

8 critical technologies for today's next-generation litigators

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When asked what they are looking for in a lawyer, business leaders and in-house counsel invariably say the same thing. Yes, they want a lawyer who is an expert in the relevant legal domain, whether it's business regulation, products liability, or data privacy. Those skills are table stakes.

Increasingly, the thorniest business challenges are those presented by the emerging digital technologies that are disrupting every business and every corner of our personal lives. Lawyers who take the time to understand, at a deep level, which way the technological winds are blowing will be embraced as trusted partners by current and future clients alike.

But these same executives also say, without fail, that they want a lawyer who understands their industry — someone who can “connect the dots” and apply the law in the context of their unique business challenges.

Digital technology is re-making our world

So which technologies should lawyers invest their valuable time in learning?

Obviously, the first place to start is with technologies that are disrupting the markets they serve. Marketing companies rely on lawyers with privacy expertise, and entertainment firms lean on intellectual property lawyers to protect their creations. Every industry has its particular legal needs.

Beyond that narrow focus, however, are several emerging, essential technology categories that threaten to disrupt nearly every market and law firm. Every lawyer should have at least a passing familiarity with all of them.

Legal and business experts say the most important technologies impacting businesses today are: artificial intelligence, augmented reality, virtual reality, blockchain, drones, Internet of Things, robotics, and 3D printing.

1. Artificial intelligence. Artificial intelligence (AI) refers to the use of computers for data-based decision-making, speech and pattern recognition, and language translation. AI is a double-edged sword within the legal profession because it has the potential to replace lawyers (by automating routine, rule-based tasks) and to make lawyers more efficient and improve the quality of their advice.

Common legal applications for AI include contract analysis, legal research, decision analysis, and outcome prediction. Outside the legal profession, businesses are rapidly adopting AI for automation, data analysis, and language processing. AI is also used to forecast consumer behavior, detect fraud, personalize marketing campaigns, and provide customer service.

It is impossible to overstate the implications of AI in business and legal activities. AI, which relies on detailed datasets to function well, raises novel issues in the areas of privacy and anti-discrimination rights. Also, will the prevalence of AI in decision-making require businesses to negotiate contractual rights to audit the operations of AI applications? Who will bear liability for torts committed by machines?

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2. Augmented reality. Augmented reality (AR) offers the user a digitally enhanced interaction with the physical world by providing, in real time, an overlay of text, graphics, audio, and other virtual enhancements.

The highlighted first-down line superimposed over a football field during TV broadcasts is a form of AR familiar to most people, as are smartphone applications that measure and identify real-world objects (e.g., Measured by Lowes) or allow users to virtually try on clothing, jewelry, and makeup.

AR has compelling applications in the provision of health-care services and in training across a wide variety of industries.

The legal implications of AR technologies are felt most strongly today in the intellectual property fields — copyright, trademark, and patent laws — though, with a little imagination, it is not difficult to see applications for next-generation courtrooms as well.

3. Virtual reality. Unlike augmented reality, which enhances but does not replace the physical world, virtual reality (VR) technologies permit the user to conjure images and experiences that can exist only in cyberspace. They create compelling, immersive experiences that mimic reality to such an extent that they trick the user into believing what they're seeing is "real."

Nearly every real-world process and human interaction can be simulated through VR technologies, making them ideal for education, business training, marketing, and entertainment applications.

VR technologies raise novel legal issues for intellectual property, privacy, personal injury, law enforcement, and criminal lawyers.

4. Blockchain. The term *blockchain* describes a distributed, unalterable ledger used to record transactions and track assets in a network. In order to operate, blockchain requires: (1) a single, distributed ledger, (2) records that cannot be changed once recorded to the ledger, and (3) "smart contracts" (business rules) that enable the system to operate without human intervention.

Blockchain is the technology that underlies most cryptocurrencies and all nonfungible tokens (NFTs).

Blockchain has compelling applications for manufacturing, health care, government, retail, travel and transportation, and the financial services industries.

Lawmakers have noticed. According to the National Conference of State Legislatures (NCSL), 31 states considered legislation¹ to either study, define, or regulate cryptocurrencies in the 2020-2021 legislative year. NCSL also identified pending legislation in 17 states² to study, regulate, or promote the use of blockchain-enabled services.

5. Drones. Like the internet itself, unmanned aerial vehicles — or drones — have the potential to fundamentally change how businesses and governments operate. Drones have applications for agriculture, law enforcement (particularly environmental enforcement, where drones can expose difficult-to-view geography), delivery services, disaster response, engineering, architecture, and construction. Drones are closely regulated at the federal and state levels.

6. Internet of things. *Internet of Things* (IoT) refers to network-connected devices such as smartphones, smart thermostats, smart lights and switches, wearable devices, and voice-activated devices (e.g., Alexa, Siri, and Google's Nest family of devices).

Because IoT devices and applications collect and transfer large amounts of personal information from the user's home or vehicle

to the cloud, they raise significant privacy and cybersecurity legal issues.

7. Robotics. According to the dictionary,³ a robot is a "machine that resembles a living creature in being capable of moving independently (as by walking or rolling on wheels) and performing complex actions (such as grasping and moving objects)."

Robots are already in wide use for manufacturing. They raise many of the same legal issues as drones and IoT devices. However, with their self-evident capacity to cause serious physical harm, liability issues are at the forefront of robot-related legal concerns.

8. 3D printing. The phrase *3D printing* describes technology that can readily transform a digital depiction of an object into a physical version of that object. For example, 3D printing technologies are currently being used to make aircraft engine parts, prosthetic devices, and prescription drugs. 3D printing technologies are finding their way into manufacturing industries, educational institutions, and even homes around the world.

These technologies predominantly raise intellectual property concerns, but they also raise novel product liability issues (e.g., who is liable for injuries caused by 3D-printed products — the 3D printer manufacturer, the user, or the supplier of the material used to create the physical object?)

Problem solvers needed

Having a solid grounding in emerging technologies provides a great opportunity for lawyers to give valuable advice to clients. Although clients don't expect their lawyers to be technology experts, they do count on law firms to have multidisciplinary advisory capabilities and to have technology experts they can call on for a particular engagement.

This doesn't mean that lawyers need not be proficient with technology. Sophisticated clients expect that their lawyers will be able to appreciate cybersecurity concerns and be able to competently use document management and collaboration tools to efficiently deliver legal services.

For lawyers, strategy and problem-solving acumen are still the name of the game. But without technology knowledge, it will be increasingly difficult to deliver the most valuable legal services.

Notes

¹ <https://bit.ly/3mhVM8i>

² <https://bit.ly/3pB54OR>

³ <https://bit.ly/3mc0WCJ>

About the author



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