works well in corporate diligence and has great potential for corporate compliance. The technology in this space has already gone well beyond merely categorizing documents as relevant or not. For example, given a large corpus of documents, it can help lawyers identify specific information such as parties, particular types of clauses, potential liabilities, and much more. This technology has advanced well beyond these tasks in other industries. Many aim to bring these advances to the legal industry.

Disaggregation of legal matters

Clients' disaggregation of legal matters is driving innovation and the automation of legal tasks. Traditionally, clients engaged counsel to handle complete legal matters. The lawyer handled everything, sought client input when appropriate, and billed the client for the work.

Today, corporate legal departments disaggregate many legal matters—breaking each matter into discrete tasks. For each task, the client decides whether to do the work internally, engage a law firm or legal-service provider, outsource, or automate with technology. As clients carefully examine legal-service delivery processes, they identify discrete tasks that lawyers do not need to perform. This attention to process also reveals many opportunities to improve efficiency and quality.

Consumer clients engage in a similar calculus, unbundling legal matters to identify tasks they will do themselves and tasks for which they will hire a lawyer. Consumer clients have a vast amount of information available to engage in self-help, including tools provided by legal aid organizations and an increasing number of companies. Those who see unbundling as a threat will find it increasingly difficult to compete with legal startups.

Process improvement—standard work and best practices

Some studies of the legal industry have concluded that automation will have a modest impact because lawyers' work is largely unstructured.[11] But why is so much legal work unstructured? The answer is not that it is too complex for standards and best practices. For the vast majority of legal work, it is only because lawyers as a group have not expended much, if any, effort to structure their work.

The legal industry lacks standards and best practices for much of what lawyers do. Lawyers within the same department of a law firm ordinarily take differing approaches to identical legal issues. Even a given lawyer often lacks consistency on the same task, without any rationale.

Richard Susskind discusses a continuum of legal work, from bespoke to commoditized.[12] Lawyers do a lot of bespoke work—custom, ad hoc work, reinventing the wheel repeatedly. This lack of process control and variance causes inefficiency and quality problems. Lawyers can develop best practices and standards for their work and move along this continuum from bespoke to standardized, systematized, packaged, and, for some subset of tasks, commoditized.

While some fear that improved processes and technology will lead to fewer lawyers, the failure of lawyers to improve their services and provide value to clients is the greater existential threat. By embracing these disciplines, lawyers can create the capacity to focus on solving complex problems, which are not in short supply in our global economy.

Lawyers and law firms can start by using process improvement disciplines like "lean thinking" to develop best practices and standards for their work.[13] Lean thinking—developed by Toyota and deeply embedded in the automotive industry—is relatively new in the legal industry but commonly employed for other knowledge work, such as in the medical industry.[14] Lean thinking focuses on eliminating waste, improving quality, and delivering the greatest value possible to clients. It is a

client-centric approach. The client's definition of value drives the process.

Lean thinking engages everyone involved in the delivery of services. In an organization, for example, lawyers, paralegals, administrators, technologists, project managers, and others involved should gather to create a "process map" of the service delivery. Lawyers should include their clients and frequently seek feedback. Identify tasks that do not provide value to the client—eliminate them; they are waste. Move value-producing tasks to earlier in the process, when possible. These initial steps will quickly reveal significant low-hanging fruit.

While legal innovation and process improvement initiatives will likely produce early returns, they are not quick fixes. Long-term success requires leadership and attention to change management. Organizations must commit to developing a culture that values lean thinking, continuous improvement, and innovation from bottom to top. As organizations mature through process improvement and innovation, best practices and standards will emerge. Improved process and project management frees lawyers from the drudgery of routinized work and exhaustion of chaotic "firefighting," allowing lawyers to focus on solving challenging problems and delivering greater value to clients.

Take action now

New entrants in the legal services marketplace will continue to exert pressure on lawyers. There is no time for complacency. Lawyers must develop new business models[15] that leverage not only substantive legal expertise, but also the expertise of other professionals, process improvement, and technology. If lawyers do not respond to today's challenges, then we risk irrelevance.

When many lack access to legal services and question our justice systems, one could ask whether lawyers are already irrelevant for most people. There is a better story. Lawyers today and in the future have much to offer around the globe. Let's embrace today's challenges and forge a new path for our profession. ■

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Evaluating Artificial Intelligence for Law

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