

# Learning to Play the Orchestra: A Dirt Lawyer's Sojourn Through the Land of Technologists

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Much ink has been spilt over the past several years about the “disruption” of the legal profession by any number of technology-based forces: artificial intelligence, machine learning, “big data” algorithms, smart contracts, blockchain, etc. Pundits have predicted everything from a mere culling of the legal ranks to a wholesale replacement of the legal profession by robed robots. Purveyors of the view that lawyers themselves are obsolete and due for replacement often invoke the words of lawyer and law professor Lawrence Lessig: “Code is law.”<sup>2</sup>

If code is law, the theory goes, then surely the transactional lawyer who wants to survive in the 21<sup>st</sup> century must learn how to code (that is, how to write programs for computers). If code is indeed law, then how can an attorney practice law without being able to understand the law itself? It’s akin to thinking that one can represent clients today without being able to read a case or statute. Some go further and profess that the ability to code will become a basic educational requirement for all future humans (not just lawyers). They speak of “code literacy” the same way that “reading, writing, and ‘rithmetic” were the basic educational requirements of generations past.

By contrast, those seasoned transactional lawyers who are now well established in their careers may be tempted to write off these predictions as the marketing hype of pajama-clad startup founders seeking capital for their ideas

or (more callously) as “junior associate problems.” A seasoned lawyer can always hire a subject-matter expert or subordinate to perform a specialized activity. Law firms hired secretaries because it was not worth senior lawyers spending time learning how to type. Then they hired IT personnel to maintain the computers on which the typing occurred because it was not worth senior lawyers spending time learning how to install word processing software, etc. Hiring subject matter experts to consult in specialized fields is a longstanding and accepted part of litigation practice. By this reasoning, hiring programmers will simply be the next phase of that development in transactional practice. Under this theory, lawyers will still write the law, and the programmers will merely be responsible for scrivening the translation, just as secretaries were responsible for typing up contracts dictated or handwritten by senior lawyers. This camp holds that programmers will *work for lawyers*, not replace lawyers.

For those transactional lawyers who are nearing retirement, the debate between these two camps is largely irrelevant. They will watch the results of the contest from a safe distance with interest, but without consequence. But for those transactional lawyers who are in the hearts of their careers, charting a correct course through these poles may well be the difference between success and failure. Your author is one of those mid-career transactional lawyers for whom this matter is of great import.

Over the past seven years, the percentage of my work related to real-property technology (also known as “proptech”) has steadily increased from zero to substantially 100 percent. This is an odd thing for me to consider. I was, by both training and by temperament, as classic of a “dirt lawyer” as one can be. Dog-eared pages of real property treatises and dusty deed books were my natural environment. I have no educational training or prior work background in technology fields, and I have not done any coding since hobby-level dabbling in the early 1990s.

Along the way in my unexpected journey, I have stumbled across (and sometimes smacked headlong into) principles that I believe can help fellow transactional lawyers prosper in this new age of digital disruption. My experience in this journey suggests that the future of transactional law lies at neither of the poles noted above—transactional lawyers will not be wholesale replaced by technology, but neither will the transactional lawyer’s future be as simple as hiring a programmer as part of one’s law office staff the same way one presently hires a paralegal. The answer lies somewhere in between.

In his outstanding biography of Apple founder Steve Jobs, author Walter Isaacson focuses at several places on Jobs’ multidisciplinary approach to product development. To visually illustrate his approach, Jobs used a photograph of two intersecting street signs, one reading “Technology” and the

other reading “Liberal Arts.”<sup>3</sup> Apple lived at this intersection under Jobs’ leadership.<sup>4</sup> Jobs was famously unable to code, but was even more famously able to understand *enough* about the technical aspects of his products to make sure that those products operated consistently with his vision.<sup>5</sup> Jobs knew that his core competency was in understanding the way his customers think rather than calculating engineering minutiae, but he learned *enough* of the technical aspects of his products to make them fit his vision.<sup>6</sup> In the film version of Jobs’ life, this approach is distilled into a one-sentence retort to an exasperated Steve Wozniak:

Wozniak: “You can’t write code! You’re not an engineer! You’re not a designer! You can’t put a hammer to a nail! I built the circuit board, the graphical interface was stolen from Xerox... Everything! Someone else designed the box! So how come ten times a day, I read ‘Steve Jobs is a genius.’ What do you *do*?”

Jobs: “I play the orchestra.”<sup>7</sup>

When I was first starting out as a commercial real estate practitioner, I was told that performing a commercial real estate closing was a lot like trying to direct a complex ballet. Others have analogized it to conducting a symphony.<sup>8</sup> The analogy is apt. The 21<sup>st</sup> century transactional lawyer must learn how to play the orchestra. The conductor of the orchestra is unlikely to be able to step in and fill the role of a first violinist, or a third clarinet, or any other seat. But that conductor must have enough grasp over the various instruments and their roles to guide them according to their place in the larger production. Similarly, the 21<sup>st</sup> century transactional lawyer must have *enough* of a grasp over technological subjects that will impact a client’s

interests so as to properly conduct the symphonic ballet of the client’s transaction. Doing so at the highest level will mean living at the intersection of real property law and technology, the same way Jobs lived at the intersection of liberal arts and technology.

Below, I attempt to summarize what I have learned as a dirt-lawyer stranger in the strange land of technologists. I hope that ACMA fellows will find use of these principles in their everyday practices as technology increasingly permeates our field. Even though most of us will never build software as part of our “day jobs,” I believe the tools discussed below will help us learn how to “play the orchestra.”

### 1. The Best User Experience Wins

What differentiates two substantially similar products or services? Let’s assume that they both work correctly, of course. All major airlines have planes that are of roughly equivalent reliability and safety. They all fly to the same major cities. They all have substantially similar offerings in terms of in-flight snacks and drinks. How does a consumer choose to fly one airline over the other? While companies attempt to affect consumer choice using marketing programs, all other things being equal, commoditized products and services like these sell (or fail to sell) based almost entirely on price comparisons.

Cell phones are another product that (like airline services) has arguably been commoditized. Yet if that is the case, why then does the iPhone continuously out-sell its competitors, *even when its competitors have superior specifications and/or come at a cheaper price*? The answer is the user experience. Customers are willing to pay more for a product or service—or to get less of that product or service at the same price—if the experience of using that

product or service is head-and-shoulders above that offered by its competitors. If you have ever handed an iPhone to a young child and been amazed to find that they can quickly learn how to operate it without instruction or training, then you understand. Apple nailed the user experience in a way that connects so deeply with innate human thought patterns that even those who are too young to be able to read an instruction manual can operate the product.

Over the past seven years, I’ve supervised the construction and development of five different computer systems. Each one functioned as designed, from a technical perspective. Yet some of those systems have been successful and some have failed. In each case, the differentiating factor between success and failure was the user experience. The systems that failed were unintuitive; they didn’t mesh with the way that their human users think.<sup>9</sup> Consequently, the users ultimately abandoned these systems, even though there was nothing technically *wrong* with any of them that couldn’t easily be fixed.

Like airline tickets or high-end cell phones, legal services among top-flight transactional lawyers are arguably commodities. The quality among those at the top of the pyramid is of roughly equal excellence. Yes, traditional “stickiness” issues like relationships and recommendations affect a client’s choice of counsel. And yes, price certainly matters in such an environment. But those are not all that matters. What separates one top-flight lawyer’s services from another’s in a way that would drive a client to choose one top-flight lawyer over another? The user experience.

It’s easy to confuse the user experience with more traditional client-service

metrics like “responsiveness” or “communication.” It’s also easy to confuse the user experience with drafting in “plain language” legal prose. These things are *part of* the user experience, but they are not in and of themselves the user experience. A lawyer who responds quickly and clearly to a client’s specific inquiry but who has failed to anticipate the question that his or her client is *really* trying to ask may have met traditional client-service metrics, but has nevertheless missed the mark on the client’s user experience. This is akin to a computer program that works exactly as designed but will ultimately be rejected by its users in favor of one that better meshes with how its users think.

Mastering the legal user experience means correctly anticipating how a client will think about an issue *before the client does*. Law school has taught us well how to “think like a lawyer.” Keeping the user experience front-and-center in our work enables us to develop the very different skill of “thinking like a client.” Consider the pre-school child who “just knows” how to operate the iPhone without training or even reading ability. This type of “no-instruction-manual user experience” can teach us volumes as lawyers. The excellence of this device lies in the fact that its designers have correctly anticipated how the user will think, before the user even considers the matter.<sup>10</sup> The lawyer that has answered the client’s questions *before they are asked* is the one who has mastered the user experience. This is a lawyer with very happy clients.

If I could choose between a software product that has serious bugs but a great user experience, or a product that is technically flawless but has a poor user experience, I would choose the great user experience every time. A

bug can eventually be fixed. A bad user experience is an indelible mark that is nearly impossible to erase. As the old saying goes, “You never get a second chance at a first impression.” Focusing on the user experience is without a doubt the number one lesson I’ve learned through my technology travels.

## 2. Find the Moving Parts

Early in my career, I received two outstanding pieces of advice in the form of pithy statements from seasoned lawyers, both of whom sat on the federal bench during their careers: First, “Every issue, no matter how complex, always comes down to a small number of moving parts.” And second, “In every case, there is always exactly one winning argument, and exactly one losing argument.” It wasn’t until much later when I realized that those two statements were flip sides of the same coin.

Practicing law is complicated. *Very* complicated. No modern lawyer can ever reasonably expect to know every nook and cranny of every corner of the law. Anyone who attempts to do so will rapidly drown in a sea of uncertainty, lost in a maze of myriad rabbit holes. Rather, the best lawyers are the ones that can “find the moving parts” in a complex legal issue, identify which combination of those parts represents “the winning argument” and which combinations represent “losing arguments,” and then steer the client’s interests accordingly.

The exact same approach generates results in the land of technologists. Without a programmer’s educational background or prior specialized work experience, no lawyer can ever be expected to understand how to debug a Hyperledger code base, or how to write an analytics algorithm in Python. The very happy news is that you don’t need to understand how to do any of that. Steve Jobs (among other “code

muggles”<sup>11</sup>) has already proved that one can be successful in this sphere without that kind of technical expertise. Rather, the key is to have enough knowledge of the subject matter to find the moving parts.

Gaining that kind of ground-level knowledge of any technology does require study. Fortunately, studying is something that we lawyers are very good at doing. Law school forces us to gain the ability to teach ourselves. Applying that skill set toward gaining a basic level of understanding of the technology that one is grappling with generates rewards and creates a competitive advantage for you that can, in turn, be deployed to your client’s advantage. (After all, this is a world where few lawyers will have the courage to tread.) Perhaps more importantly, it also creates the opportunity to delight your client with a superior user experience by breaking down complex problems into easily digestible advice.

## 3. Cross-Cultural Communication Is Vital

The user experience is key, and a person who has “found the moving parts” is best positioned to sort winners from losers and thereby create a great user experience. Studying will help a person find the moving parts, but study alone will not be enough. Sooner or later, an attorney working in this area will have to communicate with someone else to pin down the parts that are, in fact, moving. That other person could be the client, an opposing counsel, or perhaps (heaven forbid!) even a computer programmer.

The first challenge likely to appear is the probability that the parties do not share a common vocabulary. In that regard, a necessary precondition to any successful cross-cultural communication is gaining a common vocabulary. A sure-fire path to failure here is jargon.



Lawyers will not understand tech jargon, and technologists will not understand legal jargon. Indeed, resort to jargon is a common method to mask a *lack of understanding* of one's purported domain of expertise. If a person can't explain something without resorting to jargon, they don't really understand it.

Getting past jargon and using simple words is an important first step. But remember that two people can use the exact same word, and it can mean completely different things to each of them! Be especially attuned for this dual-meaning pitfall. Don't be afraid to ask, "What do you mean by [term X]?" even if the answer may seem obvious. You'll probably find that the answer is not so obvious a disturbing percentage of the time.

Vocabulary (or other language barriers) can usually be overcome with patience, time, and study. But "culture" as used here means more than its obvious definition. Yes, sometimes it means figuring out how to communicate with a person who may come from abroad. But more often it means figuring out how to communicate with a person from your own country who has a completely different approach to life and work.

Lawyers are trained to be paranoid. We are professional issue-spotters, expert in the art of divining all the horrible things that could go wrong, organizing those horrors into a parade, and then devising a solution for every float in that parade. Interestingly and surprisingly, computer programmers tend to have a similar approach! They are trained to create programs with no bugs. They seek to divine all the possible errors that could occur in their program, organize them into a "backlog," and devise a solution for every possible error before the software ever sees the

light of day. Lawyers and programmers are often kindred spirits. Our natural risk tolerance is that there should be no risk. Our work product should always be perfect.

Yet other key players in the technology realm have a very different approach. For example, the person championing the system (often called the "product owner" in software development parlance) generally has little patience for technical nits or fine nuance. Think of the product owner as the diva in your orchestra—he or she has a vision for the system and is willing to improvise at a moment's notice and demand the full spotlight. This combination of unpredictability and sizeable ego makes risk-averse lawyers and programmers alike break out into hives. Thankfully, lenders' counsel are already familiar with a similar character: the stereotypical cowboy real estate developer who wants to break ground on a new development now, regardless of the minutiae of preventing mechanics' lien issues by preserving clean site priority or finalizing the casualty and condemnation clauses in the loan agreement.

Just as communicating with the borrower's counsel sometimes requires a very different approach than communicating with the cowboy-developer borrower (within the ethics rules, of course!), the lawyer sojourning through technology land will need to adapt his or her style and approach to best match the culture of the counterparty. Honing an ability to see things through the counterparty's eyes opens doors, so flexibility, open-mindedness, and, most of all, an understanding of the counterparty's prime motivation will bear fruit in cross-cultural communication. For product owners, that means understanding the "first-mover advantage."

#### 4. Understand the Power of the First-Mover Advantage

Why does the product owner seek to drive a new technology with such feverish speed? Like the stereotypical cowboy real estate developer, the stereotypical pajama-clad twenty-something Ivy League dropout product owner is in a race against time.

Clayton Christensen's classic work *The Innovator's Dilemma*<sup>12</sup> is essential material for understanding the march of technology. A key component of this march is the "first-mover advantage." The product owner who brings his or her technology to market before his or her competitors is likely to capture a vastly outsized share of the spoils.<sup>13</sup> This is not a foreign concept for lenders' counsel—borrowers always want their construction loans closed *now* so that they can complete their project before that of a competitor. Yet the first-mover advantage is even more important in software development than in real estate development. It's relatively easy to change the retail center where I choose to shop. But software, once widely adopted, is very hard to leave behind—witness the incredible staying power of Facebook despite scandal after scandal.

Understanding the economics of the first-mover advantage sheds light on why the product owner (like its real-estate counterpart, the cowboy developer) is so willing to blow through nearly any risk to "get there first." Indeed, the irony was thick when I became a product owner myself after inventing a new software system.<sup>14</sup> Successfully developing the system in time to claim the first-mover advantage required me to make decisions that, with my "lawyer hat" on, would have been heresy. But the stakes are high to be the first to market with a disruptive technology, whose adoption tends

to follow an “S-curve” cycle (adoption is slow at first, then explodes, then plateaus at the end).<sup>15</sup> Where one stands in this regard really does depend on where one sits.

### **5. Silicon Valley Feeds on Time and Operational Expenses**

Understanding the first-mover advantage in turn sheds light on why so much venture capital is flooding into the real estate economy today. It’s a vast market where large, highly regulated incumbent players cannot stomach the risk that comes with a wholesale re-engineering of their longstanding products and processes (and the revenue streams associated therewith). But the product owner who can deploy a disruptive technology anywhere in this space could capture a first-mover advantage worth mind-boggling millions.

Every product owner I’ve dealt with in my travels always seems to have an idea that repeats some variation of the same theme: time and operational expense frictions can be converted into money through technology. Silicon Valley startups look for places where they can use technology to reduce or remove these “time and op ex” frictions from a business transaction, replacing them with a lesser friction in the form of a charge for the startup’s technology services. It’s a great deal in many instances, as the transaction occurs at a lesser overall cost or with a greater overall speed, and the startup is rewarded for its ingenuity with service fees. But often the equation is incomplete. This is especially true when it confuses “friction” with the addition of value.

Lawyers add time and operational expenses to a commercial real estate transaction. Should the lawyers therefore be removed from the transaction? Someone in Silicon Valley surely thinks so! But legal advice is not just

the shuffling of paper that causes delay and imposes middleman costs. It is the addition of value that removes risk and helps make sure that the transaction doesn’t fail, even if that means it succeeds more slowly.

As the legal profession increasingly comes under attack from Silicon Valley, we lawyers must be prepared to explain the value that we add to transactions. Top-flight legal services are more than just the “re-keying” of data into form documents, as the Silicon Valley trope goes. But all stereotypes have an origin in some truth, before it is twisted into caricature. Technology-based attacks may well succeed on the low end of the legal spectrum, where routine fact patterns can indeed lead to form documents that can be repurposed from one matter to another. Where the trope is closer to a truth protected by the barrier to entry of a law license, beware. Recent history shows that business models based on barriers to entry are likely to crack in the 21<sup>st</sup> century.

### **6. Barriers to Entry Are Not Secure**

An uncomfortable view about many of the most successful Silicon Valley companies is that their secret to success is to cheat. Uber can be viewed as an unlicensed taxi service, whose competitive advantage is to avoid the legal requirements and costs associated with taxi licensure.<sup>16</sup> Airbnb can be viewed as an unlicensed hotel service, whose competitive advantage is to avoid the legal requirements and costs associated with hotel licensure.<sup>17</sup> In the author’s college days, it was widely known that buying one’s textbooks on Amazon was always cheaper than any other retailer because Amazon did not charge sales tax.<sup>18</sup> Most ordinary citizens are not even aware of the legal niceties of the use tax filing obligation—to say nothing of whether they would go out of

their way to comply with it even if aware of it.<sup>19</sup>

Each of these companies can and does contend that these criticisms are unwarranted, that their businesses are legally compliant (by skillfully identifying and utilizing loopholes), and that their true competitive advantage lies in the superior user experience that they provide versus traditional taxis, hotels, and retailers, respectively. There is no doubt some truth to the argument that these companies provide a superior user experience, and that customers almost always pick the superior user experience (see item 1 above). But there is also no doubt some truth to the contention that Silicon Valley likes to play fast and loose with legal rules that represent barriers to entry of a marketplace where money is to be made by extracting time and op ex.

A law license is a classic barrier to entry to providing legal services. Legal services are a lucrative industry that many consider ripe for “disruption.” The taxi, hotel, and retailing businesses noted above felt secure that their space could not be invaded by the unlicensed. They howled screams of protest at the unlicensed invasion, yet saw their businesses eaten away while the legal system ground slowly and finely.<sup>20</sup> By the time court rulings came down years later,<sup>21</sup> the invaders had already taken the field.

It would be a grave mistake for us lawyers to assume that commercial real estate law is immune from this kind of attack. The credo of the 21<sup>st</sup> century technologists is, “if it can technologically be done, then it will be done,” regardless of legal barriers. The forward-thinking commercial real estate lawyer will therefore conclude, “if it’s not done by me, it will be done to me,” and will look for ways to extract time and op ex frictions from their practice

before someone else does. Barriers to entry won't stop Silicon Valley. But without time and opportunity frictions on which to feed, the disruption machine moves on to easier targets.

## 7. Don't Believe Everything You Read in the Papers

The advent and spread of the worldwide web removed the prerequisites of having a printing press and a distribution network as barriers to entering the publishing space. This disruption of traditional print-journalism outlets has allowed anyone with a keyboard and an internet connection to reach millions, unfiltered and unrefined. Free speech has flourished, filling every conceivable interest niche.

However, one of the unfortunate side effects of this change is that by removing the editorial screen that is part and parcel of traditional print journalism, the internet becomes a "post-truth world." When anyone can publish anything, they do. This is not a rant about "fake news." Rather, it's an observation that news—whether real or fake—can now come from anyone, not just journalists. Indeed, look closely and you'll find that much of the "breaking news" in the technology realm comes from the very startups hawking the product in question.

Startups use the Wild West atmosphere of the internet to deploy well-oiled media-blast strategies as part of their product launches. They create "white papers" that carry an air of scientific authority, releasing them onto the internet for download. They produce slick video marketing material, releasing it onto social media platforms and pushing "viral" sharing. Startup founders give interviews to friendly correspondents at online trade journals, who publish and then chain internet links together into an echo chamber that magnifies their impact. The symbiotic

cycle repeats because the social media platforms and online trade journals need site visits to sell advertisements, and the more noise one can generate, the more site visits one gets.

The next time you see an article about some technology that is supposedly going to "disrupt" the commercial real estate space, look closely at the author. Run an internet search and find out who they are. Is this person part of the company that created the product? Are they a "technology consultant" who has been hired by that startup? Consider the source *before* considering the message. Startups work hard to utilize internet media to make the widespread adoption of their product seem inevitable, because the air of inevitability makes investors take notice.

## 8. The Scales Are Not Evenly Weighted

Unfortunately, the bad news is that this fight is not a fair one. Existing businesses are at a structural disadvantage versus the startups. This structural disadvantage is a step beyond the one identified by Christensen, whose research showed that incumbent businesses are generally too tied to their existing revenue streams to be willing to devote resources to experimenting with emerging technologies and potentially disruptive approaches.

Since Christensen's groundbreaking work, so many startups have hit the jackpot by disrupting incumbent businesses that investors are now valuing a startup based on what it *might* be worth, not what it is *actually* worth. For example, run an internet search for "initial coin offering" and examine the astounding sums raised by startups on the mere possibility of someday generating a successful product. Among the more famous are Block.one's "EOS" initial coin offering, which raised \$4 billion in anticipation of a little-defined

product that the startup *might* someday produce.<sup>22</sup> The stakes are so high that massive sums are bet on little more than hope.

Existing businesses are not afforded this flexibility. They are valued based on their existing revenue streams. Few established companies have investors who are willing to allow the business to throw obscene sums into R&D with no discernable path to a return on that investment. For as difficult as this challenge is for a traditional business, what law firm can expect its investors (read: equity partners) to forego material percentages of their payment draws in hopes of striking it rich in the technology sweepstakes?<sup>23</sup>

While the financial scales are unfairly weighted in favor of the startups, incumbent players also have an unfair advantage of their own. Startups looking to disrupt an existing industry generally have no subject matter background in that industry. The startups consider this an advantage, contending (with some justification) that they are freed of ingrained modes of thinking and thus able to discern angles that have been previously overlooked. But longstanding industries are longstanding because they have had many years to figure out what works in the space and what does not. The "tribal knowledge" of an industry exists because generations of Darwinian economic life have sorted good approaches from bad ones.

Few industries have stood for as long as the legal industry. Lawyers today stand on the shoulders of many generations who have come before. The tribal knowledge of lawyers is an advantage, not a disadvantage. Domain expertise is the secret weapon that existing businesses and industries have against the Silicon Valley disruption machine.



Domain expertise can be used to tip the scales back in our favor. It helps us to find the moving parts and communicate across cultures. Deploying it, we can identify the time and open frictions in our practices and get there first, removing them before someone else does it by removing us. It helps us sort the wheat from the chaff, so as not to be distracted by the latest press release about an “inevitable” disruptor.

And in closing, domain expertise is the tool that enables us to “think like a client” and provide a superior user experience. Because in a world of ever-increasing complexity, the best user experience almost always wins.

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<sup>2</sup> Lawrence Lessig, *Code is Law*, HARVARD MAGAZINE, Jan. 1, 2000; available at <https://harvardmagazine.com/2000/01/code-is-law-html> (last visited Dec. 27, 2018). While Lessig’s point is that the structural limitations of code set the boundaries of what can and cannot be done in a programming world (similar to how law sets these boundaries in the real world), of late technologists have taken to using the phrase to mean something more expansive: that code can *replace* the legal system, especially in the realm of “smart contracts.”

<sup>3</sup> WALTER ISAACSON, STEVE JOBS 526 (Simon & Shuster 2011) (describing the iPad 2 launch event, where Jobs “ended his presentation with the slide showing the intersection of Liberal Arts Street and Technology Street”).

<sup>4</sup> *Id.* at 527 (quoting Jobs’ speech at the iPad 2 launch, where Jobs stated, “It’s in Apple’s DNA that technology alone is not enough. We believe that it’s technology married with the humanities that yields us the results that make our hearts sing.”).

<sup>5</sup> See, e.g., Dylan Love, *Steve Jobs Never Wrote Computer Code for Apple*, Business Insider, Aug. 29, 2013, <https://www.businessinsider.com/steve-jobs-never-wrote-computer-code-for-apple-2013-8> (last visited Dec. 28, 2018) (quoting Apple co-founder Steve Wozniak as saying, “Steve [Jobs] didn’t ever code. . . . He wasn’t an engineer and he didn’t do any original design, but he was technical enough to alter and change and add to other designs.”).

<sup>6</sup> ISAACSON, *supra* note 3, at 526 (“[At the iPad 2 launch event, Jobs] gave one of the clearest expressions of his credo, that true creativity and simplicity come from integrating the whole widget—hardware and software, and for that matter content and covers and salesclerks—rather than allowing things to be open and fragmented . . .”).

<sup>7</sup> STEVE JOBS (Universal Pictures 2015)

<sup>8</sup> e.g., Elizabeth Whitman, *How Your Real Estate Transaction Is Like an Orchestra (And Why You Need A Conductor)*, JD Supra, <https://www.jdsupra.com/legalnews/how-your-real-estate-transaction-is-91953/> (last visited Dec. 27, 2018).

<sup>9</sup> A technologist friend recently pointed out to me that many corporate systems are built around how human users *work*, regardless of how the human users *think*. The difference is subtle but important. If given the freedom to craft a system around how they think, the users might decide to *work differently*.

<sup>10</sup> See ISAACSON, *supra* note 3, at 567 (quoting Jobs as opining, “Some people say, ‘Give the customers what they want.’ But that’s not my approach. Our job is to figure out what they’re going to want before they do . . . . Our task is to read things that are not yet on the page.”).

<sup>11</sup> *Cf.* J.K. ROWLING, HARRY POTTER AND THE SORCERER’S STONE 67 (Scholastic Press 1997) (explaining that a “muggle” is a person who lacks magical powers). Technologists occasionally deploy the term to describe those who cannot code.

<sup>12</sup> CLAYTON M. CHRISTENSEN, THE INNOVATOR’S DILEMMA: WHEN NEW TECHNOLOGIES CAUSE GREAT FIRMS TO FAIL (Harvard Business School Publishing 2016) (1997).

<sup>13</sup> See, e.g., *id.* at 124 (“[T]here is strong evidence that leadership in disruptive technology has been very important. The companies that entered the new value networks enabled by disruptive generations of disk drives within the first two years after those drives appeared were six times more likely to succeed than those that entered later.”) (emphasis in original).

<sup>14</sup> See *First American Launches Blockchain System*, First American Financial, Inc., <http://investors.firstam.com/investors/news-and-events/news/press-release-details/2018/First-American-Launches-Blockchain-System/default.aspx> (last visited Dec. 27, 2018).

<sup>15</sup> See Christensen, *supra* note 11, at 41.

<sup>16</sup> See, e.g., Dara Kerr, *Uber, Lyft, Sidecar get cease-and-desist letters from LA*, CNet, <https://www.cnet.com/news/uber-lyft-sidecar-get-cease-and-desist-letters-from-la/> (last visited Dec. 27, 2018).

<sup>17</sup> See, e.g., Ally Marotti, *Hotel industry group says Airbnb hosts running ‘illegal hotels’*, CHICAGO TRIBUNE, Mar. 9, 2017, available at <https://www.chicagotribune.com/business/ct-airbnb-hotel-report-0310-biz-20170309-story.html> (last visited Dec. 27, 2018).

<sup>18</sup> See, e.g., Chris Isidore, *Amazon to start collecting state sales taxes everywhere*, CNN Business, <https://money.cnn.com/2017/03/29/technology/amazon-sales-tax/index.html> (last visited Dec. 27, 2018) (“For years Amazon was one of the leaders in the fight to keep online purchases tax free.”)

<sup>19</sup> See generally *California Use Tax, Good for You. Good for California*, California Department of Tax and Fee Administration, <https://www.cdtfa.ca.gov/taxes-and-fees/use-tax.htm> (last visited Dec. 27, 2018) (“Generally, if sales tax would apply when you buy physical merchandise in California, use tax applies when you make a similar purchase from a business located outside the state. For these purchases, the buyer is required to pay use tax separately.”).

<sup>20</sup> See BLEAK HOUSE (British Broadcasting Corporation 2005) (episode 2) (Mr. Kenge: “The law grinds very slow and very fine, you must understand.”)

<sup>21</sup> See, e.g., *South Dakota v. Wayfair, Inc.*, 138 S. Ct. 2080 (2018) (overruling the prior Supreme Court precedent that had allowed online retailers to avoid collecting state sales taxes).

<sup>22</sup> See Kate Rooney, *A blockchain start-up just raised \$4 billion without a live product*, CNBC, May 31, 2018, <https://www.cnbc.com/2018/05/31/a-blockchain-start-up-just-raised-4-billion-without-a-live-product.html> (last visited Dec. 27, 2018).

<sup>23</sup> *Cf.* Christensen, *supra* note 12, at 128 (“Customers of established firms can hold the organizations captive, working through rational, well-functioning resource allocation processes to keep them from commercializing disruptive technologies. One cruel *additional* disabling factor that afflicts established companies as they work to maintain their growth rate is that the larger and more successful they become, the more difficult it is to muster the rationale for entering an emerging market in its early stages . . .”).