
THE MIT SCHOOL OF LAW? A PERSPECTIVE ON LEGAL EDUCATION IN THE 21ST CENTURY

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“Protected from the harsh winds of the markets, legal educators were free to develop a hothouse plant that bore little resemblance to anything that grew in the natural soil of law practice. The hothouse walls are falling, leaving law schools to cope with markets.”¹

Larry Ribstein

Practicing Theory: Legal Education for the 21st Century

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1. Larry E. Ribstein, *Practicing Theory: Legal Education for the Twenty-First Century*, 96 IOWA L. REV. 1649, 1652, 1655 (2011) [hereinafter Ribstein, *Practicing Theory*].

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I. INTRODUCTION

This is a symposium for the late Larry Ribstein. As the above quote highlights, Larry could be direct. In a similar vein, let me do the same. Despite some of the blustery rhetoric attendant to the ongoing market transition,² lawyers and the market for legal services are not going away.³ Lawyers serve integral roles in a wide variety of social and political systems. Their work supports the proper functioning of markets and helps individuals and organizations vindicate their respective rights. At the same time, the processes associated with completing their work—as well as the contours of their respective expertise and judgment—are already changing.⁴ These changes are being driven by a number of economic and

2. See, e.g., Daniel D. Barnhizer, *Cultural Narratives of the Legal Profession: Law School, Scamblogs, Hopelessness, and the Rule of Law*, 2012 MICH. ST. L. REV. 663.

3. That said, a nontrivial reset in the total number of law jobs and the contours of those jobs is exceedingly possible.

4. See generally MITCHELL KOWALSKI, *AVOIDING EXTINCTION: REIMAGINING LEGAL SERVICES FOR THE 21ST CENTURY* (2012); BRUCE MACEWEN, *GROWTH IS DEAD: NOW WHAT?: LAW FIRMS ON THE BRINK* (2013); RICHARD SUSSKIND, *THE END OF LAWYERS? RETHINKING THE NATURE OF LEGAL SERVICES* (2008) [hereinafter SUSSKIND, *THE END OF LAWYERS?*]; RICHARD SUSSKIND, *TOMORROW'S LAWYERS: AN INTRODUCTION TO YOUR FUTURE* (2013) [hereinafter SUSSKIND, *TOMORROW'S LAWYERS*]; Daniel Martin Katz, *Quantitative Legal Prediction—or—How I Learned to Stop Worrying and Start Preparing for the Data Driven Future of the Legal Services Industry*, 62 EMORY L. J. 909 (2013) [hereinafter Katz, *Quantitative Legal Prediction*]; Neil Rickman & James M. Anderson, *Innovations in the Provision of Legal Services in the United States: An Overview for Policymakers*, KAUFFMAN-RAND INST. FOR ENTREPRENEURSHIP PUB. POLICY, 2011, available at http://www.rand.org/content/dam/rand/pubs/occasional_papers/2011/RAND_OP354.pdf; Drury D. Stevenson & Nicholas J. Wagoner, *Lawyering in the Shadow of Data*, 66 FLA. L. REV. (forthcoming 2014), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2325137. See also Nolan M. Goldberg & Micah W. Miller, *The Practice of Law in the Age of 'Big Data'*, NAT'L L. J. (Apr. 11, 2011), <http://www.law.com/jsp/nlj/PubArticleNLJ.jsp?id=1202489457214>; Rachel Zahorsky & William D. Henderson, *Who's Eating Law Firms' Lunch?*, A.B.A. J. (Oct 1, 2013, 5:30 AM), http://www.abajournal.com/magazine/article/whos_eating_law_firms_lunch; Farhad Manjoo, *Will Robots Steal Your Job?*, SLATE (Sept. 29, 2011, 2:42 AM), http://www.slate.com/articles/technology/robot_invasion/2011/09/will_robots_steal_your_job_5.html; John Markoff, *Armies of Expensive Lawyers, Replaced by Cheaper Software*, N.Y. TIMES (Mar. 4, 2011), <http://www.nytimes.com/2011/03/05/science/05legal.html>; Sharon Driscoll, *A Positive Disruption: The Transformation of Law Through Technology*, STAN. LAW. (June 4, 2013), <http://stanfordlwyr.law.stanford.edu/2013/06/a-positive-disruption/>; Jeff Gray, *Welcome to Robot, Android & Automaton LLP*, GLOBE & MAIL (June 14,

technological trends, many of which Larry identified in a series of important articles published in the years before his untimely death.⁵

At the outset, it is worth noting that the legal services industry is not a monolith, and change has and will continue to manifest in different ways across different tranches of work. At the high end of the market, lawyers often help their clients navigate increasingly complex legal, regulatory, and institutional environments. Indeed, helping navigate complexity is part of the core value proposition offered by a significant number of lawyers. Arguably, the legal system and society are getting more complex;⁶ given complexity is at the core of bespoke work,⁷ the market for lawyers that can thrive in complex environments should remain robust. The ongoing question for legal educators is how best to equip future legal professionals to deliver value for their respective clients in a variety of complex multi-disciplinary environments. Whether it is a multi-billion dollar M&A deal, the construction of a comprehensive and legally defensible document management and retention system, a challenging piece of bio-tech centered patent infringement litigation, or Dodd Frank compliance, high-end lawyering is an exercise in helping clients navigate in opaque environments.

Despite growth in complexity and likely inelastic demand for the very best lawyers, a nontrivial fraction of today's legal work is not high end legal architecting and does not require nearly as many individuals in order to see the work accomplished.⁸ For a certain range of tasks, high cost human capital can be substituted for less expensive alternatives—whether this is through labor arbitrage, better processes, or software.⁹ In the medium and long term, some of the largest financial returns likely will be obtained by the set of individuals who are able to help transition the legal industry to the proper reallocation of the legal production func-

2011, 6:58 PM), <http://www.theglobeandmail.com/report-on-business/industry-news/the-law-page/welcome-to-robot-android-automaton-llp/article4261559/>; Tam Harbert, *Big Data Meets Big Law: Will Algorithms Be Able to Predict Trial Outcomes?*, L. TECH. NEWS (Dec. 27, 2012), www.law.com/jsp/lawtechnologynews/PubArticleLTN.jsp?id=1202555605051; Aric Press, *The Future of Law as Seen from Silicon Valley*, AMERICAN LAWYER (Mar. 12, 2013, 9:06 PM), <http://www.americanlawyer.com/id=1202591626075/The-Future-of-Law-as-Seen-from-Silicon-Valley>.

5. See generally Bruce H. Kobayashi & Larry E. Ribstein, *Law's Information Revolution*, 53 ARIZ. L. REV. 1169 (2011); Larry E. Ribstein, *Delayering the Corporation*, 2012 WIS. L. REV. 305 [hereinafter Ribstein, *Delayering the Corporation*]; Ribstein, *Practicing Theory*, *supra* note 1; Larry E. Ribstein, *The Death of Big Law**, 2010 WIS. L. REV. 749 [hereinafter Ribstein, *The Death of Big Law**].

6. This is a topic that I have begun to explore in recent work. See, Michael J. Bommarito II & Daniel M. Katz, *A Mathematical Approach to the Study of the United States Code*, 389 PHYSICA A 4195 (2010). Daniel Martin Katz & Michael J. Bommarito II, *Measuring the Complexity of the Law: The United States Code*, J. ARTIF. INTEL. & L. (2014 Forthcoming); see Paul Lippe & Daniel Martin Katz, *10 Predictions About How IBM's Watson Will Impact the Legal Profession*, ABA J., – NEW NORMAL (Oct. 2, 2014, 10:00 AM) http://www.abajournal.com/legalrebels/article/10_predictions_about_how_ibms_watson_will_impact.

7. See generally SUSSKIND, *THE END OF LAWYERS?*, *supra* note 4, at 29.

8. See, e.g., Manjoo, *supra* note 4; Markoff, *supra* note 4.

9. *Id.*

tion.¹⁰ Both existing lawyers and law students are awakening to this reality and a non-trivial number are building companies that will help support the transition.¹¹

The transition is underway in high to medium complexity work and to a lesser extent in the retail segment of the legal market. So called “regular people law”—i.e., affordable legal services for the middle class, pro-bono and “low bono” market segment—still remains illusive. Using technology, process, and lower cost infrastructure, there are a number of notable efforts to better serve the underserved and thereby meaningfully and sustainably provide access to justice. However, much more work remains to be done.

As Larry predicted, *law’s information revolution* is very much underway. Whether the clients are institutions or just regular folks, it is a process and efficiency revolution. For lawyers, substantive expertise is (of course) a minimum expectation, but going forward it may not be the primary dimension of competition. Within legal organizations (both law firms and, more importantly, corporate law divisions) and in the legal entrepreneurship community, process, workflow, metrics, efficiency, and analytics are beginning to take hold. It is transforming the practice of law in ways that are not yet fully realized. Complete change typically takes longer than it should.¹² Organizations are sticky, due to noisy signaling and other factors, and markets take time to clear.¹³ But there are signs that this time is indeed different.¹⁴

10. To the extent that one can model legal service provision as the byproduct of some sort of Cobb-Douglas style production function, the present shift in the market is aimed at substituting labor for capital (i.e., software, process and other related technology).

11. See, e.g., Rachel M. Zahorsky, *Vendor or Competitor? Pangea3 Purchase Pleases Some, Worries Others* A.B.A. J. (Feb. 1, 2011, 1:50 AM), http://www.abajournal.com/magazine/article/vendor_or_competitor/; Jessica Bruder, *A Start-Up Rethinks the Process of Getting a Trademark*, N.Y. TIMES (Apr. 11, 2012, 7:00 AM), <http://boss.blogs.nytimes.com/2012/04/11/a-start-up-re-thinks-the-process-of-getting-a-trademark/>; Lora Kolodny, *Khosla Ventures, Peter Thiel Back Legal Research Startup Judicata*, WALL ST. J. BLOGS (May 28, 2013, 1:34 PM), <http://blogs.wsj.com/venturecapital/2013/05/28/khosla-ventures-peter-thiel-back-legal-research-startup-judicata/>; Cari Sommer, *How Entrepreneurship is Reshaping the Legal Industry*, FORBES (July 24, 2013, 11:46 AM), <http://www.forbes.com/sites/carissommer/2013/07/24/how-entrepreneurship-is-reshaping-the-legal-industry/>; Christina Farr, *Meet the Startups That Are Giving Everyone Affordable Access to Justice*, VENTURE BEAT (Mar. 20, 2012, 10:16 AM), <http://venturebeat.com/2012/03/20/legal-startups/>; Tam Harbert, *Stanford Law: Vortex for Legal Tech Startups*, LAW TECH. NEWS (June 1, 2013), <http://www.lawtechnologynews.com/id=1202600694430>; Joshua Kubicki, *6 Reasons the Legal Industry is Ripe for Startup Invasion*, TECH COCKTAIL (Mar. 25, 2013), <http://tech.co/legal-industry-startup-invasion-2013-03/>; Alice Truong, *LegalForce Revs Up \$10M Fund to Help Startups Build Patent Portfolios*, FAST COMPANY (July 24, 2013, 5:34 PM), <http://www.fastcompany.com/3014799/legalforce-revs-up-10m-fund-to-help-startups-build-up-patent-portfolios>.

12. See generally CLAYTON M. CHRISTENSEN, *THE INNOVATOR’S DILEMMA: WHEN NEW TECHNOLOGIES CAUSE GREAT FIRMS TO FAIL* (1997); EVERETT M. ROGERS, *THE DIFFUSION OF INNOVATIONS* (1962).

13. Real labor markets do not instantaneously adapt to changes in the broader environment. Indeed, many of the returns obtained by entrepreneurs who identify and capture gains associated with such moments of transition.

14. Probably the most important signs are (1) the changing appetite on behalf of general counsels to pay otherwise outsized legal bills and (2) the significant amount of startup activity that has taken place in the legal industry since the financial crisis began in 2008.

Taking stock of these changes, this Essay is a thought exercise about a hypothetical MIT School of Law—an institution with the type of curriculum that might help prepare students to have the appropriate level of substantive legal expertise and other useful skills that will allow them to deliver value to their clients as well as develop and administer the rules governing markets, politics, and society as we move further into the 21st Century.¹⁵ It is a blueprint based upon the best available information, and like any other plan of action would need to be modified to take stock of shifting realities over time. It is not a solution for all of legal education.¹⁶ Instead, it is a targeted description of an institution and its substantive content that could compete very favorably in the existing and future market. It is a depiction of an institution whose students would arguably be in high demand. It is a high-level sketch of an institution that would be substantively relevant, appropriately practical, theoretically rigorous and world class. In other words, it is a plant that can survive and thrive outside those *hothouse walls*.¹⁷

If Larry was right and law schools now have to deal with markets, the question is how best to do so. As of this very minute, there are approximately two graduating law students for each available law job.¹⁸

15. It is important to note that this is not a new idea. Indeed, it is a vision that can be originally attributed to Robert Rines, a professor at MIT. See *History of IP at UNH Law*, UNIV. N.H. SCH. LAW, <http://law.unh.edu/franklin-pierce-ip-center/about/history-of-ip-at-unh-school-of-law> (last visited July 14, 2014) (“More than 35 years ago, Robert Rines, a patent attorney and professor at the Massachusetts Institute of Technology (MIT) had a dream of a MIT School of Law, where the focus would be on the interface of law and science as well as on training patent lawyers with a practice-based approach. What was intended as the ‘MIT North Campus’ in New Hampshire was not to be, as a change of administration at MIT resulted in a decision not to pursue building a law school.”). Franklin Pierce (now called University of New Hampshire Law School) is one of the leading schools teaching Patent Law and is able to compete against schools such as Stanford and Berkeley.

16. The benefit of adopting the approach outlined herein is particularly strong in an environment like the present where very few institutions are pursuing this strategy. Law schools cannot change the aggregate demand for legal services, but it is very possible to increase the availability of opportunities for their students.

17. See Ribstein, *Practicing Theory*, *supra* note 1

18. On the labor supply end of the equation, according to the ABA Section of Legal Education and Admissions to the Bar, during the 2012–2013 academic year there were 46,478 J.D. or L.L.B. awarded, while 2011–2012 witnessed 44,495 graduates and 2010–2011 witnessed 44,258 J.D. or L.L.B. graduates. See *Enrollment and Degrees Awarded 1963 – 2012 Academic years*, 2012 A.B.A. SEC. LEGAL EDUC. AND ADMISSIONS BAR 1, available at http://www.americanbar.org/content/dam/aba/administrative/legal_education_and_admissions_to_the_bar/statistics/enrollment_degrees_awarded_authcheckdam.pdf. The best available forecast of current and long-term future demand is produced by the Bureau of Labor Statistics. Collectively over the 2010–2020 decade they forecast 131,000 jobs will be created or roughly 13,100 per year. See C. Brett Lockard & Michael Wolf, *Occupational Employment Projection to 2020*, MONTHLY LAB. REV., 84, 94 (2012). This 13,100 number can be added to the existing rate of turnover which could range from 7,000 to 13,000 per year yielding a total set of opportunities ranging from 20,000 to 26,000 per year. The past few years have witnessed significant declines in the number of applicants and number of enrolled students. To the extent that these declines continue they would eventually lead to some sort of equilibrium state some time between 2017 and 2021. See Deborah J. Merritt, *When Will Graduates = Jobs?*, LAW SCH. CAFÉ (Nov. 22, 2013, 8:40 PM), <http://www.lawschoolcafe.org/thread/when-will-graduates-jobs/>. There is a significant difference between the total number of jobs and the contours of those jobs. The overall market is diverse and cannot be captured by a single characterization. The operating premise of this Article is that polytechnic legal jobs will be one source of growth in the legal labor market. For a certain range of increasingly important current and future legal jobs, the existing liberal arts tradition present in most law

This situation will hopefully improve in the coming years,¹⁹ but, generally speaking, changing the macroeconomic environment is not within the province of an individual educational institution.²⁰ The demand for legal services is set exogenously by the dynamics of the relevant market(s). What an individual institution can do is compete and do the best possible with respect to its students. For many institutions, if they accept the status quo contours of the market as given, they will underperform. The way to win is to stop trying to be the “50th or 100th best Harvard and Yale”²¹ and instead to concentrate on outflanking these and other institutions by becoming leaders in law’s major emerging employment sectors.

The objective function that educational institutions must seek to optimize is high quality jobs that support the respective educational investment by students.²² Some institutions easily satisfy this criteria,²³ while many others fall short. As Bill Henderson has argued: “[T]he new gold standard employment outcome is full-time, long-term professional law-related jobs. The issue of how to maximize this outcome is so pressing and intricate that it may warrant trade-offs in the admissions process, fa-

schools will not be able to compete with a well-specified MIT Law style offering. The market will select the polytechnic alternative.

19. Given the decreasing number of law school applicants, the ratio of jobs to graduates should improve. There is, however, a significant backlog of applicants who are seeking law or law-related jobs. In addition, even if more jobs do return, the contours of the work performed by those white-collar professionals is still likely to change. Most importantly, all jobs are not equal so even as conditions improve the question will still remain - which institution(s) is preparing its students for long term success as we move further into the 21st Century.

20. Retail legal services represent one potential untapped frontier. See Chas Rampenthal, *Retailing Lessons for the Legal Industry*, Presentation at ReInventLaw Silicon Valley (Mar. 8, 2013), available at <http://reinventlawchannel.com/chas-rampenthalretailing-lessons-for-the-legal-industry/>. To the extent that entrepreneurially minded enterprises are able to lower price points and convert the unrepresented population into those receiving legal services, this could obviously change the broader macro legal labor market. Many of the startups in the legal space are making this sort of a play. The key to success is to leverage technology, design, and a novel business model in order to deliver services in a cost effective manner. To the extent that an institution helped support this transition, then it could be said to have actually changed the otherwise exogenous demand function.

21. The legal academy’s obsession with mimicry is well documented—and there are no two institutions that more beloved when it comes to mimicry than Harvard and Yale. This extends to faculty hiring. See, e.g., Daniel Martin Katz, et al., *Reproduction of Hierarchy? A Social Network Analysis of the American Law Professoriate*, 61 J. LEGAL EDUC. 76, 84 (2011) [hereinafter Katz, *Reproduction of Hierarchy*]. It also extends to various practices and perspectives. See, e.g., MARK A. GRABER, *TRANSFORMING FREE SPEECH: THE AMBIGUOUS LEGACY OF CIVIL LIBERTARIANISM* 134 (1992); Pamela Brandwein, *A Judicial Abandonment of Blacks? Rethinking the “State Action” Cases of the Waite Court*, 41 LAW & SOC’Y REV. 343, 374–75 (2007).

22. There are a number of important caveats to this claim. There are obviously other goals associated with enterprise, but it should not be a controversial claim to assert that the primary goal of professional education should be ensuring that students can obtain relevant professional jobs (broadly construed).

23. Even taking a broad perspective on the question and including positions in business and nonprofit enterprises as well as the J.D. advantage type positions, the relative employment rates by schools differ widely. To access data on employment rates by schools, see *ABA Section on Legal Education and Admission to the Bar*, A.B. A. SEC. LEGAL EDUC. & ADMISSIONS BAR, <http://employmentsummary.abaquestionnaire.org/> (last visited July 14, 2014). For schools that easily place a substantial percentage of their class, there exists in a sense a surplus of resources, which the institution can spend to pursue other directives and goals. This surplus once extended to far more institutions, but as Larry noted for many institutions “[t]he hothouse walls are falling, leaving law schools to cope with markets.” Ribstein, *Practicing Theory*, *supra* note 1, at 1652.

voring students will lower credentials but more rock-solid employment prospects on the backend at graduation.”²⁴

The key is to build a better product and demonstrate its superiority to the marketplace. Obviously, this is a non-trivial endeavor. The first question to ponder is what precisely constitutes a better product? Better for what set of tasks that lawyers undertake? The legal education and legal services market contain a series of market distortions, information asymmetries, and agency problems.²⁵ In addition, both the market for legal education and a market for legal services feature a variety of noisy signals.²⁶ Namely, it is difficult to overcome strong brands and the noisy lagging signals that surround the classification of quality.²⁷ At all places within the industry—law schools, law professors, practicing lawyers, law firms, and general counsels—assessing the quality of the relevant product or service is extremely difficult.

On the education side of the equation, students historically seek branded institutions. Specifically, they tended to seek institutions with higher U.S. News rankings. The general assumption held by students (and faculty) is that a higher ranked institution would result in better labor market outcomes (as measured by dollars or other related quality measures).²⁸ From the perspective of many students, whether those outcomes were due to sorting or the treatment effect of the underlying education is actually immaterial. The would-be students voted with their feet and they often did so with little deep understanding of the quality of the product being offered or how their respective skills or background were suited to offerings at particular institutions. In many unfortunate instances, would-be students were often myopic about their own likely pro-

24. See William D. Henderson, *The Competition Is for Full-Time, Professional Law-Related Jobs, Part II*, THE LEGAL WHITEBOARD BLOG, available at <http://lawprofessors.typepad.com/legalwhiteboard/2013/06/the-competition-is-for-full-time-law-related-professional-jobs-part-ii.html>; see also William D. Henderson, *A Blueprint for Change*, 40 PEPP. L. REV. 461, 462 (2013) [hereinafter Henderson, *A Blueprint for Change*]. The U.S. News rankings make this tradeoff difficult. Among the many shortcomings of the U.S. News rankings is that it should care far less about front end entering credentials and more about the back end employment outcomes.

25. Historically, students were often (and still are) myopic regarding their own lives in the law. They are, however, not entirely to blame. To the extent they provided misleading or otherwise inaccurate information (and many of them did) to would-be law students, law schools deserve blame as well. Going forward, transparency initiatives such as the Law School Transparency Project and otherwise better available data have helped reduce the information asymmetry present in the legal education market. For more on transparency, see Rachel M. Zahorsky, *Kyle McEntee Challenges Law Schools to Come Clean*, A.B.A. J. (Sept. 19, 2012, 9:00 AM), http://www.abajournal.com/legalrebels/article/kyle_mcentee_scourge_of_the_status_quo; see also LAW SCH. TRANSPARENCY, <http://www.law-schooltransparency.com/> (last visited July 14, 2014).

26. When trying to classify the quality of one’s legal education and one’s lawyer, it is difficult for the relevant consumer to generate a clean assessment.

27. This is a problem that is not unique to legal education and the legal services.

28. At a high level, such a pattern has historically been present. With respect to labor market outcomes, though, the distances between institutions are nonlinear. In other words, U.S. News is an ordinal rank while job placement is indexed between zero and one hundred. Other than in a few discrete stair steps, small to medium differences in U.S. News ranking typically do not correspond to significant changes in labor market outcomes.

spects—their own “lives in the law.”²⁹ Incoming students too often selected programs, academic tracks, and institutions that were poorly configured to the economic realities of their current and future legal labor market.³⁰

The legal labor market (particularly at the entry level) is also very noisy. Large law firm partners sell their time as well as the time of their associates to their clients. To the extent there were questions raised regarding why a particular associate was working on their matter, the firm could answer with statements such as “well they went to XYZ elite institution or were at the very top of their class at ABC regional institution.” This brand signal served as a placeholder for quality because, as noted above, lawyer quality is among the most difficult of measurement problems.³¹ Both in law and in consumer markets generally, in the absence of clearly better alternative measures, firms and clients fixate on well-established brands.

An entrepreneurially minded law school has to overcome the existing brand signals. This is necessary as the institution seeks to obtain an increasing share of the existing jobs, and it is important in order to position its students to take advantage of places where new labor market openings are created. The high level workflow is simple—train, attract, and place students (in that order). To understand where the placement opportunities lie, one must work backwards starting with the employment end of the pipeline and ask employers this question: “What would it take for you to hire one (or more) of our graduates?” This information is a useful starting point but not complete because the target is shifting and thus even the employers are not quite sure what they want.³² For ex-

29. See, e.g., Daniel Martin Katz, *Thoughts on the State of American Legal Education—The New York Times Editorial Edition*, COMPUTATIONAL LEGAL STUDIES, (Nov. 28, 2011) <http://computationallegalstudies.com/2011/11/28/thoughts-on-the-state-of-american-legal-education-the-new-york-times-editorial-edition/> (“Students do carry some of the blame here. They are far from realistic about their position in the market for legal services and thus pursue coursework and training for which there is limited (zero) labor market payoffs. This happens at every institution, every year and has been going on for a very long time.”).

30. In other words, the students selected a specialty track for which there was little or no chance that in their specific circumstance a job would follow.

31. Direct measurement of lawyer quality and performance is among the most challenging questions facing our industry. Various organizations are attempting to develop such metrics. See Steve Gibson et al., *Moneyball for Law Firms*, AM. LAW. DAILY (Oct. 10, 2011, 4:00 PM) <http://amlawdaily.typepad.com/amlawdaily/2011/10/moneyball-for-law-firms.html>. In the absence of alternative metrics, hiring partners end up relying on pedigree and this reliance is too often misplaced. *Id.* (“Bias among brilliant equity partners? Yes, it happens. A good example is attitudes toward law school pedigree. The data suggests that, in several firms, a subset of partners who attended elite law schools often give higher performance ratings to associates who also attended elite law schools—even when non-elite associates are statistically identical on every other measure. In contrast, when looking at the same group of associates, partners who did not attend elite law schools observe no performance gap.”); *id.* (“Using [a] wide range of biographical data, [its] Moneyball analyses reveal that law firms are often systematically overvaluing some attributes, ignoring others that really matter, and generally making bad tradeoffs in both entry level and lateral lawyer ‘drafts.’”).

32. There are entirely new job titles with entirely new set of skills required. These jobs are an important source of growth within the industry. See Stephanie Francis Ward, *15 Fairly New Legal Industry Jobs and 6 More You May See Soon*, A.B.A. J. (Sept. 30, 2013, 4:57 PM), http://www.abajournal.com/legalrebels/article/what_new_legal_services_jobs_have_emerged_in_the_last_five_years/

ample, a recent MacArthur Foundation study noted sixty-five percent of grade school students will end up undertaking a job that has not yet been invented.³³ While such extreme uncertainty is arguably not present in the legal services industry, this statistic points us to a basic insight regarding labor markets—past performance is not necessarily indicative of future results. This is particularly true in periods of disruption.

The balance of this Article proceeds as follows: Part II sets the stage by highlighting several recent trends in the market for legal services. Taking stock of those trends, Part III highlights an alternative paradigm for legal education and describes the polytechnic style of legal education that students might obtain at an MIT School of Law. Part IV carries through on that basic thought experiment by describing the process of attracting, training, and placing students that would occur at MIT Law. Part V provides some concluding thoughts.

II. THREE FACES OF LAW & ENTREPRENEURSHIP AND FIVE LARGE TRENDS IN THE LEGAL INDUSTRY

A. *Three Faces of Law & Entrepreneurship*

As a starting point, it is important to highlight three distinct ways in which entrepreneurship and entrepreneurial thinking are present in the legal industry. The classic version of law and entrepreneurship, as understood by most legal academics and practitioners, involves lawyers who generate legal work on behalf of entrepreneurs. Such work is critical to support the effective protection of inventors, innovators, and others devoted to startup type activity. This includes crafting operating agreements, company incorporation materials, and DBAs, protecting intellectual property, drafting, and reviewing term sheets, as well as a whole host of other relevant legal work. Lawyers who successfully represent entrepreneurs help their clients navigate the startup process from idea to company formation and beyond. Across the entire spectrum of the economy, these tasks require the talents of a non-trivial number of lawyers and law firms. In addition, it has drawn the attention of a number of

(noting that the “latest and greatest law jobs” include legal risk manager, legal knowledge engineer, alternative litigation funder, legal pricing specialist, contract or litigation analyst). Allow me to add a few more—legal information architect, legal product designer, legal project manager, legal process engineer, etc. For a recent example of one such new “J.D. Advantage Job,” see Bill Henderson, *What Does a JD-Advantaged Job Look Like? Job Posting for a “Legal Solutions Architect,”* LEGAL WHITEBOARD (Oct. 15, 2013) <http://lawprofessors.typepad.com/legalwhiteboard/2013/10/what-does-a-jd-advantaged-job-look-like-job-posting-for-a-legal-solutions-architect.html>.

33. See Virginia Heffernan, *Education Needs a Digital-Age Upgrade*, N.Y. TIMES OPINIONATOR BLOG (Aug. 7, 2011, 5:30 PM), <http://opinionator.blogs.nytimes.com/2011/08/07/education-needs-a-digital-age-upgrade/> (“If you have a child entering grade school this fall, file away just one number with all those back-to-school forms: 65 percent. Chances are just that good that, in spite of anything you do, little Oliver or Abigail won’t end up a doctor or lawyer—or, indeed, anything else you’ve ever heard of. According to Cathy N. Davidson, co-director of the annual MacArthur Foundation Digital Media and Learning Competitions, fully 65 percent of today’s grade-school kids may end up doing work that hasn’t been invented yet.”).

law schools which in recent years have launched both clinics and academic centers devoted to this face of law and entrepreneurship.³⁴

While traditional law and entrepreneurship is certainly important and worthwhile, there is much more, however, to law and entrepreneurship. Indeed, there are two other dimensions that are worthy of mention because they are driving meaningful innovation in the legal industry. While there are lawyers *for* entrepreneurs (as described above), equally interesting are lawyers working *as* entrepreneurs within the legal industry. The efforts of these individuals are driving innovation in both substantive law and in the process through which legal services are produced and delivered.

Starting with the substantive innovations, there exist a constantly unfolding set of substantive legal questions for which entrepreneurially minded attorneys can demonstrate competency and mastery. Innovation and entrepreneurship around substantive legal questions is not a new idea. Each time the world changes in some substantively meaningful manner, the law is called upon to respond in turn.

Perhaps the most famous example of such a substantive innovation is the poison pill defense (shareholder rights plan) crafted in 1982 by Martin Lipton at Wachtell Lipton in a response to the ever-increasing set of corporate raiders who were targeting companies for a hostile takeover.³⁵ Some have characterized the poison pill as “the most important innovation in corporate law since . . . [the invention of] the trust for John Rockefeller and Standard Oil in the late 1879.”³⁶ Lipton’s substantive innovation made him perhaps the most sought after corporate lawyer in America. While it is rare for a major substantive legal innovation to be ascribed to a single practicing lawyer, there are many examples of emerging areas of law where lawyers are seeking to stake out their respective expertise. Contemporary examples include 3D printing, driverless cars, augmented reality, drones, cybersecurity and data breach, the Internet of Things, and big data and privacy, to name a few. In each of these domains, lawyers with the proper ensemble of legal and technical knowledge are poised to be successful.

Process-centered innovation is the third face of law and entrepreneurship. Technology as well as methodologies such as “lean” thinking, design thinking and the use of analytics are helping lawyers meet what

34. See e.g. Martha Neil, *New Law School LLM Programs Teach Attorneys to Be Entrepreneurial*, ABA J. (Jan 23, 2010 02:14 AM), http://www.abajournal.com/news/article/new_law_school_llm_programs_teach_attorneys_to_be_entrepreneurial/; *How Law Schools And Entrepreneurs Collaborate to Serve Both Students and Innovators*, FORBES (Dec. 7, 2012 12:06PM), <http://www.forbes.com/sites/ashoka/2012/12/07/how-law-schools-and-entrepreneurs-collaborate-to-serve-both-students-and-innovators/>.

35. Liz Hoffman, *Martin Lipton: Poison Pills are “Critical in the Face of Increased Activism*, WALL ST. J. MONEYBEAT BLOG (Jan. 29, 2014, 12:27 PM), <http://blogs.wsj.com/moneybeat/2014/01/29/martin-lipton-poison-pills-are-critical-in-the-face-of-increased-activism/>.

36. Ronald J. Gilson, *Lipton and Rowe’s Apologia for Delaware: A Short Reply 2* (Columbia Law School: The Center for Law and Economic Studies Working Paper No. 197 2001), available at http://papers.ssrn.com/sol3.papers.cfm?abstract_id=299912.

Richard Susskind has called the “more for less” challenge.³⁷ Several of the other trends described below highlight how various institutions and entities are embracing this third face in order to meaningfully differentiate themselves in this ultra-competitive market.

B. *Five Large Trends in the Legal Industry*

Not only is it “*tough to make predictions, especially about the future,*” but it is particularly challenging in turbulent environments. What is certainly true is that every industry is infected with some level of wrongheaded thinking, and the legal services industry is no different. It is the successful entrepreneur who sees the world differently—sees the world as it might be and capitalizes. The successful entrepreneur properly identifies where things are heading and gets to the future before others. This is not to say that current and past trends are not meaningful. Indeed, to best understand where opportunities lie requires a strong understanding of the relevant dynamics of the overall legal services and legal product market.

1. *Trend #1: General Counsel as Legal Supply Chain and Legal Process Manager*

The account is not mono-causal, but there are some fundamental features that appear permanent and thus strongly support the account that the legal industry has been permanently transformed. Specifically, a non-trivial number of the general counsels of the world’s largest corporations appear to have permanently changed their behavior. They have taken control of the legal supply chain and in so doing have put the industry on the path to the “new normal.”³⁸ The micro-foundations of their behavioral change started in the early to mid 2000’s as the convergence of technology, analytics, outsourcing, and procurement allowed entrepreneurially minded individuals to develop new and more efficient methods to help deliver solutions to clients.³⁹ The changes have not been

37. See generally SUSSKIND, *THE END OF LAWYERS?*, *supra* note 4,

38. See generally ANN PAGE & RICHARD TAPP, *MANAGING EXTERNAL LEGAL RESOURCES* (2007); MARI SAKO, UNIV. OF OXFORD SAID BUS. SCH. *GENERAL COUNSEL WITH POWER?* (2011), available at http://sbs.eprints.org/4560/1/General_Counsel_with_Power.pdf; SUSSKIND, *THE END OF LAWYERS?*, *supra* note 4; Milton C. Regan, Jr. & Palmer T. Heenan, *Supply Chains and Porous Boundaries: The Disaggregation of Legal Services*, 78 *FORDHAM L. REV.* 2137 (2010). See also *General Counsel Eyeing Legal Services “Production Line,” Oxford Research Finds*, *LEGAL FUTURES* (Sept. 7, 2011), <http://www.legalfutures.co.uk/legal-services-act/market-monitor/general-counsel-eyeing-legal-services-production-line-oxford-research-finds> (discussing Mari Sako’s work).

39. See *CTR. FOR THE STUDY OF THE LEGAL PROFESSION AT THE GEORGETOWN UNIV. LAW CTR., 2013 REPORT ON THE STATE OF THE LEGAL MARKET 12* (Thomson Reuters Peer Monitor 2013), available at <https://peermonitor.thomsonreuters.com/ThomsonPeer/docs/2013ReportLegalIndustryPeerMonitorGeorgetown.pdf> [hereinafter 2013 GEORGETOWN STUDY] (“While it is clearly true that the economic downturn has been the proximate cause of much of the disruption we have seen in the legal market, the recession alone does not tell the whole story. Even in the boom years of the decade preceding 2008, other important market forces were at work gradually building toward an inflection point.”).

instantaneous because technological possibility and technology adoption are, of course, not one in the same. It is in this respect that the recession is responsible for accelerating the timeline associated with a long overdue structural shift.⁴⁰

Following the financial crisis and associated economic downturn, an increasing number of the primary consumers of large-to mid-sized legal services (i.e., corporate general counsels) have been placed under directives from the CEOs or CFOs of their respective companies to reduce their legal expenses.⁴¹ Legal was brought in line with other “C-level” officers who were forced to live within a budget of decreasing size.⁴² This cost pressure required a very different approach and placed stress on many historic and longstanding relationships between general counsels and their preferred outside lawyers.⁴³

Necessity may be the mother of all innovation, but as these general counsels began to reset the historic relationships, they had plenty of entrepreneurial enterprises seeking to aid them in lowering their respective legal costs.⁴⁴ The openness on the part of the relevant consumer (in this case the general counsel) is an important and necessary precondition for innovation in the legal services industry. Now, forced to do “more with less,”⁴⁵ the shifting environment created the perfect window of opportunity for technology firms, analytics firms, legal process outsourcing enterprises, and a new generation of efficiency minded law firms to begin to

40. There is an ongoing debate regarding whether the legal market is undergoing a cyclical or a structural downturn. Suffice it to say, it is the view of this author the sum of quantitative and qualitative evidence supports the structural account. Yet, such an argument can typically never be fully adjudicated in contemporaneous manner. Every structural change begins by looking like a cyclical change until which time as exceeds some prior historical threshold. For example, in a recent paper that received attention in the media, Simkovic and McIntyre argue that the available data show that the current downturn is still within historic cyclical rates. See Michael Simkovic & Frank McIntyre, *The Economic Value of a Law Degree* (Apr. 13, 2013) (unpublished manuscript), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2250585. It is useful to remember what is really important. Identifying whether a change is structural or cyclical is not really that important. Even in a period without disruption, it is always possible to develop a better product. The thrust of this paper is about an institution helping support innovation and entrepreneurship in the legal industry. In principle, such an institution can be developed regardless of whether structural or cyclical view is ultimately correct. Innovation is about doing the obvious before it is obvious to others. The question properly posed is how best to prepare to for lawyering in the 21st Century. It is hard to escape the conclusion that those championing the Simkovic and McIntyre thesis are doing so because they see it as some sort of vindication for their status quo thinking about the operation of legal education and the market for legal services. As someone interested in attracting students and competing to secure job placements for my students, I welcome their complacency.

41. See Jennifer Smith, *Smaller Law Firms Grab Big Slice of Corporate Legal Work*, WALL ST. J., Oct. 22, 2013, <http://online.wsj.com/news/articles/SB10001424052702303672404579149991394180218> (“General counsel at many companies have become smarter shoppers since the economic downturn in 2008, when clamping down on legal costs became a necessity. Corporate law departments face continued pressure to keep the bills down.”). See also Ribstein, *Delayering the Corporation*, *supra* note 5, at 305. SUSSKIND, TOMORROW’S LAWYERS, *supra* note 4, at 72–75.

42. See Smith, *supra* note 41.

43. See Ribstein, *The Death of Big Law**, *supra* note 5, at 760–61; Ben W. Heineman, Jr., *The Rise of the General Counsel*, HARVARD BUS. REV. BLOG NETWORK (Sept. 27, 2012, 1:00 PM), <http://blogs.hbr.org/2012/09/the-rise-of-the-general-counsel/>. See also SAKO, *supra* note 38, at 19–23.

44. See sources cited *supra* note 11.

45. See SUSSKIND, TOMORROW’S LAWYERS, *supra* note 4, at 68–70.

capture particular *tranches* of legal work. Like virtually every story of upstart success, these startup entities focus upon the lower end of the respective value chain.⁴⁶ Thus, many of the first generation companies focus upon tasks such as due diligence, e-discovery, basic document assembly, and information and knowledge management. Subject to some limits, there is no reason why these organizations cannot attempt to climb further up the value chain.

More expertly managing the legal supply chain, general counsels rather than law firms are beginning to control the sourcing of work. Clients are now in control. Not surprisingly, they are saving money by selecting the more efficient and more effective providers. As noted in the recent 2013 *Report on the State of the Legal Market*,

all of the critical decisions related to the structure and delivery of legal services—including judgments about scheduling, staffing, scope of work, level of effort, pricing, etc.—are now being made primarily by clients and not by their outside lawyers. This represents a fundamental shift in the relationship between lawyers and their clients.⁴⁷

Value propositions and arbitrage opportunities abound for the sophisticated general counsels to save money while still receiving high quality legal services. In situations other than the “bet the company case,” the relationship between the general counsel and Big Law partners will likely continue to fray. The recession imposed significant pressure on legal department budgets.⁴⁸ Although once sacred, the corporate law department is being subjected to pressure similar to other corporate divisions.⁴⁹ As such, some of the informatics and supply chain techniques used in other portions of the business have now been retrofitted and applied to support increasingly sophisticated forms of legal procurement.⁵⁰

46. Both adoption cycles, diffusion and market entrant strategy are well studied areas. For just one classic treatment of diffusion, see ROGERS, *supra* note 12.

47. 2013 GEORGETOWN STUDY, *supra* note 39, at 13.

48. Law firms and other legal service providers often offer “rack rate[s],” a term developed in the travel industry to describe the often inflated prices that a person pays at a hotel if he or she deals directly with the hotel under high demand conditions. The Real Rate Report is particularly useful because it highlights the actual rates paid by purchasers. In much the manner that online travel sites (e.g., Orbitz, Travelocity, and Kayak) revolutionized the travel industry, this aggregated information can help high-end purchasers of legal services overcome various information deficits. See Debra Cassens Weiss, *Why Law Firms Are like Hotels: ‘Rack Rates’ Are Negotiable, Real Rates Vary by Client*, A.B.A. J. (May 26, 2010, 8:08 AM) http://www.abajournal.com/news/article/client_beware_law_firm_rack_rates_are_negotiable_and_real_rates_vary_even_f/.

49. See BUYING LEGAL: PROCUREMENT INSIGHTS AND PRACTICE (Silvia Hodges ed., 2010) [Hereinafter *Buying Legal*]; Heidi K. Gardner & Silvia Hodges Silverstein, *GlaxoSmithKline: Sourcing Complex Professional Services*, HARVARD BUS. SCHOOL CASE STUDY (June 2014), available at <http://www.hbs.edu/faculty/Pages/item.aspx?num=45646>; see also Rebekah Mintzer, *2013 Law Department Metrics Benchmarking Survey*, CORPORATE COUNSEL (Nov. 20, 2013), (“One way some law departments are getting a better handle on outside spending is by using alternative fee arrangements (AFAs) as a substitute for the traditional billable hour . . . Just as in-house attorneys are handing less work to outside counsel, they are also cutting down on the number of outside firms they use, the 2013 survey indicated. This outside counsel “convergence” trend doesn’t appear to be slowing down.”).

50. See sources cited *supra* note 49. In addition to more complex procurement, consider simple questions such as the effective use existing technologies. Casey Flaherty (In-house Counsel at Kia Motors) developed a basic technology audit that examined the ability of lawyers to effectively use

For the AMLaw 200 and other large and medium size firms, general counsels have imposed blunt rules such as a ban on first and second year lawyers working on particular matters.⁵¹ General counsels have required many law firms to work with blended teams of providers where each provider delivers a component of the overall service. Such providers include mid-size regional law firms, boutique firms, software providers, and analytics companies, as well as the insourcing of work to their own growing set of in-house lawyers.⁵²

While law firms used to provide a white-glove beginning-to-end service, this has given way to a new reality where general counsels are the maestros of the global legal supply chain.⁵³ Operations professionals, supply chain managers, and data analysts are substantially aiding them in this effort. Consider the case of the “Real Rate Report” produced by TyMetrix (a division of the informatics conglomerate Wolters Kluwer).⁵⁴ The Real Rate Report and associated information products leverage more than \$40 billion in legal spend data by law departments to identify patterns and trends across invoicing generated by over 3,500 law firms and 90,000 individual billers in fifty-one major metro areas.⁵⁵ Among the patterns they identified, seventy-eight percent of timekeepers billed different rates to different clients.⁵⁶ It is these and other related insights that will allow general counsels and their corporate law departments to drive down legal costs.⁵⁷ These trends will create winners and losers but

simple tools such as Word, Excel, etc. Suffice to say, the results have not been pretty. *See e.g.* D. Casey Flaherty, *Could You Pass This In-House Counsel’s Tech Test? If the Answer is No, You May be Losing Business*, ABA J. (Posted Jul 17, 2013 2:30 PM ET), http://www.abajournal.com/legalrebels/article/could_you_pass_this_in-house_counsels_tech_test.

51. *See* Joe Palazzolo, *First-Year Associates: Are They Worth It?*, WALL ST. J. L. BLOG (Oct 17, 2011, 9:59 AM), <http://blogs.wsj.com/law/2011/10/17/first-year-associates-are-they-worth-it/> (“Here are the numbers, according to a September survey for WSJ by the Association of Corporate Counsel, a bar association for in-house lawyers: More than 20% of the 366 in-house legal departments that responded are refusing to pay for the work of first- or second-year attorneys, in at least some matters.”); Elie Mystal, *Corporate General Counsel Puts Fear of God into Legal Educators (And You Should Be Worried Too)*, ABOVE THE LAW (Apr. 9, 2010, 6:08 PM), <http://abovethelaw.com/2010/04/corporate-general-counsel-puts-fear-of-god-into-legal-educators-and-you-should-be-worried-too/> (“We don’t allow first or second year associates to work on any of our matters without special permission, because they’re worthless.”).

52. *See* Rebekah Mintzer, *Law Departments Trading Large Firms for ‘Large Enough’*, CORPORATE COUNSEL (Oct. 23, 2013), *available at* <http://www.law.com/corporatecounsel/PubArticleCC.jsp?id=1202624694197>; LEXISNEXIS, ENTERPRISE LEGAL MANAGEMENT TRENDS REPORT (2013), *available at* <http://www.lexisnexis.com/counselink/documents/CounselLink-ELM-web.pdf>. *See also* Smith, *supra* note 41.

53. *See supra* notes 38-39; BUYING LEGAL, *supra* note 49.

54. WOLTERS KLUWER TYMETRIX, <http://tymetrix.com/products/legal-analytics/2/2012-real-rate-report/> (last visited July 14, 2014).

55. *See id.*; *see also* Press Release, TyMetrix, CT TyMetrix and the Corporate Executive Board Provide the Industry’s First True Look at Legal Billing Rates and Trends (Sept. 7, 2010), *available at* <http://tymetrix.com/press-releases/16/2010/showArticle/>. *See also* Law Firms Gain Competitive Advantage for Business Growth With \$45 Billion of Data From TyMetrix MatterAnalyzer, MARKETWATCH (Sept. 24, 2013), <http://www.marketwatch.com/story/law-firms-gain-competitive-advantage-for-business-growth-with-45-billion-of-data-from-tymetrix-matteranalyzer-2013-09-24>.

56. Press Release, TyMetrix, CT TyMetrix and The Corporate Executive Board to Release Industry’s First True Analysis of Law Firm Billings (May 24, 2010), *available at* <http://tymetrix.com/press-releases/19/showArticle/>.

57. *See generally supra* notes 38,39,49, 54 & 56.

it has given rise to a law related growth sector—legal procurement and legal supply chain management.

The mechanics obtaining efficiency are generated by heavily managing the legal supply chain. This among other trends is responsible for the increasing competition in the market for legal services. There is now “an increasing willingness on the part of clients to ‘disaggregate’ matters—both litigation and transactional—by parceling out different parts or phases of matters to different firms depending on expertise and an ability to deliver cost effective services.”⁵⁸ It starts by (1) unbundling a task into its component sub-tasks, (2) distributing it to providers with specific expertise in the relevant subtask, and (3) collecting it and repackaging the work product developed by each provider.⁵⁹ The long-term question is who will be responsible for managing this process. Given the amount of money that can potentially be saved, it is likely that the clients (rather than law firms) will remain in charge.

There is on-going debate regarding whether the current downturn is cyclical rather than structural.⁶⁰ The empirics will never be definitive until the arbitrage window is closed. In such a circumstance, the best one can do is interpret the available evidence. Both qualitative and a significant amount of quantitative evidence support the structural account.⁶¹ One clear way to understand the matter is to consider this question: as more and more general counsels learn how to get “more for less,” why would they once again start paying more?

2. *Trend #2: Lex.Startup*

Every January, as the ice and snow falls on the streets of Manhattan, more than 10,000 attendees gather in the Midtown Hilton to see the latest in technical offerings pitched to law firms, general counsels, and related individuals and institutions.⁶² Oliver Goodenough has estimated that between “twenty to thirty billion dollars of commerce [is] on display at the show.”⁶³ LegalTechNYC,⁶⁴ together with other events such as the

58. 2013 GEORGETOWN STUDY, *supra* note 39, at 15.

59. *Id.* at 40 (citing Milton C. Regan, Jr. & Palmer T. Heenan, *Supply Chains and Porous Borders: The Disaggregation of Legal Services*, 78 *FORDHAM L. REV.* 2137, 2148–2160 (2010)).

60. See Allison Schrager, *Five Years After Recession, We Still Can't Agree On What Causes Joblessness*, *REUTERS* (Aug. 28, 2013), <http://blogs.reuters.com/great-debate/2013/08/28/five-years-after-recession-we-still-cant-agree-on-what-causes-joblessness/>.

61. See *id.* See also *supra* note 40 and associated text.

62. See LEGALTECH TRADE SHOWS, <http://www.legaltechshow.com/> (last visited July 14, 2014) [hereinafter LEGALTECH]. For a similar description, see Oliver R. Goodenough, *Developing an E-Curriculum: Reflections on the Future of Legal Education and on the Importance of Digital Expertise*, 88 *CHI.-KENT L. REV.* 845, 845–46 (2013).

63. See Goodenough, *supra* note 62, at 845. “In the past I was deeply impressed by all of this activity, which I saw as supporting legal work. This year, however, I realized that this activity is *legal work*.” *Id.* at 845–46. “A technology-driven revolution is overturning how America practices law, runs its government and dispenses justice, and the revolution has so far gone almost completely unnoticed by the people who teach aspiring lawyers. This has to change.” *Id.* at 847.

64. See LEGALTECH, *supra* note 62.

ABATechShow in Chicago⁶⁵ are the technical trade shows of the legal industry. The companies represented therein cover a diverse set of approaches designed to enhance lawyer efficiency. Whether it is electronic discovery, legal analytics, project management, workflow optimization, knowledge management, information visualization, optimized search tools, client and matter management portals and platforms, or automated document generation, all of the available offerings share a similar theme: they are directing themselves toward the task of trading labor for capital in the relevant legal service production function.

In addition to the incumbent companies represented at industry trade events, the legal technology sector is populated with an increasingly large number of startups companies that are seeking to develop novel solutions to particular legal problems. These startups are beginning to draw attention from the venture community in Silicon Valley and other innovation hotspots.⁶⁶ The historic adage in venture capital circles is “don’t invest in legal.” Why? Because the dominant business model (i.e., *billable hours*) did not encourage lawyers to be efficient. Indeed, it created the opposite incentive.⁶⁷ However, the pressure from general

65. See ABA TECHSHOW, <http://www.techshow.com/> (last visited July 14, 2014).

66. See e.g., Milt Capps, *ERM Legal Solutions Startup Is Thinking Big Beyond Its \$1.25MM A Round*, VENTURE NASHVILLE (Feb. 13, 2012, 6:08 AM), <http://www.venturenashville.com/erm-legal-solutions-startup-is-thinking-big-beyond-its-1-25mm-a-round-cms-781>; Rip Empson, *Clio Grabs \$6 Million To Help Bring Small Legal Practices To The Cloud*, TECHCRUNCH (Jan. 30, 2012), <http://techcrunch.com/2012/01/30/clio-grabs-6-million-to-help-bring-small-legal-practices-to-the-cloud/>; Christina Farr, *Meet the Startups That Are Giving Everyone Affordable Access to Justice*, VENTURE BEAT (Mar. 20, 2012, 10:06 AM), <http://venturebeat.com/2012/03/20/legal-startups/>; Bill Flook, *Law-Tech Startup Modus Raises \$10 Million*, WASH. BUS. J. (June 11, 2013, 9:04 AM), <http://www.bizjournals.com/washington/blog/techflash/2013/06/law-tech-startup-modus-raises-10.html>; Ansel Halliburton, *YC-Backed Casetext Takes a New Angle on Value Added Legal Research With Wikipedia-Style User Annotations*, TECHCRUNCH (Aug. 12, 2013), <http://techcrunch.com/2013/08/12/yc-backed-casetext-takes-a-new-angle-on-value-added-legal-research/>; Ansel Halliburton, *YC-Backed SimpleLegal Reduces Legal Bills With Machine Learning*, TECHCRUNCH (Aug. 6, 2013), <http://techcrunch.com/2013/08/06/yc-backed-simplelegal-reduces-legal-bills-with-machine-learning/>; Ansel Halliburton, *Judicata Raises \$5.8M Second Round to Build Out Advanced Legal Research Systems; Keith Rabois Joins Board*, TECHCRUNCH (May 28, 2013), <http://techcrunch.com/2013/05/28/judicata-raises-5-8m-second-round-to-build-out-advanced-legal-research-systems-keith-rabois-joins-board/>; Scott Kirsner, *Start-Ups Take on Tough Customers: Lawyers*, BOS. GLOBE, Sept. 01, 2013, <http://www.bostonglobe.com/business/2013/08/31/tech-start-ups-target-tough-customer-law-firms/fyznk5CXkhnCqQzHpGEIGO/story.html>; Amir Kurtovic, *St. Louis Startup Juristat Wants to Analyze and Predict Behavior of Judges, Trial Lawyers*, ST. LOUIS BUS. J. (Feb 26, 2013, 11:00 AM), <http://www.bizjournals.com/stlouis/blog/BizNext/2013/02/st-louis-startup-juristat-wants-to.html?page=all>; Ryan Lawler, *UpCounsel Is a Marketplace to Connect Small Businesses With Affordable Legal Help*, TECHCRUNCH (July 24, 2013), <http://techcrunch.com/2013/07/24/upcounsel/>; Leena Rao, *Stealthy Legal Startup DocRun Raises \$1.1M From Resolute.VC, Don Dodge And Others*, TECHCRUNCH (Feb. 8, 2012), <http://techcrunch.com/2012/02/08/stealthy-legal-startup-docrun-raises-1-1m-from-resolute-vc-don-dodge-and-others/>; Rachel M. Zahorsky, *Stanford Law Is a Hotbed for Tech Startups and Legal Entrepreneurs*, A.B.A. J. (May 22, 2013, 8:40 AM), http://www.abajournal.com/news/article/stanford_law_hotbed_for_tech_startups_and_legal_entrepreneurs/; Thomson Reuters Acquires Indian Legal Outsourcing Co. Pangea3, A.B.A. J., (Nov. 18, 2010, 5:25 PM), http://www.abajournal.com/news/article/report_thomson_reuters_to_acquire_indian_legal_outsourcing_co_pangea3/.

67. Suffice it to say the reliance upon the billable hour does not provide the appropriate incentive for law firms to innovate. One interesting development is the increasing use of various alternative fee arrangements, particularly among law firms looking to compete with the current market leaders. “As a [percentage] of their billings, firms with 201-500 lawyers billed nearly twice as much under al-

counsels is forcing a growing number of alternative fee arrangements including fixed fees.⁶⁸ To an increasing extent, technology is also being embraced as part of their efforts to either insource or more effectively outsource a growing percentage of their work.⁶⁹

From the investment side of the equation, the legal sector is heating up and has experienced exponential year over year growth in investment.⁷⁰ Legal startup industry expert Josh Kubicki recently noted that in 2010 there were approximately fifteen legal technology or law-related companies listed on the prominent website AngelList.⁷¹ Fast forward less than four years later and there are more than four hundred listed companies—many of whom have received significant financial support from the venture community.⁷² The growth and rapid maturity of the legal technology startup sector is significant, particularly when one considers the winnowing process that is present in the venture space. There are far more ideas than companies and only a small number of companies will ever receive significant venture support.

While some of the root ideas originate from other spaces, domain implementation is a nontrivial challenge faced by both incumbents and startups. Are these startup companies really solving problems that represent actual “pain points” for the industry? Are the products really well specified to the contours of the current and future market? Many of these startups cluster around particular ideas. In general, the ideas are solid, but whether an individual company is able to persist and gain market share is always an open question.

As an outsider, you might be wondering: is there something that differentiates technology in general from this generation of legal tech? Within these startups, is there a role for those with legal training? Simply put, the answer is yes to both questions. The generation of technology that is emerging is not just technology that lawyers happen to use (like word processing, smart phones, etc.). This generation of technology has been and is being retrofitted to the specific work that lawyers do.⁷³ That is a very important qualitative distinction that differentiates legal technology from the more pedestrian technology for lawyers.

Between the incumbents and the startups, the legal technology industry is rapidly growing. Its goal is to aid interested parties, both general counsels and law firms as they seek to reinvent the industry. While the one-on-one consultative component and the high-end architecting of

ternative fee arrangements as did the ‘Largest 50’ firms over the trailing 12 months.” LEXISNEXIS, *supra* note 52, at 2.

68. *See id.* at 21. *See also supra* note 38.

69. *See generally* BUYING LEGAL, *supra* note 49.

70. *See* Josh Kubicki, *ReInvention is Doing, Not Talking*, Presentation at ReInventLaw London (Aug. 3, 2013), available at <http://reinventlawchannel.com/joshua-kubicki-reinvention-is-doing-not-talking-legal-transformation-institute/>.

71. *Id.*

72. *Id.* *See also* David Curle, *Startups: \$458 Million in Legal Services R&D*, LEGAL EXECUTIVE INSIGHTS (Feb. 10, 2014), <http://legalexecutiveinsights.com/startups-438-million-in-legal-services-rd/>.

73. *See* Henderson, *supra* note 24, at 487.

litigation or transaction strategy is not in sight of today's legal technology (and possibly never will be), many of the other secondary tasks associated with the production of legal work are very much in play. These are the tools that lawyers can use to enhance their ability to efficiently complete their respective substantive tasks. The growth in this part of the industry stands in direct contrast to the core of the legal services industry—a core that has experienced little to no growth over the past years.⁷⁴

3. *Trend #3: Quantitative Legal Prediction: From E-Discovery to Case Prediction*

Welcome to the era of “big data” and soft artificial intelligence.⁷⁵ Increases in computing processor speed, decreases in data storage costs—taken together with corresponding developments in artificial intelligence—have significantly improved the quality and precision of predictive analytics. Predictive analytics have already transformed many industries, and their entry into the legal industry has been noted by myself and several other commentators.⁷⁶ The legal industry is witnessing the rise of quantitative legal prediction (QLP) and the potential applications are wide ranging. QLP offers great opportunities for data literate lawyers to more efficiently and effectively complete their respective tasks. While virtually nothing in the legal industry is truly “big data,”⁷⁷ the tools and methods of data science can generate rapid insights and help lead to the more efficient resolution of disputes.

74. See *id.* at 472. This is particularly true if one accounts for the increase in the U.S. population over the past decade or so.

75. See ERIK BRYNJOLFSSON & ANDREW MCAFEE, RACE AGAINST THE MACHINE (2011); JAMES MANYIKA, ET AL., MCKINSEY GLOBAL INSTITUTE, BIG DATA: THE NEXT FRONTIER FOR INNOVATION, COMPETITION, AND PRODUCTIVITY (2011); Editorial, *Community Cleverness Required*, 455 NATURE 1, 1 (2008), available at <http://www.nature.com/nature/journal/v455/n7209/pdf/455001a.pdf>; Gary King, *Ensuring the Data-Rich Future of the Social Sciences*, 331 SCIENCE 719 (2011) available at <http://gking.harvard.edu/files/datarich.pdf>; Lisa Arthur, *The Surprising Way eBay Used Big Data Analytics to Save Millions*, FORBES, Aug. 23, 2012, available at <http://www.forbes.com/sites/lisa-arthur/2012/08/23/the-surprising-way-ebay-used-big-data-analytics-to-save-millions/>; Steve Lohr, *The Age of Big Data*, N.Y. TIMES, Feb. 11, 2012, <http://www.nytimes.com/2012/02/12/sunday-review/big-datas-impact-in-the-world.html>; Conrad Quilty-Harper, *10 Ways Data is Changing How We Live*, TELEGRAPH, Aug. 25, 2010, <http://www.telegraph.co.uk/technology/7963311/10-ways-data-is-changing-how-we-live.html>; Sanjeev Sardana, *Big Data: It's Not A Buzzword, It's A Movement*, FORBES, Nov. 20, 2013, <http://www.forbes.com/sites/sanjeevsardana/2013/11/20/bigdata/>; *The Data Deluge*, THE ECONOMIST, Feb. 27, 2010, http://www.economist.com/node/1557971?story_id=15579717; Joseph Walker, *Meet the New Boss: Big Data*, WALL ST. J., Sept. 20, 2012, <http://online.wsj.com/news/articles/SB10000872396390443890304578006252019616768>; Steven Levy, *The AI Revolution Is On*, WIRED (Dec. 27, 2010), http://www.wired.com/magazine/2010/12/ff_ai_essay_airevolution; Tam Harbert, *Big Data, Big Jobs?*, COMPUTERWORLD (Sept. 20, 2012, 6:00 AM), http://www.computerworld.com/s/article/9231445/Big_data_big_jobs; Eyder Peralta, *Are You Smarter Than a Computer the Size of 10 Refrigerators?*, NPR (Jan. 13, 2011, 1:19 PM), <http://www.npr.org/blogs/thetwo-way/2011/01/13/132902908/are-you-smarter-than-a-computer-the-size-of-10-refrigerators>.

76. See Lippe & Katz *supra* note 6; Katz, *supra* note 4; Stevenson & Wagoner, *supra* note 4; see also Josh Blackman, *Robot, Esq.* (Jan. 9, 2013) (unpublished manuscript), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2198672.

77. The datasets in the legal industry are small when compared to data sets such as the search traffic on Google, a single day of package tracking at UPS or the daily call records of a major (or minor) telecom carrier.

Experts tend to overstate the novelty of their particular expertise.⁷⁸ Thus, they are not particularly credible sources for predicting the ability of software to meaningfully engage in tasks within their respective industry. As noted venture capitalist and Netscape founder Marc Andreessen has argued—“software is eating the world.”⁷⁹ Andreessen has also noted that

[p]ractically every financial transaction, from someone buying a cup of coffee to someone trading a trillion dollars of credit default derivatives, is done in software Health care and education, in my view, are next up for fundamental software-based transformation. My venture capital firm is backing aggressive start-ups in both of these gigantic and critical industries. We believe both of these industries, which historically have been highly resistant to entrepreneurial change, are primed for tipping by great new software-centric entrepreneurs Companies in every industry need to assume that a software revolution is coming.⁸⁰

As I noted in a recent article,

[e]very single day lawyers and law firms are providing predictions to their clients regarding . . . their prospects in litigation and [other allied domains]. How are these predictions being generated? Precisely what data or model is being leveraged? Could a subset of these predictions be improved by various forms of outcome data drawn from a large number of “similar” instances? Simply put, the answer is yes. Quantitative legal prediction already plays a significant role in certain practice areas and this role is likely to increase as greater access to appropriate legal data becomes available.⁸¹

Thus, whether it is technology aided document assembly,⁸² predicting dispute outcomes,⁸³ forecasting the costs of retained counsel,⁸⁴ pre-

78. I would, of course, be required to note that this statement could also be applied to this author.

79. Marc Andreessen, *Why Software is Eating the World*, WALL ST. J. (Aug. 20, 2011), <http://online.wsj.com/article/SB10001424053111903480904576512250915629460.html>.

80. *Id.*

81. See Katz, *supra* note 4, at 912.

82. See Marc Lauritsen, *Artificial Intelligence in the Real Legal Workplace* in INFO. TECH. AND LAW 165, 175 (2006); Darryl R. Mountain, *Disrupting Conventional Law Firm Business Models Using Document Assembly*, 15 INT'L. J.L. & INFO. TECH. 170 (2007); Ward, *supra* note 32; Richard S. Granat, *Document Assembly Over the Internet*, L. PRAC. TODAY (Dec. 2011), http://www.americanbar.org/content/dam/aba/publications/law_practice_today/document-assembly-over-the-internet.authcheckdam.pdf; Marc Lauritsen, *Fall in Line with Document Assembly: Applications to Change the Way You Practice*, LAW OFFICE COMPUTING, 72, (Feb.–Mar. 2006), available at <http://www.capstonepractice.com/loc2006.pdf>; Elizabeth J. Goldstein, *Kiiac's Contract Drafting Software: Ready for the Rapids?*, LAW TECH. NEWS (May 18, 2012), http://www.law.com/jsp/lawtechnologynews/PubArticleLTN.jsp?id=1202555105751&Kiiacs_Contract_Drafting_Software_Ready_for_the_Rapids.

83. See, e.g., Blakeley B. McShane et al., *Predicting Securities Fraud Settlements and Amounts: A Hierarchical Bayesian Model of Federal Securities Class Action Lawsuits*, 9 J. EMPIRICAL LEGAL STUD. 482 (2012).

84. See Press Release, *supra* note 55; see generally BUYING LEGAL: PROCUREMENT INSIGHTS AND PRACTICE (Silvia Hodges ed., 2012) (discussing the sourcing of legal services); Weiss, *supra* note 48.

dicting judicial decisions,⁸⁵ forecasting who will become a successful lawyer⁸⁶ or harvesting relevant documents in response to a request for production,⁸⁷ data centric disruptive technologies are beginning to permeate the work that lawyers do.

It is important to explain precisely what is implied by legal analytics. Indeed, the sloppy response—often lodged by someone with little or no actual knowledge about trends in computation, law, data, AI, or related topics—argues something akin to “*you cannot simply replace legal work with machines.*”⁸⁸ First, this is simply not correct as a matter of recent history.⁸⁹ The question, properly understood, regards the relative machine v. human involvement across the range of tasks associated with the “practice of law.”⁹⁰ With respect to that overall distribution, there is likely to be more machines in law’s future. This is the prognosis for law practice as currently constituted. At the same time, there are likely to be entire new employment sectors—with legal information engineering, legal analytics, and legal software taking center stage. While the precise net labor effect is unclear, what is clear is pathological assertions such as “I did not become a lawyer to do math” may need to be revised.

It is very early in the life cycle and there are many technical questions attendant to its implementation in white-collar domains such as law. What is important to understand is that the primary thrust of this work is not traditional statistics or causal inference but rather increasingly sophisticated implementations of applied machine learning.⁹¹ As such, the approaches are typically inductive rather than deductive.⁹² The sci-

85. See Daniel Martin Katz, Michael J. Bommarito II & Josh Blackman, *Predicting the Behavior of the Supreme Court of the United States: A General Approach*, PHYSICS ARXIV (July 23, 2014), available at <http://arxiv.org/abs/1407.6333>; Theodore W. Ruger et al., *The Supreme Court Forecasting Project: Legal and Political Science Approaches to Predicting Supreme Court Decisionmaking*, 104 COLUM. L. REV. 1150, 1151 (2004); Roger Guimerà & Marta Sales-Pardo, *Justice Blocks and Predictability of U.S. Supreme Court Votes*, PLOS ONE (Nov. 9, 2011), <http://www.plosone.org/article/info:doi/10.1371/journal.pone.0027188>.

86. See Gibson, *supra* note 31.

87. KATEY WOOD & BRIAN BABINEAU, PREDICTIVE CODING: THE NEXT PHASE OF ELECTRONIC DISCOVERY PROCESS AUTOMATION 5 (2011); Evan Koblentz, *Recommind Intends to Flex Predictive Coding Muscles*, LAW TECH. NEWS (June 8, 2011), <http://www.law.com/jsp/lawtechnologynews/PubArticleLTN.jsp?id=1202496430795&srreturn=1&hbxlogin=1>.

88. This point is also emphasized by Susskind. See SUSSKIND, THE END OF LAWYERS? *supra* note 4, at 274.

89. See sources cited *supra* notes 3–10. See also John Markoff, *Armies of Expensive Lawyers, Replaced by Cheaper Software*, N.Y. TIMES, March 4, 2011, <http://www.nytimes.com/2011/03/05/science/05legal.html>; David Hill, *Big Data’s Evolving Role in E-Discovery: What Is Predictive Coding?*, NETWORK COMPUTING (Aug. 17, 2012, 10:07 AM), <http://www.networkcomputing.com/e-discovery/big-datas-evolving-role-in-e-discovery-w/240005739>.

90. See SUSSKIND, THE END OF LAWYERS?, *supra* note 4, at 274; see also FRANK LEVY & RICHARD J. MURNANE, THE NEW DIVISION OF LABOR: HOW COMPUTERS ARE CREATING THE NEXT JOB MARKET 2 (2004).

91. Katz, *supra* note 4, at 949–55. See generally ETHEM ALPAYDIN, INTRODUCTION TO MACHINE LEARNING (2d ed. 2010); DREW CONWAY & JOHN MYLES WHITE, MACHINE LEARNING FOR HACKERS (2012); MEHRYAR MOHRI ET AL., FOUNDATIONS OF MACHINE LEARNING (2012); KEVIN P. MURPHY, MACHINE LEARNING: A PROBABILISTIC PERSPECTIVE (2012).

92. Much of the empirical legal studies movement is focused upon causality and backward looking models. For appropriately posed questions, such backward looking and often causal inference centric models are the correct methodological choice. Most lawyers, however, are often interested not in

ence of prediction is forward deployed rather than backward looking and thus must confront many thorny challenges such as model overfitting.⁹³

Law's information revolution generally, and quantitative legal prediction specifically, has significant implications for the scope and content of law practice and legal education. Notwithstanding the normative criticism one might appropriately lodge toward various excesses in the financial services industry, finance offers instructive lessons for law.⁹⁴ Prediction within finance has undergone a radical transformation—on the path forged by Black-Scholes⁹⁵ that ultimately led to algorithmic trading.⁹⁶ A generation ago, the vast majority of trading activity was guided by individual brokers selecting stocks in direct consultation with individual clients.⁹⁷ Such human reasoners would typically leverage a mental model—a model that the reasoner developed through experience in the field.⁹⁸ Human reasoning certainly has not been completely removed from finance, but the rise of the quants displaced many status quo practices.⁹⁹ The emphasis has shifted from purely human to a blend of human and machine-implemented judgment. Thus, on any given day, a majority of trades executed on the NYSE are generated algorithmically.¹⁰⁰ As it is a domain that involves sophisticated reasoning, finance offers an important lesson for legal education. The skills that were formerly privileged in finance were simply of diminished value after the advent, implementation, and deployment of soft artificial intelligence.¹⁰¹ In order to participate in

backward looking models but rather forward prediction. For a description of the tradeoff, see Katz, *supra* note 4, at 949. For a related discussion, see Andrew Gelman, *Causality and Statistical Learning*, 117 AM. J. SOC. 955, 956 (2011).

93. To partially protect against this issue, one is called upon to predict out of sample or forward deploy on known data.

94. See Michael Bommarito, *Law's Future from Finance's Past*, <http://vimeo.com/65836938> (last visited July 15, 2014). See also Daniel Martin Katz, *Thoughts on Legal Prediction and Legal Metrics*, SLIDESHARE (Sept. 16, 2013), <http://www.slideshare.net/Danielkatz/thoughts-on-legal-prediction-and-legal-metrics-association-of-corporate-counsel-huron-consulting-meeting-for-law-department-operations-september-16-2013-professor-daniel-martin-katz>.

95. See Fischer Black & Myron Scholes, *The Pricing of Options and Corporate Liabilities*, 81 J. POL. ECON. 637 (1973).

96. For more on flash and algo trading, see Roger Lowenstein, *A Speed Limit for the Stock Market*, N.Y. TIMES, Oct. 2, 2012, <http://www.nytimes.com/2012/10/02/opinion/putting-the-brakes-on-high-frequency-trading.html>; Jerry Adler, *Raging Bulls: How Wall Street Got Addicted to Light-Speed Trading*, WIRED, (Aug. 3, 2012), http://www.wired.com/business/2012/08/ff_wallstreet_trading/; Huw Jones, *Ultra Fast Trading Needs Curbs -Global Regulators*, REUTERS (July 7, 2011, 7:53 PM), <http://uk.reuters.com/article/2011/07/07/regulation-trading-idUKN1E7661BX20110707>. See also *Moving Markets, Shifts In Trading Patterns are Making Technology Ever More Important*, THE ECONOMIST, Feb. 2, 2006, <http://www.economist.com/node/5475381>.

97. See Black & Scholes, *supra* note 94.

98. Phillip N. Johnson-Laird, *Mental Models and Deduction*, 5 TRENDS IN COGNITIVE SCI. 434, 434 (2001).

99. *Quant Comes to the Cloud—and Down to Earth*, TOTAL TRADING (Sept. 6, 2013), <http://blogs.terrapinn.com/total-trading/2013/09/06/quant-cloudand-earth/>.

100. Michael Mackenzie, *High-Frequency Trading Under Scrutiny*, FT FUND MGMT. (July 28, 2009, 6:44 PM), <http://www.ft.com/cms/s/0/d5fa0660-7b95-11de-9772-00144feabdc0.html#axzz3CTrfZewT> (noting that “high-frequency trading accounts for as much as 73 per cent of US daily equity volume”).

101. See TANYA S. BEDER & CARA M. MARSHALL, *FINANCIAL ENGINEERING: THE EVOLUTION OF A PROFESSION* (2011).

the newly created sector of quantitative finance, it was necessary to obtain new skills. To help support this transition, new academic programs such as financial engineering have grown up in order to place students in positions that were previously given to traditional MBAs.¹⁰² In addition, traditional MBA programs began to place greater emphasis on finance as a core competency for all their students.¹⁰³

4. *Trend #4: Process vs. Substance—The Expanding Dimensions of Competition*

Is there really a difference between the AMLaw 143rd law firm and the AMLaw 124th law firm? Is there really a difference between the AMLaw 63rd law firm and the AMLaw 58th law firm? Historically all of these entities are primarily competing on one dimension—substantive legal expertise. No doubt each otherwise elite entity has great lawyers who can deliver substantive expertise to their respective clients. So is there a real difference? Perhaps—but it is a losing argument. Substantive legal expertise and performance is very difficult to measure (particularly among good lawyers). Process is easy to measure and serves as a potential differentiator between otherwise equally situated firms.¹⁰⁴ In order to meaningfully compete at virtually every tier of the legal industry, firms need (and some are beginning) to embrace process. In other words, if one expands the relevant dimensions of competition, then {law} becomes {law + tech + design + delivery} where {law} is substantive legal expertise and {tech + design + delivery} are process.

All else equal, better processes yield less expensive and more effective services for the client. In order for the reward structure to have any real chance to operate properly, however, it is necessary for the client to acknowledge process-centric differences between otherwise similar law firms. Although clients are increasingly taking charge, many large institutional purchasers of legal services continue to be part of the problem. Their general lack of oversight has been (and in some areas continues to

102. See generally *id.* at 3–23.

103. *Id.* at 51.

104. There are important developments on this front with some forward thinking law firms, consultants, law professors and general counsels taking the lead. See generally William H. Simon, *Where is the "Quality Movement" in Law Practice?*, 2012 WISC. L. REV. 387; Elaine Schmidt, *Law and Order: 64-Year-Old Law Firm Seyfarth Shaws Adapts Six Sigma to the Delivery and Billing of Legal Services*, SIX SIGMA MAGAZINE, Nov.-Dec. 2009, at 26; William D. Henderson, *From Big Law to Lean Law*, 38 INT'L REV. L. & ECON. 5 (2014); John E. Murdock III & Nancy Lea Hyer, *Lean Lawyering*, (July 28, 2012) (unpublished presentation at SubTech 2012 New York Law School); Association of Corporate Counsel, *ACC Value Challenge*, <http://www.acc.com/valuechallenge/index.cfm> (last visited July 15, 2014); Stephanie Francis Ward, *Making It Lean: Lisa Damon, Seyfarth Shaw*, LEGAL REBELS (Sept. 21, 2011, 8:50 AM), http://www.abajournal.com/legalrebels/article/making_it_lean_lisa_damon_seyfarth_shaw/; Karen Gimbal, *Intro to Lean Six Sigma for Lawyers*, (Feb. 13, 2013), available at <http://www.slideshare.net/KarenGimbal/intro-to-lean-six-sigma-for-lawyers-university-of-ottawa-january-2013>.

be) responsible for reinforcing a series of highly inefficient processes across the legal industry.¹⁰⁵

When client relationships were more stable and general counsels were under less internal cost pressure, the billable hour (even with a decent write down from the rack rate) was perfectly sufficient as a law firm operating model. Clients were likely to remain loyal and thus upstarts (even those with superior business models) could not lure away the work. The billable hour model badly misaligns the incentives of the relevant actors. Undoubtedly, the model disincentivizes innovation since the actors do not feel strong competitive pressure. As long as the clients were willing to pay, law firms (and particularly the older partners contained therein) are quite happy to continue with the status quo. Among other things, the model is attractive because it shifts the risk of cost overruns from firm to client. Historically, it is up to the client to referee the matter and demand better treatment. Without significant resistance, there is no strong incentive for a law firm to change its practices. An external shock was necessary to accelerate the process. As noted earlier, the financial crisis has forced a significant number of corporate legal divisions to get serious about their own processes including the retention and management of outside counsel.

In specialty areas or so called “bet the company” cases or matters, clients are still very willing to pay full price. What is important to understand is there are an ever decreasing set of clients, matters, or even sub-matters that are not sensitive to price.¹⁰⁶ Firms are aware of this fact. Indeed, there is increasing awareness by most of the leaders of the world’s largest law firms that this is the “new normal.”¹⁰⁷ Specifically, a recent survey of law firm leaders found that “[m]ore price competition’ was identified as a permanent trend by 95.6% of firm leaders surveyed in 2013. Eight out of ten leaders believe ‘more non-hourly billing’ is here to stay.”¹⁰⁸

Notwithstanding this basic acknowledgement, there is a significant disconnect between this awareness and the typical firm behavior/response. Namely, when it comes to its workflow, many law firms claim to be efficient, process driven, and innovative. Properly posed, the question is against what benchmark such a claim should be evaluated. Are they as efficient as a modern manufacturing facility, a data-driven

105. In more extreme instances, firms have engaged in unscrupulous and potentially illegal billing practices. See, e.g., Peter Lattman, *Suit Offers a Peek at the Practice of Inflating a Legal Bill*, N.Y. TIMES, Mar. 25, 2013, http://dealbook.nytimes.com/2013/03/25/suit-offers-a-peek-at-the-practice-of-padding-a-legal-bill/?_php=true&_type=blogs&_r=0; D. Casey Flaherty, *DLA Piper Is Not Alone: Why Law Firms Overbill*, LAW TECHNOLOGY NEWS (Mar. 27, 2013), <http://www.lawtechnologynews.com/id=1202593733970?slreturn=20140115130055>.

106. For some elite firms, it may still be okay. For everyone else not purely engaged in representing clients in so called “bet the company” litigation, an essential regulatory action or high stakes deal making the ‘new normal’ is already here.

107. See ALTMAN WEIL, LAW FIRMS IN TRANSITION 2013: AN ALTMAN WEIL FLASH SURVEY 7, (2013), available at <http://www.altmanweil.com/LFiT2013/>.

108. *Id.* at 5.

emergency room, or a Fortune 500 logistics center? Are they truly embracing process as a foundation for medium to long-term competitiveness? In most instances, the answer to these questions is no. As noted in the recent 2013 Altman Weil Survey “[m]ost firms appear to be reacting to external forces and making incremental changes within the framework of the existing business model, rather than pursuing opportunities to meaningfully differentiate their firms in the eyes of clients.”¹⁰⁹ By contrast consider the following: “[W]e asked firm leaders about their greatest challenge in the next 24 months Improving efficiency is eleventh on the list of twelve challenges, cited by only 2.8% of respondents.”¹¹⁰

Although this firm behavior is inconsistent with today’s reality, it not surprising. As Larry argued in *The Death of Big Law*, there are a variety of acute features of law firm organization that make change difficult.¹¹¹ Law firms are partnerships, and large-scale partnerships are often plagued with structural problems.¹¹² Partners (as well as associates) can leave the firm at any time¹¹³ and take their clients with them. This ever-present, looming potential makes law firm leadership inherently weak—in many instances they are unable to enforce their directives if even a small number of key partners are unwilling to go along.

The legal status of law firms as partnerships (rather than as corporations) incentivizes underinvestment in initiatives that feature a long-term return cycle. Why? Unlike a corporate setting, the partners can vote themselves an increase in direct compensation in the current moment rather than support initiatives that have a longer term but potentially speculative return cycle. On average, these incentives produce underinvestment in both human capital and technology. As Larry identified, partners have an incentive not to spend time training young associates as

109. *Id.* at 1.

110. *Id.* at 11–12.

111. See generally Ribstein, *The Death of Big Law**, *supra* note 5.

112. See Douglas R. Richmond, *The Partnership Paradigm and Law Firm Non-Equity Partners*, 58 U. KAN. L. REV. 507, 508 (2010) (“[O]nce admitted to partnership, there is a risk that some lawyers will shirk their responsibilities as partners by not attempting to develop new business or expand existing client relationships, by not billing as many hours or otherwise generating fee revenue as they should, or by failing to participate in the full panoply of nonbillable activities typically expected of partners—such as serving on firm committees, leading practice groups, training junior lawyers, and so on. Although most firms adjust or structure partners’ compensation on individual bases to reward performance, relatively unproductive or unmotivated partners may still earn handsome livings at the expense of their more capable or ambitious colleagues.”).

113. See Robert M. Wilcox, *Enforcing Lawyer Non-Competition Agreements While Maintaining the Profession: The Role of Conflict of Interest Principles*, 84 MINN. L. REV. 915, 915–16 (2000) (“Contractual efforts to limit or discourage competition between lawyers, however, are deemed unethical by the Model Rules of Professional Conduct and face close and usually unfavorable scrutiny from the courts. Courts typically refuse to enforce competition restraints against lawyers on the ground that the restraints violate public policy.”). ABA Model Rule 5.6 states in relevant part: “A lawyer shall not participate in offering or making: (a) a partnership, shareholders, operating, employment, or other similar type of agreement that restricts the right of a lawyer to practice after termination of the relationship, except an agreement concerning benefits upon retirement. . . .” MODEL RULES OF PROFESSIONAL CONDUCT R. 5.6. See generally Mark W. Bennett, *You Can Take It With You: The Ethics of Lawyer Departure and the Solicitation of Firm Clients*, 10 GEO. J. LEGAL ETHICS 395 (1996); Larry Ribstein, *Ethical Rules, Agency Cost and Law Firm Structure*, 84 VA. L. REV. 1730 (1998).

many of them will spend relatively little time at the firm.¹¹⁴ As such, they cannot easily monetize their respective investment.¹¹⁵ In addition, partners have an incentive to underinvest in technology as the costs are significant and the return on investment is typically only realized over the long run.¹¹⁶

Time horizons are a critical problem. The core leadership of many large (and not so large) law firms is old enough to plausibly believe they can reach retirement without embracing core reforms to their business model and internal practices.¹¹⁷ Change management is the most challenging innovation of all. Even in a corporate setting, transitioning a business model is difficult because the organization is not a monolith. In a legal partnership, it is even harder as the partners are not deciding what to do with capital from third party shareholders. Instead, they are deciding what to do with their own money.¹¹⁸ They can support or demand compensation systems that reward them in the short term—even if they may be trading away potential gains in the long term.

In absolute rather than in relative terms, most law firms (large and small) are clearly behind the curve. This has been true for a long time. What is different is that the market is starting to break open as some firms are beginning to embrace real changes (though most are not). A growing number of law firms are actually attempting to leverage data, process, and software in order to support more efficient processes.¹¹⁹ To

114. According to a study conducted by the National Association for Law Placement (“NALP”), almost 23% of entry-level hires departed within twenty-eight months of their start date and 53.4% left within fifty-five months of starting at their respective law firms. See Paula A. Patton, *Keeping the Keepers II: Mobility & Management of Associates*, NALP FOUNDATION FOR LAW CAREER RESEARCH AND EDUCATION (2003).

115. See generally Ribstein, *The Death of Big Law**, *supra* note 5. Every moment spent training is time that could be put to other productive ends. Thus, there is a strong incentive to minimize the amount of time spent on training.

116. This problem is likely to be particularly acute in instances where a substantial fraction of the equity partners are relatively close to retirement. They lack the necessary incentives to invest in the long run. See Daniel Martin Katz, *Innovation in the Legal Industry: “The Future is Already Here—It is Just Not Evenly Distributed,”* SLIDESHARE (Mar. 10, 2013) <http://www.slideshare.net/Danielkatz/innovation-in-legal-the-future-is-already-here-it-is-just-not-evenly-distributed-slides-by-professor-daniel-martin-katz-reinventlaw-laboratory-msu-law>.

117. *Id.*

118. *Id.* This is the key difference. It is the partnership’s money (and by implication the partner’s money). The partnership can vote to distribute more money today or it can make investments for the future. For those who are nearing retirement, the incentive to maximize the present and trade away the future is particularly strong.

119. See, e.g., Alex Hamilton & Kevin Colangelo, *Making LPO Work*, 28 OUTSOURCE MAGAZINE (July 3, 2012), <http://outsourcemagazine.co.uk/making-lpo-work/>; Tam Harbart, *Supercharging Patent Lawyers With AI*, IEEE SPECTRUM (Oct. 30, 2013, 2:00 PM), <http://spectrum.ieee.org/geek-life/profiles/supercharging-patent-lawyers-with-ai> (“John Dragseth, a principal at Fish & Richardson (the most active IP litigation firm in the United States, according to *Corporate Counsel* magazine), credits Lex Machina’s database with helping him spot meaningful but otherwise hidden trends in IP litigation—and he won’t give details. ‘If you published it, then people on the other side would know,’ he says.”); Zahorsky & Henderson, *supra* note 4; Steve Rosenbush, *How Clearspire Used IT to Reinvent the Law Firm*, WALL ST. J., Apr. 9, 2012, <http://blogs.wsj.com/cio/2012/04/09/how-clearspire-used-it-to-reinvent-the-law-firm/>; Kellie Schmitt, *Orrick’s Ops Center: One Small Town’s Salvation*, LAW.COM (May 9, 2008), <http://www.law.com/jsp/article.jsp?id=1202421246077> Natalie Stanton, *Slater & Gordon Acquisition Spree Continues with Industrial Disease Firm John Pickering*,

do so, they are turning to a growing army of consultants, analytics, and process engineering firms that are helping guide institutional transformation. Simply put, process is where the money is.

5. *Trend #5: Retail Legal Services and Technology Aided Access to Justice*

One stain upon the legal profession is its inability to provide meaningful access to justice for many Americans. As noted in a recent article by Professor Ron Staudt and his coauthor Andrew Medeiros,

Every serious study of the legal needs of the poor shows that eighty percent of these needs go unmet. Legal Services Corporation funded legal aid offices turn away a million eligible prospective clients every year because they lack the capacity and the lawyers to serve these legal needs. In addition, millions of modest-income people who are not eligible for legal aid cannot afford the fees charged by lawyers.¹²⁰

The problems associated with providing meaningful access are longstanding. There are glimmers of hope in the quest to provide better access and they are linked to advances in legal technology, the application of “lean” thinking, and innovation in existing business models. Price is the clear obstacle that has left many to ignore their legal problems or choose to go it alone. So why are legal services for regular people so expensive? This is a multi-faced question. Certainly, fixed cost infrastructure, a lack of scale, and inefficient processes are partially to blame. Another major impediment is trust. It is hardly a revelation to note that the public does hold the legal profession in particularly high esteem. However, lawyers are not trusted, particularly because their services are associated with high cost; those who might consider obtaining legal services are concerned about the cost of those services. Their concerns are justified. Basic legal services are far too expensive. The question for the industry is how to establish trust and convert the unlaywered into those who consume legal services.

The economic organization of the retail legal profession mirrors the small business centric structure present in many sectors prior to the establishment of national brands. Real estate, accounting, restaurants/food services, personal services, other professional services and grocery/general goods—all of these industries were at one point highly decentralized with local providers offering the majority of the service provi-

LAWY. (Oct. 24 2013), <http://www.thelawyer.com/news/practice-areas/insurance-news/slater-and-gordon-acquisition-spree-continues-with-industrial-disease-firm-john-pickering/3011450.article>; Steven R. Strahler, *Seyfarth Shaw Takes a Page from the Six Sigma Playbook*, CRAIN'S CHICAGO BUSINESS (Sept. 17, 2012), <http://www.chicagobusiness.com/article/20120915/ISSUE02/309159995/seyfarth-shaw-takes-a-page-from-the-six-sigma-playbook#>; Rachel M. Zahorsky, *ACC Hails Virtual Law Firm Axiom Among Its 'Value Champions'*, A.B.A. J. (June 20, 2013), http://www.abajournal.com/news/article/acc_hails_virtual_law_firm_axiom_among_its_value_champions/.

120. Ronald W. Staudt & Andrew P. Medeiros, *Access to Justice and Technology Clinics: A 4% Solution*, 88 CHI.-KENT. L. REV. 695, 696 (2013).

sion. Overtime, the rise of various alternative business models such as franchises, branded networks, and centralized national brands began to capture an increasing share of the relevant markets. Examples include Century 21 (real estate), Molly Maids (personal services), Pearle Vision (other professional services), H&R Block (accounting), Target (general goods), Cheesecake Factory (casual dining), and many others who offer nationally-branded products and services to the retail consumer market.¹²¹ In each of these sub-markets, locally owned businesses still exist but those businesses had to focus on some sort of competitive differentiator in order to remain viable.

Branded networks help overcome the consumer information deficit (consumer skepticism) by providing signals that allow otherwise low information consumers to obtain quality and affordable services. In order to maintain brand quality and thereby protect their substantial investment, branded organizations typically standardize their practices and products. They engage in costly forms of monitoring in order to ensure adherence and prevent free-riding by their respective agents and affiliates. Some (but certainly not all) pursue process improvement methodologies as a means to maintain quality and increase profitability. Local affiliates and agents benefit from branding as it allows for high visibility and greater reach through the scale of regional and national marketing.

Given the size of the problem and the reasonable likelihood that there will never be a civil equivalent to *Gideon v. Wainwright*, the use of scalable technology-centric market mechanisms is the only practical means to make real progress on the problem of access to legal services.¹²² While certainly not a complete answer to the problem, there have been recent notable entrepreneurial efforts in this direction. Established entities such as LegalZoom and Rocket Lawyer are working to deliver some form of legal service or legal information product that have aided millions in solving their specific legal problems.¹²³ In general, these entities serve the great middle tranche that does not qualify for legal aid but is unable or unwilling to obtain a retail lawyer through traditional means. These organizations are being challenged by many other recent market entrants working to deliver some form of retail legal service.

III. A THOUGHT EXPERIMENT: MIT SCHOOL OF LAW

A. *Product Differentiation in the Market for Legal Education?*

Given these shifting realities and emerging trends, it is reasonable to consider possible circular modifications that would allow graduates to

121. See, e.g., Atul Gawande, *Big Med*, NEW YORKER (August 13, 2012) <http://www.newyorker.com/magazine/2012/08/13/big-med>.

122. *Gideon v. Wainwright*, 372 U.S. 335 (1963).

123. Sarah Mull, *Concierge Legal Services*, ABA J. (Feb. 8, 2013, 9:29 AM), http://www.abajournal.com/mobile/article/around_the_blawgosphere_legalforce_Richard_III_career_coaches_pay_roll/.

thrive in the new age of unbundling, commodification and the march toward the more efficient provision of legal services.¹²⁴ Whether “equipping the garage guys,”¹²⁵ facing “law’s information revolution,”¹²⁶ “practicing theory,”¹²⁷ “preparing for the age of quantitative legal prediction,”¹²⁸ or building “apps for justice,”¹²⁹ there have been a wide variety of calls for changes in legal education.¹³⁰ A paradigm shifting model for legal education still remains illusive, however.¹³¹ As noted earlier, one difficulty is that there is little consensus within the academy about what sort of change is needed. When facing uncertainty, turbulence, etc., diversification is usually the appropriate response.

Diversification in the market for legal education would allow institutions to search for appropriate responses to an uncertain environment.¹³² In a wide variety of instances, decentralization in the search for

124. See generally MITCHELL KOWALSKI, *AVOIDING EXTINCTION: REIMAGINING LEGAL SERVICES FOR THE 21ST CENTURY* (2012); BRUCE MAC EWEN, *GROWTH IS DEAD: NOW WHAT?: LAW FIRMS ON THE BRINK* (2012); SUSSKIND, *THE END OF LAWYERS?* *supra* note 4.

125. Gillian K. Hadfield, *Equipping the Garage Guys in Law*, 70 MD. L. REV. 484, 484 (2011).

126. Kobayashi & Ribstein, *supra* note 5, at 1169.

127. Ribstein, *Practicing Theory*, *supra* note 1.

128. Katz, *Quantitative Legal Prediction*, *supra* note 4.

129. See Matthew Homann, *Marc Lauritsen, at Ignite Law 2011: Apps for Justice, Code to the Rescue*, YOUTUBE (May 8, 2011) <http://www.youtube.com/watch?v=bQ2SMKWt7c>.

130. The list is extremely long and some of the proposals are clearly better than others. Ethan Bronner, *A Call for Drastic Changes in Educating New Lawyers*, N.Y. TIMES, Feb. 10, 2013, http://www.nytimes.com/2013/02/11/us/lawyers-call-for-drastic-change-in-educating-new-lawyers.html?_r=0; *Legal Education Reform*, N.Y. TIMES, Nov. 25, 2011, <http://www.nytimes.com/2011/11/26/opinion/legal-education-reform.html>; David Segal, *What They Don't Teach Law Students: Lawyering*, N.Y. TIMES, Nov. 19, 2011, http://www.nytimes.com/2011/11/20/business/after-law-school-associates-learn-to-be-lawyers.html?pagewanted=all&_r=0. For just a small slice of the academic conversation, see generally Kevin D. Ashley, *Teaching Law and Digital Age Legal Practice with an AI and Law Seminar*, 88 CHI.-KENT L. REV. 783 (2013); Erwin Chemerinsky, *Reimagining Law Schools?*, 96 IOWA L. REV. 1461 (2011); Michael A. Fitts, *What Will Our Future Look Like and How Will We Respond?*, 96 IOWA L. REV. 1539 (2011); Richard S. Granat and Stephanie Kimbro, *The Teaching of Law Practice Management and Technology in Law Schools: A New Paradigm*, 88 CHI. KENT L. REV. 757 (2013); Keith A. Findley, *Rediscovering the Lawyer School: Curriculum Reform in Wisconsin*, 24 WIS. INT. L.J. 295 (2006); Goodenough, *supra* note 61; Henderson, *A Blueprint for Change*, *supra* note 23; Jennifer S. Holifield, *Taking Law School One Course at a Time: Making Better Lawyers by Using a Focused Curriculum in Law School*, 30 J. LEGAL PROF. 129 (2006); Rogelio A. Lasso, *Is Our Students Learning?: Using Assessments to Measure and Improve Law School Learning*, 15 BARRY L. REV. 73 (2010); James E. Moliterno, *The Future of Legal Education Reform*, 40 PEPP. L. REV. 423 (2013); Renee Newman Knake, *Cultivating Learners Who Will Invent the Future of Law Practice: Some Thoughts on Educating Entrepreneurial and Innovative Lawyers*, 38 OHIO N.U. L. REV. 1 (2012); Ribstein, *Practicing Theory*, *supra* note 1; Tanina Rostain et al., *Thinking Like a Lawyer, Designing Like an Architect: Preparing Students for the 21st Century Practice*, 88 CHI.-KENT L. REV. 743 (2013); Edward Rubin, *What's Wrong with Langdell's Method, and What to Do About It*, 60 VAND. L. REV. 609 (2007); John O. Sonsteng, et al., *A Legal Education Renaissance: a Practical Approach for the Twenty-First Century*, 34 WM. MITCHELL L. REV. 303 (2007); Staudt & Medeiros, *supra* note 120.

131. There are certainly some ideas out there which are more sound than others. See, e.g., Robert Condlin, *Practice Ready Graduates: A Millennialist Fantasy* (Univ. of Md. Law, Legal Studies Research Paper No. 2013-48, Feb. 5, 2014) (“Law schools cannot revive the labor market or improve the employment prospects of their graduates, by providing a different type of education. Placing students in jobs is principally a function of a school’s academic reputation, not its curriculum . . .”). Obviously, I would disagree with this statement. While fully practice ready graduates might not be possible, it is possible for law schools to reap the benefits of offering a better core product.

132. This is an idea that has been advocated for by Brian Tamanaha. See BRIAN Z. TAMANAHA, *FAILING LAW SCHOOLS* (2012). Many of the defenders of the status quo have offered a series of attacks on the basic thesis offered by Tamanaha and while there is some merit to their critique— his

policy solutions has been shown to be far more effective¹³³ in solving difficult problems than a centralized search. Focusing on various legal employment sub-markets, there exists an arbitrage opportunity for schools (or other institutions) to develop a truly innovative curriculum. Historically, many have argued that various existing ABA rules as well as internal cultural practices have acted to stymie upstarts.¹³⁴

Regulation, though, is far less to blame than extreme status quo bias and a genuine lack of imagination.¹³⁵ Like many other parts of the legal industry, there is too much tinkering around the margins and not enough real innovation. In light of the pressure upon law schools to reform, institutions should have the courage to experiment with their curriculum in the hopes of finding a configuration that would attract and better serve either all law students or, more likely, various sub-markets of law students.¹³⁶ In other words, we need an age of law school diversification.

B. Innovation through Entrepreneurial Configurations of {Law+Tech+Design+Delivery}

As currently configured, across many (although not all) institutions, the value proposition associated with a law degree is currently waning.¹³⁷ It is incumbent upon institutions to consider how to restore that value. Acknowledging this proposition does not itself answer the difficult ques-

basic thesis remains still intact. The question, properly posed, is how best to develop and deliver innovative legal education. The purpose of this article is to offer a perspective on the contours of that innovation.

133. See, e.g., Clark D. Cunningham, *Should American Law Schools Continue to Graduate Lawyers Whom Clients Consider Worthless?*, 70 MD. L. REV. 499 (2011); Ken Kollman, et al., *Decentralization and the Search for Policy Solutions*, 16 J. L., ECON. & ORG. 102, 103 (2000); Ashby Jones, *Who Should Foot the Bill for the "Worthless" Young Associates?*, WALL ST. J. L. BLOG (Apr. 13, 2010, 11:03 AM), <http://blogs.wsj.com/law/2010/04/13/who-should-foot-the-bill-for-the-worthless-young-associates/>.

134. This is not always the case, however. Through the pursuit of the once insurgent field of law and economics, for several decades George Mason Law School steadily elevated its position within the law school hierarchy. For a description of this approach by the former Dean, see Henry Manne, *An Intellectual History of the George Mason University School of Law*, GEORGE MASON UNIVERSITY (1993), <http://www.law.gmu.edu/about/history>.

135. In terms of curricular offerings, the differences between institutions are fairly small. Inside of most (if not all institutions) is a set of individuals with strong status quo bias. They tend to have graduates from two elite institutions, Harvard and Yale. See Katz, *Reproduction of Hierarchy?* *supra* note 20. Not surprisingly, their institutions that tend to mimic the offerings at schools such as Harvard and Yale. This would be unproblematic in a world where Harvard Law School and Yale Law School were actually innovative on a dimension that mattered in broader market. But of course, they are not.

136. See, e.g., John Schwartz, *This is Law School? Socrates Takes a Back Seat to Business and Tech*, N.Y. TIMES (Aug. 1, 2014), <http://www.nytimes.com/2014/08/03/education/edlife/socrates-takes-a-back-seat-to-business-and-tech.html>.

137. Nothing in the recent Simkovic & McIntyre study contradicts this claim. See Michael Simkovic & Frank McIntyre, *The Economic Value of a Law Degree* (HLS Program on the Legal Profession Research, Paper No. 2013-6, Apr. 13 2013), available at http://paper.ssrn.com/no13/papers.cfm?abstract_id=2250585. Even if the posited return structure is correct (and there are lots of reasons to believe that going forward it is not correct) this Article and blueprint contained herein is directed to how individual institutions might conduct their affairs and seek to increase the returns of their specific J.D. Those institutions that pursue the path of innovation actually should hope that their would-be competitors "double down" on the status quo. It makes innovation much more likely to succeed when those with existing market power do not use that power to stamp out competition.

tion of what specific alternative options an institution should select. Uncertainty abounds, but it is possible to both engage in internal reflection regarding a given institution's factor endowments as well as thoughtful and candid consideration of the future legal services market into which it sends its respective graduates.

What is true of the entrepreneurial lawyer is also true for the entrepreneurial law school.¹³⁸ In this vein, there has been too much conversation and not enough action. Individual institutions and law students cannot shift the demand for legal services. For all practical purposes, this is set exogenously. However, what institutions can do is identify and exploit arbitrage opportunities. The ability to identify and develop a superior product or service offering is the key. Polytechnic legal training at the intersection of {law+tech+design+delivery} arguably helps position students to take advantage of multiple emerging tranches of legal work as well as certain streams of existing work.

Technology, design, and novel delivery models will help both current and future lawyers develop processes that can more efficiently produce traditional legal work. It also prepares students to obtain newly emerging jobs that exist at the intersection of law and technology, including positions in legal project management, legal process engineering, and legal analytics. Yet, there is an additional benefit to working at in that overlap between law and science, technology, engineering, and mathematics ("STEM"). Legal jobs exist in some basic relationship relative to the scope and content of the economy.¹³⁹ STEM related jobs represent a large and growing share of the labor market.¹⁴⁰ Indeed, many law schools have already responded in part to this phenomenon by significantly increasing their offerings in fields such as patent law and law and entrepreneurship. But patent law is just one of a number of domains in which increasing scientific and technical complexity make it difficult (and in some cases impossible) for those without requisite STEM or associated training to effectively compete. In other words, technical expertise is either an actual prerequisite, a functional necessity, or at the very least a significant advantage to solving traditional legal problems that are intertwined with developments in science and technology.

Enter the MIT School of Law. MIT Law would be an institution dedicated to offering a polytechnic legal education. Its educational expe-

138. See Ajaz Ahmed, *Nobody Yet Has Delivered Disruption*, REINVENT LAW CHANNEL (Apr. 1, 2013), <http://reinventlawchannel.com/ajaz-ahmed-nobody-yet-has-delivered-disruption/>. ("Entrepreneurship is about doing the obvious before it is obvious to others.")

139. In other words, the demand for legal services operates as a function of developments in society and in the economy.

140. As of today up to twenty percent of all jobs require high-end STEM training. See Jonathan Rothwell, *The Hidden STEM Economy*, BROOKINGS RESEARCH REPORT (June 2013), <http://www.brookings.edu/~media/research/files/reports/2013/06/10%20stem%20economy%20rothwell/thehiddenstemeconomy610.pdf>; *Why STEM Education Matters*, NAT'L MATH + SCIENCE INITIATIVE (2011), <http://www.nms.org/Portals/0/Docs/Why%20Stem%20Education%20Matters.pdf> ("STEM job creation over the next 10 years will outpace non-STEM jobs significantly, growing 17 percent, as compared to 9.8 percent for non-stem positions.").

rience would be centered at the intersection of substantive law, process engineering, computer science and artificial intelligence, design thinking, analytics, and entrepreneurship. These modalities would be blended to produce a very different kind of lawyer—a lawyer well-positioned for law practice in the 21st Century. As it concerns the future of the legal industry, innovation and entrepreneurship in the current and future legal industry can be characterized as some sort of novel combination of {Law + Tech + Design + Delivery}. Given Larry Ribstein’s pronouncement that law schools must now deal with markets, the MIT School of Law (or a version of that basic idea) would be extremely well positioned to thrive.

C. Liberal Arts v. Polytechnic Legal Education—Less Foucault, More Claude Shannon

It is just as important to identify what the MIT School of Law is as what it is not. There is a significant departure between a polytechnic legal education and the model of legal education seen today. As an average proposition, law schools operate as liberal arts colleges, not polytechnic institutions.

Although there has been some movement over the past couple decades, the style of scholarship, the modes of reasoning, and the intellectual ancestry of many of the core concepts and methods on display in legal academia would be more traditionally identified or located within the humanistic disciplines (as opposed to core polytechnic fields such as engineering, artificial intelligence, computer science, and applied mathematics).¹⁴¹ Again, it is worth noting that the interdisciplinary turn in legal education has ushered in meaningful perspectives from allied disciplines such as behavioral psychology, evolutionary theory, economics, and public policy, as well as other social sciences. These fields have enriched our collective understanding of the operation and function of legal rules in a modern society. That said, other than a notable handful of exceptions, the overall American legal academy as well as the overall population of American lawyers are fairly unsophisticated, with respect to the polytechnic mainstays of computer science, artificial intelligence, engineering, and applied mathematics.

Historically, this was not particularly problematic because most the lawyers of the 20th century could operate without significant understanding of such polytechnic content. As briefly outlined in Part II, for a number of tasks and sub-fields in law this is no longer true. Rather, such technical expertise can and will serve as a strong point of differentiation in the relevant legal market. Part II highlighted several concrete instances where locating oneself at the intersection of law and technology offers significant labor market opportunities. While a full-bore polytechnic

141. In some instances, this is perfectly appropriate as questions within law draw upon many concepts such as rights and justice. However, for many other questions these disciplines have nothing meaningful to contribute.

concentration is likely not an option for all institutions,¹⁴² it is an approach that would meaningfully depart from the liberal arts legal education that most institutions currently offer.

Everyone would likely agree that institutions should do the best job possible of preparing students to practice law. It is important, however, to be mindful of the shifting nature of this proposition. The old “practice” versus “theory” debate is likely to dominate the discussion as it becomes increasingly clear that the “new normal” is indeed the new normal. Here Larry Ribstein offers some useful guidance: “Legal educators’ main objective should not be to distinguish ‘theory’ and ‘practice,’ but rather to focus on the types of legal theory. . . .”¹⁴³ In certain areas, the push for a more practical version of legal education is certainly appropriate. But I agree completely that we cannot lose a commitment to teaching theory. The question, however, is what theory should be taught? At MIT Law, the answer is clearly less Foucault and more Claude Shannon (also less Ronald Dworkin and more Richard Susskind).

If the trends highlighted in Part II are remotely correct, it is very important for any institution (MIT Law or otherwise) to not over-fit to the world of today as they help prepare students for the world of tomorrow. Specifically, like many industries on the edge of an information and process revolution, the goal for both legal education and practitioners is to (1) shift attention to tasks that are not subject to automation, (2) take stock of and appropriately leverage changes in legal information technology, and if possible (3) become the individual developing displacing technologies.

D. How to Prepare Your Students for a Job You Have Never Heard Of

As noted earlier, a recent MacArthur Foundation study noted that “65 percent of today’s grade-school kids may end up doing work that hasn’t been invented yet.”¹⁴⁴ This is a thought provoking statement, and it points to the disruptive nature of innovation and its impact on a variety of labor markets. While such extreme uncertainty is arguably not present in the legal services industry and it is impossible to isolate all of the relevant micro-trends and associated dynamics, it is possible to plausibly identify the classes of skills that tomorrow’s lawyer is likely to need.

Although the available evidence arguably counsels otherwise, it is almost certain that some institutions will not accept the premise that there is change of a fundamental sense occurring. For the entrepreneurially minded institution, this is actually very good news. If those institutions with market power adapt quickly, then in many instances they can

142. Every institution must look inward and determine their factor endowments and strategy going forward. In general, there is a desire to be all things to all people. This approach is generally not sound. Instead, it is better to focus upon a few specific objectives and direct all available resources toward excellence with respect to those objectives.

143. Ribstein, *Practicing Theory*, *supra* note 1, at 1673.

144. Heffernan, *supra* note 33.

commandeer the available arbitrage. For the forward thinking institution that accepts the basic premise that legal software and computation are likely to play an important role in law's future, then the question is how to provide training that best prepares students to survive in that new environment.

It should be clear at this point that this essayist believes that there may be fewer lawyers (as currently understood) in law's future.¹⁴⁵ Either way, across the various forms of work, the lawyer of the not too distant future will look quite different than today's lawyer. To help combat legal complexity, Lawyer 2.0 will leverage information technology to more efficiently undertake many of the traditional legal practice tasks that will remain after law's information revolution is fully seated. For other tasks, Lawyer 2.0 will be a hybrid who successfully combines skills to operate in mixed skills industries such as consulting, venture capital, technology development, business, and policy analysis.¹⁴⁶ Hybrid lawyer 2.0 will combine his or her legal training with other high demand skills. For a growing number of employment opportunities, legal expertise may simply not be enough. To acquire many of these positions, it will be necessary to have multiple skill sets.

Those who can blend their legal training with other useful skills are likely to do quite well. The MIT brand would help attract the world's top new polytechnic legal talent. The attraction of the high quality inputs is critical. However, attracting high quality students is simply only part of the process. It is important to train them for the world of the future—taking them at any level of prior preparation and leaving them ready to compete in the labor market.

So how can an institution achieve these ends? Well, this is the difficult part. In order to add/emphasize new content, some feature(s) of the current curriculum must be either removed or deemphasized. Students cannot take every class and there is a built in constituency for the current model and the current set of educational offerings. In Part IV, I highlight a list of potential courses at MIT School of Law—a curriculum built from scratch. Of course, it is one thing to start from scratch and it is a whole different matter to transition an existing institution. The strongest force in the universe is the status quo and law faculties and lawyers are inherently skeptical and conservative. It is worth noting that this skepticism and conservatism are not necessarily bad in many contexts. In other instances, however, they represent a blind spot that needs to be overcome.

145. Other than helping support the development of new markets such as in the case of retail legal services.

146. Some version of this idea has been long discussed in the legal literature under the banner of a lawyer as a "transaction cost engineer." See, e.g., Lisa Bernstein, *The Silicon Valley Lawyer As Transaction Cost Engineer?*, 74 OR. L. REV. 239 (1995); Ronald J. Gilson, *Value Creation by Business Lawyers: Legal Skills and Asset Pricing*, 94 YALE L.J. 239 (1984).

IV. TRAIN, PLACE, AND ATTRACT—IN THAT EXACT ORDER

If reasonably well conceived and executed, an “MIT School of Law” (or equivalent school) is likely to either attract a selective pool of students with some sort of prior technical training or those with a strong desire to acquire such skills. The difficult problem is simply getting the initiative off the ground. In other words, how does one credibly signal to a first round of would be adopters that the institution is committed to serious innovation? Obviously, in the context of opening an actual law school as part of the Massachusetts Institute of Technology the overall brand coupled with some basic effort in the right direction would likely be more than sufficient. This Essay, though, is a broad thought exercise offered for those interested in transitioning existing institutions (or more likely portions thereof) toward potential opportunities that exist in the general domain of law plus science, engineering, design, technology, and entrepreneurship.

It all starts with the training and meaningfully differentiating that training from the existing offerings at most law schools. The order of operations is as follows: train, place, and attract in that exact order. The goal is to create a positive and reinforcing feedback loop where employers want to hire the graduates and students want to attend because employers want to hire its graduates.

Once this positive reinforcement cycle begins it can build off of itself as differential training attracts the employers and the positive employment outcomes together with aggressive recruiting, which should lead more and more like-minded students to be drawn toward the respective institution. Compared to many existing options and seen from the student perspective, the value proposition immediately looks superior to what other institutions are offering in the relevant market. As noted, the challenging part is to get it off the ground and make the commitment credible. Although an institution must simultaneously work on all three pieces of the training, placement, and attraction spectrum, it all starts with changing the content of the education being offered and marketing this fact to the legal labor market. This requires change agents and a willingness to act quickly and decisively.

A. *A Model Curriculum—More Courses, Different Courses, and Lots of Continuity*

Conversations among reasonable individuals advance when someone commits to a proposed approach and invites refinement. In that vein, let me offer a proposed curriculum that marries the left brain and right brain, that is designed to develop a creative, analytical, technically sophisticated, and substantively informed lawyer.

When starting from scratch with a brand new academic institution, a basic animating principle would posit that each required—and most elective—courses should be evaluated in light of their usefulness in bar pas-

sage and the current and future market for legal services. This heuristic rule would of course create winners and losers within an existing institution but more importantly would help restore the law school value proposition because it would require a more significant pegging of the curriculum to conditions and opportunities present in legal marketplace.

Given a shared starting language, the emphasis upon the intersection of science, technology, etc., could be much more extensive than might be found in the law curriculum of today. A legal curriculum that strongly emphasized science, technology, process engineering, predictive analytics, and mathematical and computational modeling could be blended with the standard first year and upper level content to yield students with a relatively novel set of skills.

Let me offer a few thoughts regarding the training that would take place as part of a polytechnic legal education. As mentioned already, one must understand that in order to add/emphasize new content something must be deemphasized. Each course should be evaluated in light of its ability to further the students' standing in the current and future legal labor market.

Applying this animating rule, one useful starting idea is to modify the calendar to embrace the quarter system. Though far from the dominant calendar used in America's law schools, the quarter system allows students to take more courses over their academic careers.¹⁴⁷ Given that the future is difficult to predict, the flexibility to offer more total courses is critical. Most courses have diminishing marginal returns at some point throughout the term. It also allows for more assessment and student feedback. Thus, simply ending that course and starting another is a generally sound idea. In addition to the standard number of circular units, the MIT School of Law will offer more classes for the same money by leveraging a Massive Open Online Course (MOOC) platform as well as a series of free, optional, voluntary, and intensive courses taught at strategic points within the logic of the overall curriculum. Thus, in addition to the full curriculum outlined below, the MOOC style platform will deliver an additional twenty-five to fifty full courses that will be available for free on a non-credit basis for those who are interested in building and expanding their skills. This content would be available both during their time on campus and in the years following graduation. At MIT School of law, *we offer more for less*.¹⁴⁸

Reviewing the curriculum below, one observes a strong commitment to generally retain the classic first year courses. In addition, the canonical upper level courses are also left pretty much intact. This is conscious decision designed to ensure that each individual obtains foundational substantive legal knowledge and is able to maximize his or her bar passage probability. The credit hours within these courses can be ad-

147. Students can take approximately one-third more courses over a three-year window.

148. This is the institutional version of Richard Susskind's "more for less" challenge. See SUSSKIND, TOMORROW'S LAWYERS, *supra* note 4, at 4-5.

justed as needed to cover the necessary overall requisite credit hours and fulfill the broader objectives of the institution. As a point of departure from most institutions, however, this curriculum features far fewer electives than are offered at the typical law school. The economics of the legal profession, legal project management, and legal process engineering are offered to the entire class through intensive multi-week boot camps. These will immediately follow the spring quarter and will follow the mantra of the organization—at MIT School of Law, *we work harder*.

Many schools attempt to be all things to all people. This is a mistake. An institution should select a handful of objectives and focus on developing excellence in those particular objectives. MIT School of Law will offer intensity tracks on the following seven topics: (1) *Tax*, (2) *Business Law (e.g. Finance and Transactional)*, (3) *Intellectual Property*, (4) *Law, Technology, and Policy*, (5) *Law and Entrepreneurship*, (6) *Law, Regulation, and Public Policy*, (7) *Privacy, Technology, and Cybersecurity*.

A Hypothetical MIT School of Law – (Quarter System Curriculum)Pre- 1L BootCamp (4 Weeks)

Business of Law / Economics of the Legal Profession
Introduction to Legal Reasoning

<u>Fall 1L</u>	<u>Winter 1L</u>	<u>Spring 1L</u>
Contracts I	Contracts II	Contracts III
Torts I	Torts II	Admin. Law
Criminal Law	Property I	Property II
LWR I	LWR II	LWR III
Civil Pro I	Civil Pro II	E-Discovery

Pre 2L BootCamp (3 Weeks)

Legal Project Management
Legal Process Engineering (Lean / Six Sigma)

<u>Fall 2L</u>	<u>Winter 2L</u>	<u>Spring 2L</u>
Quantitative Methods	Legal Analytics	Legal Design Thinking
Legal Technology	Prof. Responsibility	Tax I
Corporations I	Corporations II	Litigation
Finance for Lawyers	Acct. for Lawyers	Law & Economics
IP Survey	Evidence I	Evidence II

Pre 3L BootCamp (3 Weeks)

Intensive Simulation (Transaction or Litigation)

<u>Fall 3L</u>	<u>Winter 3L</u>	<u>Spring 3L</u>
Capstone Project I	Capstone Project II	Capstone Project III
Clinic I	Clinic II	Clinic III
Constitutional Law	Trusts & Estates	Criminal Procedure
<<Elective>>	<<Elective>>	<<Elective>>
<Intensity Track I>	<Intensity Track II>	<Intensity Track III>

Intensity Tracks are 3 Course Intensive Training in One Substantive Area :

- (1) Tax
- (2) Business Law (e.g. Finance + Transactional),
- (3) Intellectual Property, (4) Law, Technology & Policy,
- (5) Law and Entrepreneurship, (6) Law, Regulation and Public Policy,
- (7) Privacy, Technology, and Cybersecurity

B. Placement and Marketing of Students to the Legal Industry

The legal industry includes law firms, corporate law departments, established and startup legal technology companies, as well as law related consulting firms. All of these organizations comprise the broader legal industry¹⁴⁹ and most of them could be convinced to consider hiring an MIT law student. As a starting point, MIT law students would be of obvious appeal to the existing and emerging legal technology sector. Indeed, such students would likely become among the most sought after students by legal technology and legal startup enterprises. MIT law graduates could play an important role in policy making as many contemporary policy debates turn on technical questions. In addition, the MIT School of Law would attract a significant fraction of high quality, patent bar eligible students. As such, many of the leading patent firms would be interested in hiring an MIT Law graduate.

Beyond intellectual property, there exists a growing set of legal questions that either require technical knowledge or for which some level of technical sophistication is extremely helpful. Entry level hiring at law firms, however, has grown tricky. The economics of hiring at law firms are challenging as many firms lose money or make relatively little money on first year and second year associates.¹⁵⁰ Firms often have to write down a significant amount of their time and their billable rates are lowest in the firm.¹⁵¹ Recruitment costs, although lower perhaps than they once were, are another source of expenditure. Perhaps the most significant issue is retention. The turnover rates among entry-level associates are fairly high and unless the individual remains in the organization, the return on the firm's investment is often negative.¹⁵² While historically the basic economics of law firm hiring were questionable, the financial crisis has significantly limited firms' willingness to hire entry level associates.¹⁵³

The distribution of control over existing legal work is highly skewed. The general counsels of the top five hundred companies control a significant share of the total U.S. and global non-criminal legal expenditures.¹⁵⁴ Since a growing number of these and other clients have barred first and second year associates from working on their matters, the entry

149. See Bill Henderson, *A Summer Graduate School for E-Discovery*, LEGAL WHITEBOARD (May 31, 2013), <http://lawprofessors.typepad.com/legalwhiteboard/2013/05/a-summer-school-for-e-discovery.html> (presenting a chart highlighting the distinction between the legal profession, legal services industry and legal industry).

150. See generally Palazzolo, *supra* note 51 ("Here are the numbers, according to a September survey for WSJ by the Association of Corporate Counsel, a bar association for in-house lawyers: More than 20% of the 366 in-house legal departments that responded are refusing to pay for the work of first- or second-year attorneys, in at least some matters."); Mystal, *supra* note 50 ("We don't allow first or second year associates to work on any of our matters without special permission, because they're worthless.").

151. Palazzolo, *supra* note 51. The time must be written down because the client will not pay.

152. See *supra* notes 111-115 and accompanying text.

153. V. Dion Haynes, *Law Firms Tightening Belts—By Request*, WASH. POST, Oct. 20, 2008, <http://www.washingtonpost.com/wp-dyn/content/article/2008/10/19/AR2008101901401.html>.

154. See *supra* notes 38-39 and accompanying text.

market has tightened. It has grown far more challenging for individuals outside of the very top of their class or at very top institutions to obtain high quality full time J.D. required, J.D. preferred, or equivalent professional law related job. Indeed, the contraction of the entry-level law firm hiring market has imposed spillover consequences on other submarkets including those seeking to become criminal or public interest lawyers.¹⁵⁵

It is worth noting that the existing bar on first year and second years working on certain client matters is not immutable. Instead, it is typically a rebuttable presumption. That is to say if a law firm were able to explain in a convincing manner why a particular timekeeper (associate) was working on their matter, then it would remove a major barrier to being hired in the first place. Individuals with significant training in legal project management, legal process engineering, legal analytics, and body of scientific and technical skills could arguably prove useful almost immediately as either associates in law firms or perhaps as junior in-house counsels. Many emerging in-house roles are a mixture of substantive legal work with managing and streamlining the processes needed to accomplish the overall legal work of the corporation. It is part law, part operations. MIT law students would be well positioned to join corporate law divisions looking to maintain or cut their legal spending.

Marketing its training to these industry stakeholders would be key a task for a polytechnic law school. This would likely require the directed attention of members of the faculty as opposed to outsourcing that effort to the career services department. It is hardly a revelation to note the existence of a dysfunctional relationship between the practicing bar and the legal academy. While there are a large number of notable exceptions, this is a point that Larry made quite forcefully.

Many of us write scholarly articles unconcerned that practicing lawyers never read them but in hopes that other professors will To call us residents of an ivory tower may be giving us more credit than we deserve. Residents of ivory towers sometimes climb the parapet and get a glimpse of the outside world.¹⁵⁶

Building substantive and fruitful relationships with the relevant industry stakeholders is a very important and wise move for law schools. It can help students obtain jobs—particularly when your institution is MIT Law and you have a very desirable product. Having a solid product and making that fact clear are not one and the same. Thus, in order to initially stoke demand, marketing the difference between polytechnic legal ed-

155. See Miranda Selover, *Myths and Realities of Pursuing Public Interest Careers*, EQUAL JUSTICE WORKS (Apr. 17, 2012), <http://www.equaljusticeworks.org/news/blog/myths-and-realities> (noting that as the economy has continued to struggle, “the brightest minds from the top law schools are competing for coveted public interest positions”); see also Debra Cassens Weiss, *Blame It on BigLaw: Firms of 100-plus Lawyers Cut Hiring the Most, Creating Ripple Effect*, A.B.A.J. (Aug. 19, 2013, 5:00 AM), http://www.abajournal.com/news/article/blame_it_on_biglaw_firms_of_100-plus_lawyers_cut_hiring_the_most/.

156. Bruce Antkowiak, *Law Schools Must Reform: They Need to Leave the Ivory Tower and Teach Practical Lawyering*, PITT. POST-GAZETTE, Jan. 4, 2011, <http://www.post-gazette.com/pg/11004/1115309-109.stm>.

ucation and liberal arts legal education is a very important challenge for the institution.

C. *MoneyLaw: The Student Admissions Edition*

Students with prior training in the physical and life sciences, computer and information science, engineering, and applied mathematics are systemically undervalued by the current law admissions environment. They are less likely to apply to law school (due to higher opportunity costs), and if they do, their lower grade point averages make them less likely (*all else equal*) to gain admission to their preferred institution.¹⁵⁷ At the same time, these individuals (if trained to focus their prior skills on the new and emerging legal sectors) are far more likely to secure employment than their humanities or liberal arts-trained counterparts.¹⁵⁸

Mathematics, computer science, physics, statistics, and engineering undergraduate students are the most undervalued while the next set includes the life sciences and quantitative social sciences. So how does an institution attract these undervalued students? An MIT School of Law would thrive at this task because it could offer a curriculum, a faculty, and an overall ecosystem in which these individuals could shine. If you build it, they will come, and they are more likely to do so if there is a critical mass on the front end and fantastic employment opportunities on the back end. In other words, the dynamics of talent acquisition is a process featuring negative and positive feedback. Obviously, an actual “MIT School of Law” would be relying upon the fairly strong brand signal of the larger university. If an institution wants to follow the MIT School of Law approach and rebrand, they must be committed to jump start that process by applying greater resources in earlier periods.

V. CONCLUSION

Generated by the nexus of available technology and the current legal employment crisis, there appears to be a growing “garage culture” breaking out—but it is still in its very formative stages.¹⁵⁹ Legal tech is in the stage today where personal computing was in 1975.¹⁶⁰ Across the

157. See Simkovic & McIntyre, *supra* note 40 (finding that law students are disproportionately drawn from majors that have the lowest earning averages, including humanities and social sciences); *id.* at 27 n.66 (noting that science, engineering, technology, and math majors tend to have the lowest GPAs); see also Shawn P. O’Connor, *In Law School Admissions, STEM Sells*, U.S. NEWS & WORLD REP., (May 30, 2012, 10:30 AM), <http://www.usnews.com/education/blogs/law-admissions-lowdown/2012/05/30/in-law-school-admissions-stem-sells> (discussing that although law schools are admitting more students with technical majors, these students still do not receive much deference for their major’s difficulty in the law school admissions’ process).

158. See *supra* notes 136, 139-140 and accompanying text.

159. See generally Hadfield, *supra* note 125. Professor Hadfield finishes her article with this statement: “I hope we are not so far from graduating our own garage guys who can transform how we do law in the way that Apple and Google have transformed how we find information, connect with one another, and learn.” *Id.* at 498. I agree.

160. I say 1975 as this was the first year of homebrew computer club newsletter.

United States, UK, and Canada, the past years have witnessed various incantations of law's version of the "homebrew computer club."¹⁶¹ For example, ReInventLaw,¹⁶² LawTechCamp,¹⁶³ New and Emerging Legal Infrastructures Conference,¹⁶⁴ LexThink.1,¹⁶⁵ The Forum on Legal Evolution¹⁶⁶, Stanford CodeX Future Law,¹⁶⁷ Harvard Conference on Disruption in the Legal Profession¹⁶⁸ and other related conferences, meetups, and hackathons showcase just some of the innovations that are being generated in the legal marketplace. Law's version of the Homebrew Computing is just getting started¹⁶⁹—the question, as Larry Ribstein posed it, is when "law's version of Steve Jobs" will emerge.¹⁷⁰ It is still possible for institutions to claim a portion of growing industry sub-sectors. The key is to get off the bench and get in the game.

There are various ways to be competitive in a given market, but if you are any institution in any industry that does not already have dominant market power, pure mimicry of one's competitors is basically akin to quitting. If you accept the terms of a dramatically unfair game, you lose. There is, however, nothing like necessity to spur innovation. The best response is to identify a dimension of competition where the terms are less uneven and specialize on that dimension. In the sports world, this worked for Billy Beane and the Oakland A's and for many others looking to be upstarts in any given market.¹⁷¹

161. Josh Walker of Stanford Law School and CodeX (Stanford Center for Legal Informatics) recently described the growing group of law tech enthusiasts as law's version of the Home Brew Computing Club. See Harry McCracken, *For One Night Only, Silicon Valley's Homebrew Computer Club Reconvenes*, TIME, Nov. 12, 2013, <http://techland.time.com/2013/11/12/for-one-night-only-silicon-valleys-homebrew-computer-club-reconvenes/#ixzz2v8sZCzls>.

162. See REINVENT LAW, SILICON VALLEY, <http://reinventlawsiliconvalley.com/> (last visited July 15, 2014); REINVENT LAW NYC, <http://reinventlawnyc.com/> (last visited July 15, 2014).

163. See LAW TECH CAMP, <http://lawtechcamp.com/> (last visited July 15, 2014).

164. See ROBOT ROBOT & HWANG, <http://www.robotandhwang.com/conference/> (last visited July 15, 2014).

165. See *LexThink.I: The Future of Law Practice in Six Minute Increments*, POINTONELAW.COM, <http://www.pointonelaw.com/> (last visited July 15, 2014).

166. See Paul Lippe, *More Lawyers are Embracing Chance—Even Though “Old Normalists” are Still the Majority*, ABA J. (Mar. 19, 2014, 8:45 AM), http://www.abajournal.com/legalrebels/article/aba_a_tale_of_three_conferences/.

167. *CodeX Future Law 2014*, STANFORD LAW SCHOOL, <https://www.law.stanford.edu/event/2014/05/02/codex-futurelaw-2014> (last visited July 15, 2014); *CodeX Future Law 2013*, STANFORD LAW SCHOOL, <https://www.law.stanford.edu/event/2013/04/26/codex-futurelaw-2013> (last visited July 15, 2014).

168. *Disruptive Innovation in the Market for Legal Services*, HARVARD LAW SCHOOL, http://www.law.harvard.edu/programs/plp/pages/kenny_event.php (last visited July 15, 2014).

169. Daniel Martin Katz, *The #LegalHack Movement—or—The HomeBrew Computer Club of the Legal Industry*, COMPUTATIONAL LEGAL STUD. (Nov. 1, 2013), <http://computationallegalstudies.com/2013/11/01/the-legalhack-movement-or-the-homebrew-computing-club-of-the-legal-industry/> (“#Legal Hacking is a Movement. This is what Robert Richards from Legal Informatics Blog declared back in 2012. It turned out to be a very accurate prediction. The rise of the legal hack movement is among the most interesting developments in our industry—with significant growth coming in the second half of 2013.”).

170. See Larry Ribstein, *Waiting for the Steve Jobs of Law*, TRUTH ON MARKET (Aug. 27, 2011), <http://truthonthemarket.com/2011/08/27/waiting-for-the-steve-jobs-of-law/>.

171. See Michael Lewis, MONEYBALL: THE ART OF WINNING AN UNFAIR GAME (2003).

It is important not to be fatalistic and to instead emphasize how individuals and institutions can respond to this new ordering. While it is likely the case that students with a background in science and technology (rather than the humanities, etc.) will have a significant advantage as we move deeper into law's information revolution, institutions can help level this playing field by offering their students the requisite skills training necessary to be competitive.¹⁷² This basic proposal is designed to offer general guidance to institutions outside of my hypothetical "MIT School of Law." The pathology of attending law school to avoid math/science simply must give way to a new reality. In other words, if professional success for our graduates is the ultimate test—then, yes—there is going to be math (engineering and technology) on the exam.

In legal education, George Mason offers a good example of a startup law school.¹⁷³ They specialized and reaped the rewards as law and economics became a "pillar of legal education."¹⁷⁴ However, the landscape is never static. The world changes and yesterday's fast is today's slow. Indeed, Henry Manne was Billy Beane for the last generation—but who is going to be the forward thinking change agent for this go around? While the actual "MIT School of Law," is likely to remain a hypothetical, the ideas expressed herein need not. In other words, the future is *not* self-executing—it is up to all of us to go make it happen!

172. See *supra* Part I.B–C.

173. Ilya Somin, *Do the Recent Failures of the Oakland A's Discredit Moneyball Strategies in Baseball and Academia?* VOLOKOH CONSPIRACY (July 18, 2009, 8:24 PM), <http://volokh.com/posts/1248827099.shtml>.

174. See generally Joni Hersch & W. Kip Viscusi, *Law and Economics as a Pillar of Legal Education* (Vanderbilt Univ. Law Sch. Law & Econ., Research Paper No. 11-35, Nov. 2, 2011), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1907760.