Running with the Machines: Artificial Intelligence in the Practice of Law

By Sharon D. Nelson, Esq. and John W. Simek © 2017 Sensei Enterprises, Inc.

Setting the Stage

Back in 2015, we wrote an article entitled "How Will Watson's Children Impact the Future of Law Practice?" A lot has happened in two years! The children of Watson and other Artificial Intelligence (AI) technologies continue to spawn at an ever-accelerating rate.

Only recently has genuine real-world usage of AI in law firms begun to flourish. Amid the initial hype, about 5 percent of what was ballyhooed as AI, in our judgment, was not. Even today, there is an astonishing amount of hype—everyone wants to say they've boarded the AI train. A fascinating article from InfoWorld was published entitled, "Artificially Inflated: It's Time to call BS on AI." Although great "clickbait", we think the title overstates the case. The peaks and troughs of AI are well documented, and as we are now at a peak, the hype factor gets greater, while the reality (often very good) is lost in the noise of the hype.

As large firms, which certainly need to be at the forefront of innovation, begin to invest considerable sums in AI, the landscape is changing. Large law firms simply cannot afford—for monetary and brand reasons—to be

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left behind. Clients will begin to see the efficiencies of AI and its extraordinary possibilities wherever AI may be found. AI will be a honeypot to clients seeking those efficiencies and possibilities.

A brief note: An article of this length cannot adequately address all the players in the legal AI market and what they can do. We call out a few names simply because we've run into these companies through colleagues or our reading.

Fear of "Robot" Lawyers

There is no shortage of lawyers who fear they will be replaced by AI. Those who sell AI have come, in the last two years, to realize that it is hard to sell a product that people fear will compete for their jobs. Thus, we have seen marketing morphing. Ross Intelligence, once called "The Superintelligent Lawyer" on the Web site, is now referred to as "an artificially intelligent system that gets smarter each day to advance your legal career." Now that is a major change in tone! There's even a video which shows how Todd, "an exceptional lawyer" is originally afraid of ROSS taking his job and is stuck in the mundane and repetitive task of legal research but then comes to see ROSS as freeing him to spend time focusing on his clients rather than legal research.

So that is why we named this article "Running with the Machines"—we are indeed going to have to find a

Artificial Intelligence

way to coexist with AI. This may take the form of new jobs made possible with AI or new ways of doing our jobs. No matter what the vendor marketing says, it is clear that jobs will be lost—and it is probably a fool's mission at this point to predict how many. What we can predict is that a large amount of legal work which lends itself to automation will indeed be automated precisely as predicted by British futurist Richard Susskind.

On the plus side, AI will be beset by all sorts of problems—especially AI devices connected to the Internet of Things, replete with the kinds of vulnerabilities that are already well documented. That will foster more litigation, without a doubt. Will the machines need competent trainers? Of course. Will such things constitute a silver lining to an ominous cloud? Maybe. There will still be many jobs on the chopping block.

In December of 2016, we learned that 5 percent of Accenture's workforce is no longer human. At Accenture, that percentage equates to 20,000 full-time-equivalent positions. Accenture describes itself as a leading global professional services company providing a range of strategy, consulting, digital, technology & operations services, and solutions. That kind of work sounds very much like the kind of professional services offered by lawyers.

Scholars Dana Remus and Frank Levy have suggested that AI will have a "moderate" effect on areas such as legal research, drafting, and due diligence, which one study puts at 40 percent of legal work. In many areas of law, only a "light" impact is anticipated—at least in the short term. Not sure we see it that way, but for the sake of balance, it's worth citing another view.

More accurate, as we see it, is the conclusion of a Deloitte insight report released in 2016 which said that "profound reforms" will occur in the legal sector over the next decade, estimating that nearly 40 percent of jobs in the legal sector could be automated.

Understanding AI

Amid so many resources on AI, the Defense Advanced Research Projects Agency (DARPA) has a pretty good handle on what constitutes AI. There are three AI phases broadly defined as:

1) Handcrafted Knowledge (many systems have this). These systems can't really learn and handle uncertainty poorly—they can only enable reasoning over narrowly defined problems. The early self-driving cars were in this category, unable to distinguish a shadow from a rock in desert driving, not knowing where to drive to be safe. Most cybersecurity applications fit here—they can study computer code, compare it to known vulnerabilities and fix it, but that's all;

2) Statistical Learning (such as Kira Systems, Watson (and ROSS), Lex Machina). These applications are trained on big data. They perceive the natural world, they may have facial recognition, and they learn from data sets. Their reasoning intelligence and abstracting capacities are still limited. They are best at classifying data and predicting consequences from it. They are statically impressive but in individual cases, often unreliable. Note that it took less than 23 hours in March of 2016 for Twitter to corrupt Tay, a bot devised by Microsoft for what the company described as an experiment in "conversational understanding." Microsoft said the more you chat with Tay, the smarter it gets, learning to engage people through conversation. Tay, however, was bombarded with racist, misogynistic remarks—and Tay began to respond in kind. Microsoft pulled it in less than 24 hours.

3) Contextual Adaptation (we're not there yet). These systems will construct explanatory contextual models to explain, for instance, why they made a decision that a cat was a cat. Sounds simple enough, but the reality is very complex. These systems will also reason and learn in a much more human-like way.

If you find all this fascinating, as we do, watch this 16-minute video to learn more: *https://www.youtube.com/watch?v=-O01G3tSYpU.*

Where Legal AI Is Today

Michael Mills, the co-founder and Chief Strategy Officer of Neota Logic, regularly updates a graphic which shows the current state of AI in the legal industry. He identifies players in the following areas of law: E-discovery, Contract Analytics, Prediction, Legal Research, Expertise Automation.

There are roughly 60 companies focused in the legal sector which Michael believes qualify as using AI.

So . . . what can AI actually do? We talked to Mark Tamminga, the partner in Leader Innovation Initiatives at Gowling WLG and asked how his firm uses Kira AI. He referred us to Rich Kathuria who is the firm's National Director, Project Management and Legal Logistics. Here's what Rick had to say:

"AI shows real potential – in the right circumstances and even in the not-so right circumstances. We used Kira recently for a very large contract analysis project for one of our clients. The project involved reviewing various agreements and documentation to assess the risk associated with various assets. Since Kira did not have built-in models for these types of documents, Kira was not immediately able to extract the required information automatically. But we were able to use the

learning capabilities of Kira to teach it to identify the key clauses within the documentation that we were looking for.

Kira learned these well and after the training, it was able to pull out the relevant clauses in various documents. In addition, Kira's ability to convert the scanned documents into readable text and run comparisons against other similar agreements made the project run much more efficiently."

We read that as a pretty good endorsement. And indeed, one of the major features of the new generation of AI is the fact that the machines are learning—faster and with more reliability.

E-discovery

We will look at this only briefly, because there is no doubt among the experts that technology-assisted review (TAR) contains some AI. Machine Learning, Natural Language Processing (NLP) and similar techniques like data or text-mining, big data analysis, concept search, topic modeling, clustering, audio search, and machine translation are all AI techniques that can be used to identify specific document categories and to search for relevant information in these documents.

Although there are many companies offering TAR, certainly one of the leaders is Catalyst. In October of 2016, Catalyst put forth a peer-reviewed graphic showing how, using TAR 2.0, 1 reviewer could do the work of 48 reviewers using TAR 1.0, reviewing 723,537 documents in five days. You can find this infographic at *http://catalystsecure.com/resources/library/infographics/1301-how-does-1-reviewer-do-the-work-of-48*.

Contract Analytics

JPMorgan Chase is saving on law firm dollars by using software called "COIN"—short for Contract Intelligence—to review commercial loan agreements. The software reviews documents in seconds, doing work that once required 360,000 hours of work each year by lawyers and loan officers. How can you read that and really think that lawyers' jobs aren't at stake in an AI world?

The bank says the software has helped reduce loan-servicing mistakes that were often attributable to human error in interpreting 12,000 new contracts per year.

DLA Piper is using artificial intelligence software for due-diligence document review in mergers and acquisitions. The software searches text in contracts and then creates a summary and an analysis.

Reed Smith is testing artificial intelligence software by RAVN System, reviewing hundreds of pages of documents to identify and pull out certain items in contracts. RAVN made some mistakes, but it improved when lawyers added information to their queries. The platform also picked up some mistakes missed on a first review by lawyers.

We have recently seen good press about another company called LawGeex which uses artificial intelligence to review contracts and spot missing or problematic clauses. It sure looks like a lot of transactional lawyers might have cause to be nervous about losing work to the machines.

Prediction

Let's take a look at what one of the leading companies is up to these days. Lex Machina was acquired by LexisNexis in 2015 and seems to be going great guns. Lexis Advance is a legal research service that now includes litigation analytics from Lex Machina. When you next have an antitrust, copyright, patent, trademark, or securities case, you can use Lexis Advance to research the judge presiding over your case. Soon (maybe even by the time this article is in print) you'll also be able to research opposing counsel and competing law firms.

Lex Machina transforms data from federal court dockets into live charts. In Lexis Advance, you can access this data by clicking on the hyperlinked judge's name in the text of a case or in the new Legal Analytics box to the right of the case text.

This link takes you to a summary with the judge's biographical information, open cases by practice area, comparisons to other judges in the district, cases filed by year, and case timelines. These latter charts give you a sense of how long the dispute may take to resolve and the odds of a trial. Lexis Advance users can access these summaries without a Lex Machina subscription.

For deeper insights, you can click from this summary in Lexis Advance to the Lex Machina Web site if you have a subscription. Lex Machina's Motion Chains enable you to analyze your odds of success for a specific type of motion based on historical data. Similarly, you can see how opposing counsel has performed on similar cases or before your judge. You can also research parties, case damages, venues, practice areas, etc. for business development purposes. As you research, you can download briefs, exhibits, and other documents from cases of interest. We haven't even given you the full breadth of what you can do with Lex Machina apps, but it is increasingly impressive.

Legal Research

ROSS Intelligence is the AI platform that first seemed to catch the attention of the legal world. As we go to

press, ROSS has been licensed by K&L Gates, Dentons, Lathan Watkins, BakerHostetler, Salazar Jackson, von-Briesen, Bryan Cave, Womble Carlyle, Dickinson Wright, Fennemore Craig, and likely more by the time you read this article.

Schooled originally in bankruptcy law, ROSS is now working on intellectual property, knowledge management systems, and contract review systems. ROSS can read more than one million pages of case law in a second, which is rather mind-blowing.

Andrew Arruda, the CEO and co-founder of ROSS Intelligence, notes that AI is in its early days, rather like the Model T of cars. He also notes that all the tech giants, IBM, Google, Amazon, etc. are going "all in" on AI. Not much doubt about that.

Expertise Automation

Certainly one well-known leader in this area is Neota Logic which offers an artificial intelligence platform that enables clients to intelligently automate their expertise at Internet scale through an operationally useful form—as applications embedded in business systems or consulted interactively in a browser.

Neota announced in 2017 the release of Neota Logic System 8.0 which included a comprehensive redesign of the proprietary hybrid reasoning engine that is the foundation of the platform along with a host of new features. We noted that Neota's home page quotes Gartner, the well-known research company, which has predicted that by 2020, 85 percent of customer interactions will be managed without a human. We imagine that will include a lot of law firm clients as well.

Calling the Future

We are taking a chance here—and prepared to eat a healthy slice of crow pie if we are wrong—but we are pretty sure that the practice of law will morph quickly over the next decade thanks to AI. Not all the changes will be welcomed by the legal profession, but we will have to learn to run with the machines. It's that or extinction. Time to lace up those running shoes.