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How A General Counsel Should Think About AI: Part 1


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It's hard to escape reading about the "AI revolution." Artificial intelligence or "AI" computer systems now can simulate surprising human-like processes including learning, decision-making, self-correction, speech and image recognition, reasoning and other tasks we typically think of as requiring "intelligence." The AI sprint has been propelled by recent growth in computing power, increasing availability and openness of large data sets, and "deep learning" algorithms that mimic neural networks.

AI-based technology blends seamlessly into daily life. Predictive texting, digital personal assistants, facial recognition software, bank fraud alerts, autonomous vehicles and networked sensors that maximize oil well performance and safety are just some examples of AI-based technology. Dr. John McCarthy, father of artificial intelligence, acknowledged the ubiquity of artificial intelligence when he posited, "as soon as it works, no one calls it AI anymore."

General counsels will inevitably find their companies looking increasingly at how they can harness AI to power their businesses. GCs managing risks — and decision-makers shaping the law of AI — will need to separate the risks that are merely "old wine in new bottles" from those that may turn out to be new wine in deceptively old looking bottles.

Short-term, it's Augmented Intelligence

Much of the anxiety surrounding artificial intelligence arises from fears that robots will have human-level intelligence or broad decision-making capacity. Westworld is simply the latest in a long line of TV shows, movies and books highlighting the promise, danger and ethical dilemmas of "general" or "strong" AI — machines that are able to reason, think and perform all human functions. But this is a long way away.

Today's AI revolution is one of "narrow" or "weak" AI systems that specialize in one specific area, and exceed human accuracy and efficiency in that area, such as playing chess, driving a car or scheduling appointments. In the short term, AI really stands for "augmented" not "artificial" intelligence. In fact, Dr. Andrew Moore, dean of Carnegie Mellon's School of Computer Science, estimated that 98 percent of AI researchers are currently focused on engineering systems that can help people make better decisions, rather than simulate human consciousness.

For example, one area with huge potential for augmented intelligence is disaster prevention and responsiveness, where AI is used to improve the effectiveness and efficiency of first responders. A disease tracking website called HealthMap uses AI to analyze news stories in multiple languages, identifying symptoms linked to Ebola, Zika, West Nile and other illnesses to help health officials rapidly identify outbreaks. Likewise, the Qatar Computing Research Institute has developed a tool that uses machine learning to monitor Twitter posts and compile information related to particular crises to assist humanitarian response efforts. These machine learning tools provide fast and cheap assistance to responders and allow them to make life-saving decisions about where to direct limited resources.

Another vital field making immense strides thanks to augmented intelligence is health care. The U.K.'s National Health Service, working with Google's DeepMind, is training an AI system that

reduces the time it takes doctors to provide radiotherapy to patients by roughly 75 percent. Whereas doctors previously spent many hours mapping out which cancer cells to target, the system will train on anonymized scans to automatically map cancer cells for targeting during radiation. Researchers at Carnegie Mellon University have also used a machine learning system to prioritize which tests to conduct on new drugs to expedite their approval. The system reduces the number of unnecessary tests by up to 70 percent.

AI has already invaded most industries. AI is not taking the spot of a human, but rather, making the human safer, faster and more effective. It reduces the number of redundant, risky or misguided tasks necessary to complete a goal. AI will inevitably reduce the number of workers required to achieve goals, but efficiency increases are part of the natural lifecycle of technological advancement. Indeed, when ATMs were invented, they did not put bank tellers out of work — their roles simply evolved to a marketing capacity, and since fewer tellers were needed to open banks, new branches sprang up in more convenient locations. This is the promise of AI.

We live in the age of big data. Data is constantly collected from every connected action and transaction, and algorithms can easily analyze and mine that data for valuable business opportunities and new ways to monetize their findings.

Companies in a wide variety of fields including agriculture, health care, transportation, business operations, energy and the environment, and public safety are already using AI and deep learning to transform mass amounts of data into concrete performance advantages. For example, Descartes Labs has trained deep-learning image analysis software to analyze satellite photos of farmland to forecast crop yields faster and more accurately than official government estimates, allowing farmers, insurers, commodities traders and governments to make more informed decisions. Deep learning software is already improving business operations and customer interactions. IBM's Deep Thunder tool analyzes weather and environmental data to provide geographically targeted weather analysis, so companies can consider weather in business-planning decisions, such as adjusting inventory stock. A similar tool analyzes purchase patterns to recommend promotions that can improve sales and reduce perishable waste. Another tool can monitor machine performance in factories through networked sensors to detect early warning signs and prevent hardware breakage. Deep learning and analytics software has been used to track gender bias in workplace performance reviews, analyze customer service interactions, and make restaurant and purchase recommendations based on a customer's past history. In the energy sector, deep learning software can improve the ability of regional power grids to integrate renewable energy sources, and train homes and data centers to become more energy efficient. The use of artificial intelligence to analyze data and adjust operations accordingly provides such a competitive advantage that companies opting for traditional methods may soon be unable to compete!

Old Laws with New Applications

AI creates new legal risks for companies by reopening old issues in new ways, and general counsels must stay a step ahead by learning to navigate the AI landscape. Recently there has been a rush by multiple government agencies to stake out their place in AI regulation. But for now, many of the existing laws and regulations apply to AI. After all, AI does the same things that companies have done for years — just better, faster and stronger. Nothing in the Equal Employment Opportunity Commission's antidiscrimination laws or Health Insurance Portability and Accountability Act privacy standards limits their applicability solely to human actors or decision-makers. Outcomes reached through the use of algorithms must also comply.

On the other hand, companies capitalizing on big data to conduct familiar tasks may find themselves suddenly within the ambit of a whole new set of laws and regulations. For example, companies using data-generated consumer reports to make decisions must comply with Fair Credit Reporting Act disclosure requirements. Spokeo, an aggregator of personal data from on- and off-line sources to create detailed portraits of consumers, realized that it could monetize its vast data trove by providing valuable information to employers and recruiters. Spokeo did not comply with FCRA reporting requirements, however, and was forced to settle with the FTC. Many online lending platforms have begun using AI algorithms to review loan applications, and market their findings as their "special sauce." But just like in hiring, AI underwriters are still constrained by the same restrictions as human underwriters. One lender, ZestFinance, found that users who complete their forms in all caps have a much higher risk of default. It doesn't take extended sociological research to realize this is really a

proxy for education level. Perhaps for this reason some lenders have chosen to stay away from machine learning because they are uncomfortable with what the outcome would require them to report. If an applicant is turned down, FCRA requires banks to provide applicants with the reason why — putting companies in the uncomfortable position of disclosing to a consumer she was denied a residential mortgage because she misspelled words or typed in all caps.

New Laws for New Situations?

The Obama administration noticed the immense opportunities that AI technology presents for government efficiency, and released three reports on the topic, Preparing for the Future of Artificial Intelligence, the National Artificial Intelligence Research and Development Strategic Plan, and Artificial Intelligence, Automation, and the Economy. These reports have stoked the interest of various government agencies, including the EEOC, Financial Industry Regulatory Authority, Defense Advanced Research Project Agency, National Institute of Health, National Institute of Standards and Technology, and National Highway Transportation and Safety Administration, which all plan to incorporate or are already using artificial intelligence technology. Some have already held hearings discussing the promise of big data and artificial intelligence and the need for possible additional regulations. Although the Trump administration has not made an official statement regarding plans to invest in the development of artificial intelligence, support for AI is fully consistent with their expressed desire to promote American business. Both the House and Senate held hearings and briefings on the topic last November.

It is crucial that fears about an eventual superintelligence, and unanswered questions about ethics and liability models, do not stymie the development of technologies that promise to save thousands of lives and make countless enterprises more efficient and cost-effective. As with all emerging technologies, the market and courts are remarkably adept at providing answers as questions arise.

As engineers, scientists and business strategists rush to capture the promise of big data and artificial intelligence for their companies' business models, general counsels face an equally challenging task — navigating what big data and AI means for compliance with existing laws and regulations, and how future legal and regulatory developments may affect their business practices. Now is the time to get smart about artificial — and augmented — intelligence.

Read the second part of this article here.

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