DISRUPTIVE LEGAL TECHNOLOGY, COVID-19, AND RESILIENCE IN THE PROFESSION

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I. INTRODUCTION

The legal profession is in the throes of two major disruptive events—the rapid emergence of new legal practice technologies[1] and a global pandemic unlike any seen in over a century.[2] These significant disruptions are delivering a one-two punch to the profession that will inevitably transform and reshape it in ways that would not have been thought possible years ago.

The first, longer term event—the emergence and advance of new technologies—remains in progress. Richard Susskind predicted nearly twenty-five years ago in *The Future of Law* that "legal practice and the administration of justice will no longer be dominated by print and paper in tomorrow's legal paradigm. Instead, legal systems of the information society will evolve rapidly under the considerable influence of ever more powerful information technologies."[3] His prediction has certainly come to fruition, and the changes he imagined have continued—and are only accelerating—today. As Stacey Caywood, the Chief Executive Officer of Wolters Kluwer, said in 2019: "After years of debate about the transformation of the legal sector – if, when and how it would happen – there's no question that the global future of law is rapidly underway, and that technology is a key force for change."[4] So, what are some of the major technological changes in law? And what might they look like in the future?

Lawyers are increasingly relying on technology in their day-to-day practices, and legal technologies have evolved "into the cloud," so to speak.[5] Documents that were once collected and reviewed manually are now reviewed technologically using robust, cloud-based platforms that incorporate machine

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1.   Lyle Moran, *Business As [Un]usual: Will the COVID-19 Pandemic Fundamentally Remake the Legal Industry?*, 106 A.B.A. J. 34, 36 (2020).

2.   *See id.*

3.   RICHARD SUSSKIND, THE FUTURE OF LAW: FACING THE CHALLENGES OF INFORMATION TECHNOLOGY 292 (1996).

4.   Press Release, Wolters Kluwer, Technology is Key to the Future Ready Lawyer (Apr. 3, 2019), https://www.globenewswire.com/news-release/2019/04/03/1795942/0/en/With-Legal-Industry-Transformation-Underway-Technology-is-Key-to-the-Future-Ready-Lawyer.html [https://perma.cc/2YWE-7XGY].

5.   Moran, *supra* note 1, at 37.

learning, artificial intelligence (AI), and predictive coding.[6] New "internet of things" (IoT) technologies, including autonomous vehicles, drones, medical devices, smarthome devices, and much more, have facilitated the rise of "Big Data" and have driven the creation of more sophisticated, AI-based eDiscovery tools.[7] Legal research is being generated "on the fly" based on analyses of written work product, rather than based on Boolean-based searches.[8] Transactional documents and litigation briefs are being drafted—in whole or in part—by internet-based AI solutions and later reviewed by attorneys who refine those drafts to meet the needs of their clients.[9] Moreover, predictive technologies and online courts are rendering judgments and verdicts using machine learning and AI-based technologies.[10] These and other technologies continue to change the way lawyers conduct business on a day-to-day basis.

Meanwhile, the second major event—the ongoing COVID-19 pandemic—has only further accelerated the legal profession's dependence on and use of new and innovative technologies. As attorneys, clients, and judges have been mandated to stay home in light of the pandemic, attorneys have been forced to transform their legal practices.[11] Computer-based practice management and time tracking tools are being used at a record clip.[12] Witness interviews are being conducted over Zoom; depositions are being conducted remotely using electronic meeting and exhibit-sharing platforms; district court hearings, Supreme Court and appellate oral arguments, federal and state court

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6.   *See What Is Predictive Coding, and How Does It Apply to Ediscovery?*, EVERLAW (Mar. 3, 2020), https://www.everlaw.com/resources/blog/2020/03/03/what-is-predictive-coding/ [https://perma.cc/A5BY-HGUJ].

7.   *See* Joseph A. Tate Jr. & David J. Walton, *Emerging Data Types and IoT of E-Discovery in Civil Litigation*, THE LEGAL INTELLIGENCER (Mar. 24, 2020), https://www.law.com/thelegalintelligencer/2020/03/24/emerging-data-types-and-iot-of-e-disco very-in-civil-litigation/ [https://perma.cc/HW9K-DNM6].

8.   *See* Nicole Black, *Lawyers Have a Bevy of Advanced and AI-Enhanced Legal Research Tools at Their Fingertips*, A.B.A. J. (Nov. 22, 2019), https://www.abajournal.com/we b/article/lawyers-have-a-bevy-of-advanced-and-ai-enhanced-legal-research-tools-at-their-finge rtips [https://perma.cc/2KMK-X2ZH].

9.   *See* Kathryn D. Betts & Kyle R. Jaep, *The Dawn of Fully Automated Contract Drafting: Machine Learning Breathes New Life into a Decades-Old Promise*, 15 DUKE L. & TECH. REV. 216, 219–20 (2017).

10.   *See, e.g.*, Katherine B. Forrest, *The Holographic Judge,* N.Y. L.J. (Dec. 31, 2019) https://www.law.com/newyorklawjournal/2019/12/30/the-holographic-judge/ [perma.cc/G7RA -XPZW]; John Hyde, *Mediator Claims Online Dispute First To Be Settled by Algorithm*, THE L. SOC'Y GAZETTE (Feb. 25, 2019), https://www.lawgazette.co.uk/news/mediator-claims-online-dispute-first-to-be-settled-by-algorithm-/5069393.article [https://perma.cc/J6YU-MML Q].

11.   Moran, *supra* note 1, at 36.

12.   *See* Sam Skolnik, *Lawyers Aren't Taking Full Advantage of AI Tools, Survey Shows*, BLOOMBERG L. (May 14, 2019, 9:01 AM), https://news.bloomberglaw.com/us-law-week/lawy ers-arent-taking-full-advantage-of-ai-tools-survey-shows [https://perma.cc/5MQ9-A539].

trials, and other legal proceedings are being conducted remotely; and legal analysis, document review, and client phone calls are occurring in home offices, rather than in traditional offices away from family and roommates.[13]

These technological advancements and circumstantial changes to legal practice implicate a wide range of legal and ethical issues, including several duties that bear on a lawyer's technological competence and the requirements for supervising consultants and vendors who use or supply legal technologies.[14] These legal and ethical issues span several of the ABA Model Rules of Professional Responsibility, as well as ethical rules of the individual states.[15] Lawyers will be required to have heightened awareness of the implications of emerging technology and of the "new normal" on their duties for practice, particularly now. With an understanding of the rules and requirements associated with emerging technologies, lawyers will become more effective in their practices and gain a larger toolkit of resources to draw from as they strive to serve clients as effectively as possible. This will allow them to become better lawyers and better stewards of the profession as they adjust to the transformational changes that will continue to befall the legal industry.

These two transformational trends and events will likely tax the profession for the foreseeable future as the profession wades its way through the pandemic and postures itself for an uncertain technological future. Lawyers must be prepared to tackle these ethical and technological uncertainties. To do so, this Article argues that increased *resilience* of lawyers and their institutions will be a critical way forward. Before COVID-19, lawyers were historically resistant to technology, and adaptation to new and emerging technologies has generally been slow, both in legal doctrine and practice.[16] In some instances, this "defeatist" or glib mentality toward technology has harmed the profession and has reflected lawyers' general predilections for staying in their comfort zones.[17] The ongoing COVID-19 situation, however, has required lawyers to step out of their comfort zones—

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13. Moran, *supra* note 1, at 36; *see* David F. Abernethy et al., *Deposition Distancing? As Courts Urge Litigants to Continue Discovery with Remote Depositions, Litigants Must Consider Whether, and When, to Fight Them*, NAT'L L. REV. (May 15, 2020) https://www.natlawreview.com/article/deposition-distancing-courts-urge-litigants-to-continue-discovery-remote-depositions [https://perma.cc/TAH6-63TE]; Richard Susskind, *Our Purpose*, REMOTE COURTS WORLDWIDE (Mar. 27, 2020), https://remotecourts.org/news.htm [https://perma.cc/9BX3-RGYA].

14. *See* Paul Domnick, *Tip of the Iceberg: Assessing Ethics and Technology*, LAW TECH. TODAY (Nov. 15, 2018), https://www.lawtechnologytoday.org/2018/11/assessing-ethics-and-technology/ [https://perma.cc/533K-RXLF].

15. *See id.*; *see also* Jamie J. Baker, *Beyond the Information Age: The Duty of Technology Competence in the Algorithmic Society*, 69 S.C. L. REV. 557, 557–63 (2018).

16. Moran, *supra* note 1, at 35.

17. Betts & Jaep, *supra* note 9, at 216–17.

not only with respect to the use of technology to function in their jobs but also with respect to their daily routines and the overall expectations of legal practice. Now more than ever, the profession must shore up its resilience and seize the opportunity to do so—not just to survive the COVID-19 crisis but also to ensure that the profession tackles its technology challenges head-on and adapts to the ongoing challenges and opportunities that emerging technologies will present well after the COVID-19 crisis is over.

Developing resilience in the profession will be particularly vital now, as the incremental technological changes observed during the COVID-19 pandemic will likely only accelerate the profession's shift toward (and use of) the more disruptive technologies within machine learning and AI that currently exist and are on the horizon. This is not the time for the profession to sit idly by; it is the time to be forward-looking, innovative, and creative in the face of the unprecedented changes it is facing now and will continue to face in the future.

This Article proceeds as follows. Part II addresses the broader transformation of legal practice technologies that has been occurring over the past several years and explains how those technologies are transforming various facets of legal practice, including legal research, electronic discovery, brief and contract drafting, predictive analytics tools, and dispute resolution methodologies and techniques. It considers the practical implications of new and emerging technologies in each area and then analyzes the broader ethical implications of those technologies on the legal profession. Part II underscores that the ethical issues implicated by the emerging wave of legal practice technologies are vast, will continue to evolve, and must be addressed by the legal profession and the bar at large. These issues, moreover, are not trivial— they include issues that bear on lawyers' basic competence, lawyers' duties in working with and overseeing legal technology vendors, and lawyers' transparency around implicit biases and discriminatory effects that could result from these new legal technologies.

Part III of this Article considers the increased urgency of adapting to emerging legal practice technologies in light of the COVID-19 pandemic. It describes several additional legal practice technologies that have been brought to the forefront of legal practice as a result of the pandemic including, for example, shifts toward remote work on virtual private networks and "in the cloud" and shifts toward video and remote depositions, hearings, and trials.

Part III illustrates that a profession that is typically reticent to use technology can use—and has used—technology in unprecedented ways when forced to do so. This Part also highlights several additional, important ethical issues that have arisen from the unprecedented "new normal" and that the entire legal profession is facing, including the importance of lawyers' technological competence.

The remaining Parts of this Article consider the implications of the trends described in Parts II and III on the future of the legal profession and practice. Part IV discusses the need for the profession—particularly via bar associations—to regulate itself so that its lawyers are prepared for the future. This means articulating a clear vision for technology's role in the profession; generally regulating law schools and lawyers to ensure they have a foundational level of technological competence and skill; and providing oversight over legal technology companies and platforms to maintain quality and ensure that lawyers can properly tailor legal technology use to their practice.

Finally, Part V argues that building resilience both in individual lawyers and in the institutions of the legal profession is crucial at this juncture. It further provides suggestions on traits that both lawyers and organizations can adopt to develop the resilience necessary to emerge from the pandemic ready for the technological changes ahead. A short conclusion with reflections for the future follows in Part VI.

II. THE TRANSFORMATION OF LEGAL TECHNOLOGIES AND THE RESULTING ETHICAL IMPLICATIONS

Legal technologies are transforming the legal profession. These transformative shifts include the shift from book research to the use of AI computer research platforms;[18] the shift from manual, hard copy document review to fully automated, technology assisted review (TAR);[19] the shift from entirely manual contract and brief drafting to computer-generated written work product;[20] the shift from traditional legal predictions based purely on a lawyer's insights to those informed by AI algorithms;[21] and the shift from in-person dispute resolution to what has been referred to as "online dispute resolution" (ODR).[22]

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18.   Black, *supra* note 8.

19.   Kate Bauer, *Technology-Assisted Review: Overcoming the Judicial Double Standard*, RICH. J.L. & TECH. BLOG (Jan. 24, 2018), https://jolt.richmond.edu/2018/01/24/technology-assisted-review-overcoming-the-judicial-double-standard/ [https://perma.cc/B97Y-UHXU].

20.   *See* Nicole Black, *Here's the Lowdown on Contract Analytics Software*, A.B.A. J. (Mar. 23, 2018), https://www.abajournal.com/news/article/heres_the_lowdown_on_contract_analytics_software [https://perma.cc/3MVD-YGVF].

21.   *See* David L. McCombs et al., *Brave New World*: *How AI Tools Are Used in the Legal Sector*, LAW.COM (Aug. 12, 2020, 7:00 AM), https://www.law.com/legaltechnews/2020/08/12/brave-new-world-how-ai-tools-are-used-in-the-legal-sector/#:~:text=AI%20helps%20%20legal%20departments%20to,company%20using%20the%20AI%20tool [https://perma.cc/UW98-62GY].

22.   *See* Jeremy Barnett & Phillip Treleave, *Algorithmic Dispute Resolution—The Automation of Professional Dispute Resolution Using AI and Blockchain Technologies*, 61 COMPUT. J. 399, 400 (2017).

Understanding legal technologies is crucial. One reason is the ethical duty of technological competence.[23] Model Rule 1.1 of the ABA Model Rules of Professional Conduct states, "A lawyer shall provide competent representation to a client[,]"[24] and Comment 8 to the Rule (amended in 2012)[25] states that "a lawyer should keep abreast of changes in the law and its practice, *including the benefits and risks associated with relevant technology.*"[26] Though the ABA Model Rules are not binding, thirty-eight states have adopted the duty today.[27] Some states, such as West Virginia, have adopted stringent versions of the Rule, requiring that lawyers "must"—rather than "should"—keep abreast of technology.[28] And California's ethics board requires that those unfamiliar with technology must "(1) become familiar with the technology, (2) consult with or delegate to someone who is familiar with the technology, or (3) decline to represent the client."[29]

Today, being technologically competent is not enough to win; it is "a requirement to play the game at all."[30] And this is just one ethical rule; many other ethical rules are implicated by emerging technologies.[31] Moreover, numerous other ethical issues, such as those related to machine learning and AI, are not currently addressed in the rules. Thus, Resolution 112, adopted by the ABA in 2019 "urges courts and lawyers to address the emerging ethical and legal issues related to the usage of artificial intelligence . . . in the practice of law[.]"[32]

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23. Domnick, *supra* note 14.

24. MODEL RULES OF PRO. CONDUCT r. 1.1 (AM. BAR ASS'N 2020).

25. STEPHEN GILLERS ET AL., REGULATION OF LAWYERS: STATUTES & STANDARDS 161 (2018 ed.); SUSAN R. MARTYN ET AL., THE LAW GOVERNING LAWYERS: MODEL RULES, STANDARDS, STATUTES, AND STATE LAWYER RULES OF PROFESSIONAL CONDUCT 1 (2020 ed.).

26. MODEL RULES OF PRO. CONDUCT r. 1.1 cmt. 8 (AM. BAR ASS'N 2020) (emphasis added).

27. Nicole Allen, *What You Don't Know Will Hurt You: Technology Competence in the Time of COVID-19*, LITSMART E-DISCOVERY (Mar. 24, 2020), https://www.ktlitsmart.com/blog/what-you-don%E2%80%99t-know-will-hurt-you-technology-competence-time-covid-19 [https://perma.cc/6KYN-6B5E]; Baker, *supra* note 15, at 561–64 & n.18.

28. W. VA. RULES OF PRO. CONDUCT r. 1.1 cmt. 8. (W. VA. JUDICIARY 2014).

29. State Bar of Cal. Standing Comm. on Pro. Resp. & Conduct, Formal Op. 2015-193, at 1 (2015).

30. *See id.*

31. *See infra* Section II.B.

32. *Adopted Revised Resolution 112* (2019), AM. BAR ASS'N, https://www.americanbar.org/content/dam/aba/images/news/2019/08/am-hod-resolutions/112.pdf [https://perma.cc/A3EM-NWAU].

A. The Ongoing Legal Technology Transformation

Twenty-five years ago, computers were hardly used in legal practice, and attorneys were even skeptical about e-mail.[33] Now, numerous technologies spanning several categories are transforming legal practice every day. These categories include legal research and analytics tools, which allow lawyers to marshal good case law; document review tools, which allow lawyers to locate and produce the right documents; document drafting and legal writing tools, which use algorithms to assist lawyers' writing; predictive analytic technologies, which allow lawyers or judges to predict case outcomes and lawyer success rates; and dispute resolution and courtroom technologies, which include online and remote courts.[34]

Within each category, machine learning and AI have been crucial. The evolution of machine learning and AI in legal technologies has been anticipated for many years.[35] However, the bar has exhibited little agency over these developments, and "little is known about how legal professionals, their organizations, and their professional environments are shaping the adoption, implementation, and governance of machine-learning systems that support professional decision-making."[36] Moreover, many lawyers are not taking full advantage of these technologies.[37] A 2019 Bloomberg Law survey found that more than half of lawyers believe they do not use AI or machine learning tools in their practice.[38] And the *2019 ABA Profile of the Legal Profession* found that only 10% of lawyers thought their firms used AI-based tools.[39] But everyone agrees that these technologies are important: 36% of the respondents in that same ABA survey believed that AI-based tools "will become

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33. In the mid-1990s, ethics rulings held that sending e-mails could violate the duty of confidentiality. JAMES E. MOLITERNO, THE AMERICAN LEGAL PROFESSION IN CRISIS: RESISTANCE AND RESPONSES TO CHANGE 208 (2013).

34. Skolnik, *supra* note 12; *see Online Dispute Resolution Offers a New Way to Access Local Courts*, PEW CHARITABLE TRS. (Jan. 4, 2019) https://www.pewtrusts.org/en/research-and-analysis/fact-sheets/2019/01/online-dispute-resolution-offers-a-new-way-to-access-local-courts [perma.cc/23T5-SUJM]; *Legal Analytics for Patent Litigation*, LEXMACHINA, https://lexmachina.com/patent-litigation/ [https://perma.cc/3TBD-2SCY].

35. *See* SUSSKIND, *supra* note 3, at 278–79.

36. Daniel N. Kluttz & Deirdre K. Mulligan, *Automated Decision Support Technologies and the Legal Profession*, 34 BERKELEY TECH. L.J. 853, 861 (2019).

37. Skolnik, *supra* note 12.

38. *Id.*

39. AM. BAR ASS'N, ABA PROFILE OF THE LEGAL PROFESSION 52 (2019).

mainstream in the legal profession in the next three to five years."[40] Currently, many lawyers are using these tools without realizing it.[41]

1.   Legal Research and Analytics Platforms

Legal research has evolved well beyond traditional print research. There are now several electronic platforms, including Westlaw, LexisNexis, Bloomberg Law, ROSS, Casetext, Docket Navigator, Google Scholar, Ravel, and Fastcase.[42] Case law research has changed dramatically on these platforms. Traditionally, lawyers were trained on Boolean "terms and connectors" searches, which allowed lawyers to use the right combination of "and," "or," and other operators to find cases.[43] But keyword searching tended to be either overinclusive or underinclusive.[44] To address this, legal research providers introduced indexing tools, such as Lexis and Westlaw headnotes.[45] Those headnotes, however, are labor intensive.[46]

Today, the major legal research companies have sought to incorporate AI and machine learning into their platforms. The Lexis Advance platform now purports to use "AI-enhanced tools";[47] Westlaw Edge likewise claims to use "state-of-the-art artificial intelligence";[48] ROSS uses AI to facilitate natural languages searches "you would use with a colleague";[49] and Casetext uses a

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40.   *Id.*

41.   For purposes of this Article, there is an important distinction between what is known as "weak" AI and "strong" AI. The legal technologies discussed in this Article employ "weak" AI, which "seems intelligent" but has defined functions and no self-awareness. Micha-Manuel Bues & Emilio Matthaei, *LegalTech on the Rise: Technology Changes Legal Work Behaviours, But Does Not Replace Its Profession*, *in* LIQUID LEGAL: TRANSFORMING LEGAL INTO A BUSINESS SAVVY, INFORMATION ENABLED AND PERFORMANCE DRIVEN INDUSTRY 89, 93 (Kai Jacob et al. eds., 2016). This is distinguished from "strong" AI, which would have the ability "to reason, represent knowledge, plan, learn, communicate in natural language and integrate all those skills toward a common goal." *Id.* AI used in current legal technology "is far away from strong AI"—the type of AI sensationalized in movies. *Id.*

42.   *See* AJ Blechner, *Alternate Legal Research Tools*, HARV. L. LIBR., https://guides.library.harvard.edu/alternatelegaldatabases [https://perma.cc/W34M-F6TK].

43.   *See, e.g.*, LAUREL CURRIE OATES ET AL., THE LEGAL WRITING HANDBOOK 476 (2d ed. 1998).

44.   Dana Remus & Frank Levy, *Can Robots Be Lawyers? Computers, Lawyers, and the Practice of Law*, 30 GEO. J. LEGAL ETHICS 1, 25 (2017).

45.   *Id.*

46.   *See id.*

47.   LEXIS ADVANCE, https://go.lexisnexis.com/lexis [https://perma.cc/W7G2-CRVB].

48.   WESTLAW EDGE, https://legal.thomsonreuters.com/en/c/legal-research-westlaw-edge [https://perma.cc/TD7Y-W294].

49.   ROSS INTEL., https://www.rossintelligence.com/features [https://perma.cc/DCU8-NSQH]; *see, e.g.*, Charlie von Simson, *How ROSS AI Turns Legal Research on its Head*, ROSS INTEL. (Aug. 6, 2019), https://blog.rossintelligence.com/post/how-ross-ai-turns-legal-research-on-its-head [https://perma.cc/A5BG-Q2NA].

tool called "CARA A.I." to search using uploaded case documents and search terms.[50] These new AI-based functionalities have improved efficiency and have instantly identified cases that may have taken hours to locate using legacy tools.[51] Ontario Canada's Superior Court has said that AI-based legal research can provide "a more comprehensive and more accurate answer to a legal question in shorter time than the conventional research methodologies."[52]

These AI-based legal research systems are not the same. Casetext, Fastcase, Google Scholar, Lexis Advance, and Westlaw each return different results of ranging degrees of quality.[53] The search algorithms of each system weigh searches differently based on factors like the number of words in the search, popularity of retrieved cases, and internal classification schemes.[54] These differences are not always transparent. Legal research providers may provide "some information about how the algorithms operate[,]" but "the information is not very detailed."[55]

Likewise, the citators used in legal research vary widely.[56] Their methodologies vary based on differences in internal policies, procedures, and labeling conventions.[57] A study that compared three citators—KeyCite (Westlaw), Shepard's (LexisNexis), and BCite (Bloomberg Law)—"found highly inconsistent results and egregious mistakes" across the three platforms and found all of their results "troubling."[58] The citators were rarely in agreement.[59] For this reason, textbooks encourage law students to use "more

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50. Valerie McConnell, *What Is CARA A.I. and How Do I Use It?*, CASETEXT, https://help.casetext.com/en/articles/1971642-what-is-cara-a-i-and-how-do-i-use-it [https://perma.cc/6KRD-673Q].

51. *See* Steve Lohr, *A.I. Is Doing Legal Work. But It Won't Replace Lawyers, Yet.*, N.Y. TIMES (Mar. 19, 2017), https://nyti.ms/2nbhsoE [https://perma.cc/9W4A-RBQT]; *see also* CASETEXT, https://casetext.com/cara-ai/ [https://perma.cc/RY7V-7B74].

52. Drummond v. The Cadillac Fairview Corp. Ltd., 2018 ONSC 5350, para. 10 (Can. Ont. Super. Ct. Just.).

53. Susan Nevelow Mart, *Every Algorithm Has a POV*, AALL SPECTRUM 40, 44 (Sept.– Oct. 2017), scholar.law.colorado.edu/articles/723 [https://perma.cc/P5HL-FZZ4].

54. *Id.* at 41.

55. *Id.*; *see also* Anne Groves, *An Introductory Look at Search Relevance in Legal Research: What is Search Relevance, Why Search Relevance Matters to Attorneys, and Which Legal Database Providers Do It Best*, RICH. J.L. & TECH. BLOG (Oct. 8, 2019), https://jolt.richmond.edu/2019/10/08/an-introductory-look-at-search-relevance-in-legal-researc h-what-is-search-relevance-why-search-relevance-matters-to-attorneys-and-what-legal-databa se-providers-do-it-best/ [https://perma.cc/SK89-MBMF].

56. Citators are used to identify how and the extent to which cases and other materials have been cited by courts; they help clarify whether a particular court opinion was followed, distinguished, or criticized in other case opinions. Paul Hellyer, *Evaluating Shepard's KeyCite, and Bcite for Case Validation Accuracy*, 110 LAW LIBR. J. 449, 449–50 (2018).

57. *See id.* at 473–75.

58. *Id.* at 450.

59. *Id.* at 464.

than one citator" because they "may get slightly different results in each service."[60] Few lawyers understand the rules that go into those citators; perhaps with better knowledge in this regard, lawyers could be in a better position to pick the most useful citator for each case.

2.   Document Review Tools and Predictive Coding

The nature and scope of document review platforms has dramatically changed over the last several decades. A once manual process with print documents has shifted—first to electronic productions using search terms and then to modern-day TAR with predictive coding.[61]

Courts have been relatively slow to adapt. Twenty years ago, the notion of the "paper case" was still common, and courts were struggling with the "unique problems" of "[u]sing traditional search methods to locate paper records in a digital world."[62] Thus, in the 2001 case of *McPeek v. Ashcroft*, the District of Columbia District Court was hesitant to force the Department of Justice to produce electronic backup tapes for cost reasons.[63] That concern was founded as the early days of eDiscovery entailed roomfuls of associates scrutinizing every document that was to be produced.[64] Costs have remained a fundamental concern of clients and reform efforts over the years, particularly as eDiscovery has increased in scope and complexity.[65]

Meanwhile, numerous new forms of discoverable electronic data have emerged and will continue to emerge well into the future.[66] Beginning in the 2000s, evidence became increasingly electronic, with an initial explosion of electronic e-mails and documents.[67] Today, discovery is expanding as data from wearable IoT devices, smarthome devices, autonomous vehicles, drones, GPS devices, doorbell cameras, and numerous other emerging technologies

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60.   AMY E. SLOAN, BASIC LEGAL RESEARCH: TOOLS AND STRATEGIES 127 (7th ed. 2018).

61.   Technology Assisted Review (TAR) generally refers to document review that is assisted by technology. Jason Rubinstein & Meredith Neely, *Optimizing Technology Assisted Review*, LAW TECH. TODAY (Aug. 28, 2019), https://www.lawtechnologytoday.org/2019/08/op timizing-technology-assisted-review/ [https://perma.cc/6GYK-MH4U]. Predictive coding describes a TAR process that involves the use of machine learning to distinguish relevant from non-relevant documents based on a training set or "seed set" of documents, as discussed below. *See id.*

62.   McPeek v. Ashcroft, 202 F.R.D. 31, 32 (D.D.C. 2001) (internal quotation marks omitted).

63.   *See id.* at 33–34.

64.   KIMBERLY WILLIAMS ET AL., THE LEGAL TECHNOLOGY GUIDEBOOK 27 (2017).

65.   *See* Seth Katsuya Endo, *Discovery Hydraulics*, 52 U.C. DAVIS L. REV. 1317, 1320 (2019).

66.   *See* Gail Gottehrer, *"Connected" Discovery: What the Ubiquity of Digital Evidence Means for Lawyers and Litigation*, 22 RICH J.L. & TECH., 2016, at 1 para. 2.

67.   *See id.*

are used in litigation.[68] Instead of being stored on a company's server, this data may be stored on well-known third-party cloud services, such as Google Docs, iCloud, and Dropbox, or on lesser known services for lawyers, such as NetDocuments, Firmex, and Mavenlink.[69] The logistics of collecting and preserving this data are different from the paper days of the past.[70] Thus, there is a concern about "the inability of traditional practices to keep up with the explosion of the universe of discoverable material."[71] This problem is one of the largest challenges—and risks—that litigants face today.[72]

Tools have emerged in response to these trends in eDiscovery. They include, for example, Relativity (kCura), Consilio, Recommind, FTI Technology, and Symantec.[73] The predictive coding and TAR capabilities of these tools have the potential to reduce costs[74] and can eliminate the need for lawyers to review each and every document.[75] For this reason, predictive coding can lower eDiscovery costs by more than 80%.[76] Oft-cited research from Maura Grossman and Gordon Cormack suggests that TAR is more accurate and efficient than manual review and produces better results.[77] A pocket guide on TAR for judges notes that "traditional methods of manual

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68. *Id.* at 2 para. 4, 4 para. 6; John G. Browning & Lisa Angelo, *Alexa, Testify: New Sources of Evidence from the Internet of Things*, 82 TEX. B.J. 506, 506 (2019).

69. Meghan C. Lewallen, *Cloud Computing: A Lawyer's Ethical Duty to Act with Reasonable Care When Storing Client Confidences "In the Cloud*," 60 CLEV. ST. L. REV. 1133, 1140 (2013).

70. *See* David Friedman, *Get to Know the Four Types of Data in the Internet of Things*, READWRITE (Aug. 13, 2015), https://readwrite.com/2015/08/13/five-types-data-internet-of-things/ [https://perma.cc/CL8V-EGPE]; *RFID and AIDC News: The Five Types of Data in the Internet of Things*, SUPPLYCHAINDIGEST (Mar. 10, 2015), http://www.scdigest.com/ontarget/15-03-10-2.php?cid=9081 [https://perma.cc/C539-86U2].

71. Endo, *supra* note 65, at 1320.

72. Kluttz & Mulligan, *supra* note 36, at 863.

73. Seth Katsuya Endo, *Technological Opacity & Procedural Injustice*, 59 B.C. L. REV. 822, 834 (2018); WILLIAMS ET AL., *supra* note 64, at 129 (listing several comprehensive eDiscovery platforms).

74. Brian Schrader, *Hybrid Legal Document Review: Where Human and Artificial Intelligence Meet*, LAW.COM (Feb. 27, 2020), https://www.law.com/2020/02/27/hybrid-legal-document-review-where-human-and-artificial-intelligence-meet/ [https://perma.cc/23JC-GMK R]; Endo, *supra* note 65, at 1337–38.

75. *See* Endo, *supra* note 65, at 1337–38.

76. *See* Dynamo Holdings Ltd. P'ship v. Comm'r, 143 T.C. 183, 194 (2014).

77. *See* Maura R. Grossman & Gordon V. Cormack, *Technology-Assisted Review in E-Discovery Can Be More Effective and More Efficient Than Exhaustive Manual Review*, 17 RICH. J.L. & TECH., 2011, at 43–44 para. 52. Grossman and Cormack recently revisited their work, along with developments in the literature, and reconfirmed that there is "significantly superior precision for the TAR systems" over manual review, which "should reaffirm the reasonableness of using at least some forms of TAR." Maura R. Grossman & Gordon V. Cormack, *Quantifying Success: Using Data Science to Measure the Accuracy of Technology-Assisted Review in Electronic Discovery*, *in* DATA DRIVEN LAW: DATA ANALYTICS AND THE NEW LEGAL SERVICES 127, 150–51 (Ed Walters ed., 2019).

document review and use of search terms to identify responsive documents also result in many missed documents—because of error in human judgment or underinclusive search terms."[78]

To be sure, TAR is not a panacea. In many cases, the use of search terms is still crucial.[79] Grossman and Cormack's study did not conclusively demonstrate that TAR would necessarily yield more responsive documents than manual review in all cases.[80] The same pocket guide for judges acknowledges that "TAR is particularly used for identifying documents if search criteria are too complex to be defined or specified" and also that TAR can be expected to perform well in circumstances where the document collection is large and where responsive documents are expected to be similar to each other.[81]

These criteria may not always apply. But, given that TAR and predictive coding are useful in many cases, courts have held for nearly a decade that predictive coding can be used at the outset of litigation.[82] Predictive coding can also be employed later in litigation after an initial cull of documents using traditional keyword searches.[83]

Predictive coding, like legal research tools, takes many forms. Each eDiscovery tool uses different algorithms and techniques.[84] To cull

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78. TIMOTHY T. LAU & EMERY G. LEE III, TECHNOLOGY-ASSISTED REVIEW FOR DISCOVERY REQUESTS: A POCKET GUIDE FOR JUDGES 6 (2017), https://www.fjc.gov/sites/default/files/2017/Technology-Assisted%20Review%20for%20Dis covery%20Requests.pdf [https://perma.cc/EH58-M3RN].

79. Schrader, *supra* note 74.

80. Specifically, Christine Payne and Michelle Six recently noted that the Grossman and Cormack article "is arguably the leading research on the topic[]" and acknowledged its finding that "TAR showed higher rates of precision" than manual review but observed that "for recall, the measurements [suggested] that the technology assisted process may yield better recall, but the statistical evidence is insufficiently strong to support a firm conclusion to this effect." Christine Payne & Michelle Six, *A Proposed Technology-Assisted Review Framework*, LAW360 (Apr. 27, 2020), https://www.law360.com/articles/1267032/a-proposed-technology-assisted-review-framework [https://perma.cc/9DZJ-7FSQ]. Whereas "precision" refers to "[t]he fraction of [d]ocuments identified as Non-Relevant by a search or review effort that are in fact Relevant," "recall" refers to "[t]he fraction of Relevant Documents that are identified as Relevant by a search or review effort." Gordon V. Cormack & Maura R. Grossman, *The Grossman-Cormack Glossary of Technology-Assisted Review*, 7 FED. CTS. L. REV. 1, 25, 27 (2014).

81. LAU & LEE, *supra* note 78, at 6–7.

82. *See, e.g.*, Moore v. Publicis Groupe & MSL Group, 287 F.R.D. 182, 193 (S.D.N.Y. 2012).

83. *See In re* Biomet M2A Magnum Hip Implant Prods. Liab. Litig., No. 3:12-MD-2391, 2013 WL 1729682, at *1 (N.D. Ind. Apr. 18, 2013); Bridgestone Ams., Inc. v. Int'l Bus. Machs. Corp., No. 3:13-1196, 2014 WL 4923014, at *1–2 (M.D. Tenn. July 24, 2014); Stephanie Serhan, *Calling an End to Culling: Predictive Coding and the New Federal Rules of Civil Procedure*, 23 RICH. J. L. & TECH, 2017, at 5 para. 7, http://jolt.richmond.edu/index.php/volume 23_issue2_serhan/ [https://perma.cc/PFZ7-LVWR].

84. *See* Endo, *supra* note 73, at 834 (noting that "the offerings vary significantly").

documents, attorneys provide each tool with different inputs, including words, phrases, concepts, and training sets of "representative" or "responsive" documents.[85] These training sets—also known as "seed sets"—help the AI to glean the character of relevant and irrelevant documents so that it can identify a useful set of documents for production.[86] When parties agree to use predictive coding, courts have allowed, required, or at least strongly suggested that they share these seed sets to ensure transparency into some of the *inputs* to the algorithm.[87] No court, however, has mandated transparency into the precise algorithms that show how eDiscovery tools *use the seed set* to generate responsive documents.

To this day, courts have not mandated the use of predictive coding or TAR. In one case where a party unilaterally pursued predictive coding, a court forced that party to revert to a traditional, manual review using search terms.[88] Additionally, a recent court explained in *In re Mercedes-Benz Emissions Litigation* that "no court has ordered a party to engage in TAR over the objection of that party[,]" and "[t]he few courts that have considered this issue have all declined to compel predictive coding."[89] Courts have expressed the view that "responding parties are best situated to evaluate the procedures, methodologies, and technologies appropriate for producing their own electronically stored information."[90]

Nonetheless, even these courts have noted that "it is widely recognized that 'TAR is cheaper, more efficient and superior to keyword searching.'"[91] Thus, while the court in *Mercedes-Benz* permitted the defendants to use search terms instead of predictive coding, it cautioned that it would "not look

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85.   *See* Serhan, *supra* note 83, at 2–3 para. 2.

86.   Endo, *supra* note 73, at 834–35.

87.   Rio Tinto PLC v. Vale S.A., 306 F.R.D. 125, 128 (S.D.N.Y. 2015); *Moore*, 287 F.R.D. at 187, 192; *In re* Actos (Pioglitazone) Prods. Liab. Litig., No. 6:11-md-2299, 2012 WL 7861249, at *4 (W.D. La. July 27, 2012) (permitting mutually agreed experts to review and code the seed set); *Bridgestone*, 2014 WL 4923014, at *1 ("expecting full openness in the matter" when the plaintiff offered to provide responsive and non-responsive seed set documents); Fed. Hous. Fin. Agency v. HSBC N.A. Holdings, Inc., 11 Civ. 6189, 2014 WL 584300, at *3 (S.D.N.Y. Feb. 14, 2014) (requiring transparency and cooperation and granting plaintiff full access to the seed set's responsive and nonresponsive documents); *In re Biomet*, 2013 WL 6405156, at *1, *2 (not requiring Biomet to share seed set documents but suggesting that Biomet rethink its opposition).

88.   Progressive Ca. Ins. Co.v. Delaney, No. 2:11-CV-00678, 2014 WL 3563467, at *11–12 (D. Nev. July 18, 2014).

89.   In re Mercedes-Benz Emissions Litig., No. 2:16-cv-881, 2020 WL 103975, at *1 (D.N.J. Jan. 8, 2020).

90.   *Id.* (citing Hyles v. New York City, No. 10-CIV-3119, 2016 WL 4077114, at *3 (S.D.N.Y. Aug. 1, 2016)).

91.   *Id.* (quoting *Hyles*, 2016 WL 4077114, at *2); *see also* Youngevity Int'l Corp. v. Smith, 2019 WL 1542300, at *11 (S.D. Cal. Apr. 9, 2019) (quoting *Hyles*, 2016 WL 4077114, at *2) (explaining how TAR is more accurate than manual human review).

favorably on any future arguments related to burden of discovery requests, specifically cost and proportionality, when [d]efendants have chosen to utilize the custodian-and-search term approach."[92] In other words, the court would be far more receptive to plaintiffs' motions to compel given defendants' decision to use a search term approach instead of predictive coding.[93]

By contrast, when parties have agreed to use TAR, courts appear less receptive to motions to compel. In the recent *Lawson v. Spirit Aerosystems, Inc.* case, the court rejected a motion to compel challenging a TAR production where the recall rate[94] of the production (85%) was within industry norms.[95] The court could not identify any instance where "a court has required a party engaging in TAR to reach a 100% recall rate."[96]

The *Mercedes-Benz* and *Lawson* cases are nods to the perceived efficiencies of TAR and predictive coding over traditional methods. They also underscore the importance of fully understanding the benefits and risks of using—or not using—predictive coding in a particular case. Failing to use TAR may place producing parties at risk of further motions to compel, discovery fights, or sanctions. Meanwhile, a defendant exercising good faith use of TAR may be able to survive motions to compel, like the producing party in *Lawson*.[97]

Of course, there may still be situations where it does not make sense to use predictive coding. In *Mercedes-Benz*, for example, the defendant argued that the case presented several "unique issues" that made "developing an appropriate and effective seed set challenging, such as language and translation issues, unique acronyms and identifiers, redacted documents, and technical documents."[98] Certain types of documents do not lend themselves well to predictive coding,[99] and it is not superior to traditional methods in all cases.[100] Lawyers must be in a position to explain why TAR is or is not appropriate in a given case. This requires transparency into the inputs and algorithms that are used by the software to identify responsive documents from the seed set.

There are other important considerations for attorneys. Once lawyers receive a responsive set of documents, they can sample the documents to make

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92.   2020 WL 103975, at *2.

93.   *See id.*

94.   For a commonly understood definition of "recall," see Da Silva Moore v. Publicis Groupe & MSL Group, 287 F.R.D 182, 189–90 (S.D.N.Y. 2012).

95.   2020 WL 1813395, at *7–9.

96.   *Id.* at *7, *9.

97.   2020 WL 1813395, at *1.

98.   2020 WL 103975, at *1.

99.   *See* Endo, *supra* note 73, at 853 ("[P]redictive coding can struggle with certain types of electronic files, such as spreadsheets or graphics.").

100.   *See, e.g.*, Payne & Six, *supra* note 80.

informed judgments about whether the set as a whole will be appropriate and responsive.[101] Particularly, lawyers must take care to ensure that, when using predictive coding, they do not produce privileged or confidential documents that are non-responsive.[102]

Attorneys will thus continue to play an important role in document production even when predictive coding is used. They will need to identify a seed set and train the system,[103] they will need to sample, and they will still need to decide which documents will or will not be produced. These tasks each require a robust understanding of the case, the document sets, and the relative merits of different predictive coding technologies.[104]

3.   Document Drafting and Legal Writing Tools

a.   Simple Documents and Contracts

For simple matters, websites like LegalZoom allow the general public to obtain basic legal documents, including incorporation documents, wills, and basic contracts.[105] An individual can create their will by answering questions on a 15-minute form.[106] LegalZoom customers can purchase follow-up consultations with live lawyers for relatively low fees.[107] As a protection mechanism, bar associations once accused LegalZoom of encouraging the "unauthorized practice of law" by laypersons.[108] LegalZoom prevailed against those charges, however—being one of the few platforms "with resources to fight the bar" and to continue providing "easily accessible affordable

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101. Endo, *supra* note 65, at 1348–49.

102. Kluttz & Mulligan, *supra* note 36, at 863.

103. Remus & Levy, *supra* note 44, at 20.

104. *Id.* at 20.

105. *Our Services*, LEGALZOOM, www.legalzoom.com [https://perma.cc/STG4-VDX3].

106. Jill Duffy, *Should You Consider an Online Will?*, PC MAG. (Apr. 29, 2020), https://www.pcmag.com/how-to/should-you-consider-an-online-will [https://perma.cc/F2TA-L52G]. Other similar services abound, including Willing, LawDepot, and "Do Your Own Will," which offer even cheaper price points than LegalZoom. *Id.*

107. *Legal Advantage Plus Prepaid Legal Plan*, LEGALZOOM, https://www.legalzoom.com/attorneys/legal-plans/personal.html [https://perma.cc/2PAW-NWW7].

108. *See* Robert Ambrogi, *Latest Legal Victory Has LegalZoom Poised for Growth*, A.B.A. J. (Aug. 1, 2014), https://www.abajournal.com/magazine/article/latest_legal_victory_has_legalzoom_poised_for_growth [https://perma.cc/9BJ9-UMCH] (discussing LegalZoom's success in fending of several lawsuits); Meg McEvoy, *Analysis: The Big 4 Is Knocking—Are State Bars Answering?*, BLOOMBERG L. (Sept. 18, 2019), https://news.bloomberglaw.com/bloomberg-law-analysis/analysis-the-big-4-is-knocking-are-state-bars-answering [https://perma.cc/AXY8-85NR].

assistance online."[109] Another entity, Avvo, had a similar model of pairing lawyers with consumers for basic services, but it was not so fortunate.[110]

Lawyers should consider whether these more affordable services make sense for a prospective client—and if so, when to refer them to such services. The bar should also consider this so that average consumers can leverage technology to obtain access to the most basic legal services. By challenging these services, the bar has exacerbated the access to justice crisis;[111] it might do better by finding ways to reflect on how these platforms can exist while still being overseen by the bench and bar. This is the approach North Carolina took when addressing some of the ethical concerns it had with Avvo.[112] To date, companies like Avvo and LegalZoom have taken an "ask for forgiveness rather than permission" approach to legal services; perhaps these services should be encouraged to either seek pre-approval from the bar or launch with conditions to avoid ethics issues and the appearance of impropriety.[113]

As previously stated, services like Avvo and LegalZoom are only useful for relatively simple transactions and documents that typically involve solo practitioners or small firms.[114] They likely have little impact in more complex situations. The reason that courts eventually held that LegalZoom's services do not impinge upon the practice of law is precisely why they are not used for complex matters: LegalZoom's software "records the customer's original information verbatim" and "does not exercise any judgment or discretion."[115] LegalZoom's market is one that does not require much in the way of traditional legal advice.[116]

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109. Deborah L. Rhode & Sharon Driscoll, *Stanford Law School's Deborah Rhode on the Access to Justice Challenges in U.S.*, STAN. L. SCH. (Nov. 18, 2019), https://law.stanford.edu/2019/11/18/314315/ [https://perma.cc/254N-SQJN].

110. Benjamin H. Barton & Deborah L. Rhode, *Access to Justice and Routine Legal Services: New Technologies Meet Bar Regulators*, 70 HASTINGS L.J. 955, 971, 973–79 (2019).

111. *See* RICHARD SUSSKIND, ONLINE COURTS AND THE FUTURE OF JUSTICE 66 (2019).

112. N.C. State Bar Council Ethics Comm., Proposed 2017 Formal Ethics Op. 6 (July 27, 2017), *in* 22 N.C. ST. B.J., STATE OF THE N.C. JUDICIARY 39–40 (Fall 2017).

113. *See* ATT'Y REGISTRATION & DISCIPLINARY COMM'N OF THE SUP. CT. OF ILL., CLIENT-LAWYER MATCHING SERVICES 14 (2018), https://iardc.org/Matching_Services_Study_Release_for_Comments.pdf [https://perma.cc/TQ4V-7G8L]. Notably, Illinois and Oregon proposed changes to their ethical rules that may have allowed Avvo to continue to operate. Barton & Rhode, *supra* note 110, at 978; *see also* OR. STATE BAR, FUTURES TASK FORCE: REPORTS AND RECOMMENDATIONS OF THE REGULATORY COMMITTEE & INNOVATIONS COMMITTEE 34 (2017), https://www.osbar.org/_docs/resources/taskforces/futures/FuturesTF_Reports.pdf [https://perma.cc/GL32-EZV7].

114. Remus & Levy, *supra* note 44, at 518–19.

115. Medlock v. LegalZoom.com, Inc., No. 2012-208067, Slip. Op. at 16 (S.C. Sup. Ct. 2013).

116. *See, e.g.*, *id.* at 16–17.

b. *More Complex Legal Documents*

Other document drafting technologies are more complex. Several tools allow lawyers to quickly and easily create basic legal contracts, identify clauses or provisions to insert into contracts, and facilitate diligence reviews.[117] Examples include LawGeex, Kira, LegalSifter, and Bloomberg Law's Draft Analyzer, which all provide suggestions to improve contracts based on analyses of large databases of contracts.[118] These tools frequently harness machine learning and AI,[119] and they streamline both drafting and negotiation processes. Transactional lawyers will benefit from understanding which of these tools are most useful in particular applications.

For litigation, several technologies assist with brief writing. This year, Casetext launched Compose, which uses machine learning to draft briefs.[120] The software can generate briefs on the fly, including relevant cases and citations, based on inputs such as "whether they are the movant or nonmovant party, the jurisdiction the brief is being filed in[,] and the motion sides."[121] It is tailored toward a relatively straightforward set of motions: motions to quash a subpoena, exclude expert testimony, file a motion for a protective order, or compel discovery.[122] Similarly, LegalMation touts a "ground-breaking AI system" that outputs draft responsive pleadings, discovery requests, discovery responses, and other documents after accepting litigation documents (e.g., a complaint) as input.[123]

The major challenge with these platforms is that they generate documents based on the stylistic preferences of the software.[124] "[C]onforming AI drafting tools to an individual client's stylistic expectations" is difficult, and "[i]nstilling that kind of purposeful bias or direction would possibly require the ability for a lawyer or law firm to be able to feed a product their own

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117. Victoria Arnold, *How Your Legal Department Can Benefit from AI Contract Management*, LEXOLOGY (July 4, 2019), https://www.lexology.com/blog/2019/07/how-your-legal-department-can-benefit-from-ai-contract-management [https://perma.cc/PA3A-ATFR].

118. Black, *supra* note 20.

119. *Id.*

120. Victoria Hudgins, *Casetext Launches New Brief-Writing Automation Platform Compose*, LAW.COM (Feb. 25, 2020), https://www.law.com/legaltechnews/2020/02/25/casetext-launches-new-brief-writing-automation-platform-compose/ (last visited Nov. 16, 2020).

121. *Id.*

122. *Id.*

123. LEGALMATION, https://www.legalmation.com/#support [https://perma.cc/SY93-BEBC].

124. *See* Frank Ready, *AI's Drafting Accuracy Makes Strides, But Lawyers Want a More Personalized Voice*, LAW.COM (May 4, 2020, 1:30 PM), https://www.law.com/legaltechnews/2020/05/04/ais-drafting-accuracy-makes-strides-but-lawyer-want-a-more-personalized-voice/ [https://perma.cc/WG23-WMNB].

training samples rather than relying on 'factory settings.'"[125] Nonetheless, these tools add value by streamlining the drafting process and producing an initial draft document in far less time than usual.

Other technologies do not draft briefs. Instead, they analyze and enhance briefs that were already written by humans. Bloomberg Law's Brief Analyzer evaluates the legal authorities cited in a brief and relies on AI to "suggest relevant content and provide[] [detailed] reasons for the suggestions," which allows lawyers to quickly insert additional support for their arguments.[126] Comparatively, BriefCatch focuses less on checking and supplementing authorities and instead provides suggestions to improve readability, style, and clarity.[127] These suggestions comprise an "AI-driven analysis" offering "thousands of new edits and alternatives."[128] The suggested edits are subjectively based on the writing philosophy of one company—but that philosophy is based on the well-respected work of Ross Guberman, the president of Legal Writing Pro, who wrote a well-regarded book on legal writing.[129]

At this time, AI-based software cannot draft coherent briefs in complex cases. It is plain that "legal writing is very difficult to automate."[130] Likewise, legal argumentation is difficult to replicate: "Since the late 1970s, academics working in the field of AI and law, especially on natural language processing, have valiantly tried to develop systems that can generate legal argument. But we are not there yet; not by a long way."[131] Nonetheless, these technologies are far from the tools of ten years ago, which could only perform basic grammar checks,[132] or the tools of twenty-five years ago, which were just beginning to allow lawyers to draft briefs using electronic word processors.[133] Lawyers, again, should be aware of the benefits and risks of these tools,

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125. *Id.*

126. *Bloomberg Law Brief Analyzer*, BLOOMBERG L., https://pro.bloomberglaw.com/brief-analyzer/ [https://perma.cc/VZF5-A23P].

127. *See generally* BRIEFCATCH, https://briefcatch.com/ [https://perma.cc/6J62-PTPX] ("BriefCatch 2.0 offers thousands of new edits and alternatives.").

128. *Id.*

129. *See Endorsements*, BRIEFCATCH, https://briefcatch.com/endorsements/ [https://perma.cc/HJ6D-HNQC] (quoting Arturo Bauermeister's endorsement). *See generally* ROSS GUBERMAN, POINT MADE: HOW TO WRITE LIKE THE NATION'S TOP ADVOCATES (2d ed. 2014).

130. Remus & Levy, *supra* note 44, at 519.

131. SUSSKIND, *supra* note 111, at 156.

132. For a brief discussion of the capabilities of basic style and grammar checkers, see Thomas R. Haggard, *Legal Writing in the Electronic Age*, S.C. LAW., Nov.–Dec. 1999, at 12, 12.

133. *A (Very) Brief History of Legal Technology*, SMOKEBALL (Jan. 30, 2020), https://www.smokeball.com/blog/a-brief-history-of-legal-technology/ [https://perma.cc/5XQ2-444U].

particularly the potential efficiency and productivity gains that such tools can achieve.

4. *Predictive Analytics and Technologies*

Advanced AI-based technologies can also be used to *predict* outcomes in litigation.[134] One of a lawyer's most important skills is to be able to provide clients with estimates of the approximate likelihood of success of a particular case. Unsurprisingly, then, "[t]he greatest momentum now is around analytics[,]" which can "offer insights into how a judge rules, how motions fare, opponents' success rates, and much more."[135]

Today, numerous tools provide these functionalities. For example, computational statistics and algorithms have predicted Supreme Court case results using coded data from a Supreme Court database[136] with a success rate of over 70%.[137] These algorithms have performed better than human lawyers.[138] Beyond the Supreme Court database, Lex Machina and Ravel help predict outcomes for patent cases[139] by, among other things, analyzing the litigation history of patents relevant to a given case.[140] Lex Machina has likewise been said to be more accurate than humans at predicting outcomes.[141] Other predictive tools like Gavelytics use AI to provide insights into judges' predilections toward certain litigants or cases.[142] None of these tools prevent lawyers from using their traditional intuitions to predict outcomes, but lawyers

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134. David L. McCombs et al., *Brave New World: How AI Tools Are Used in the Legal Sector*, LEGALTECH NEWS (Aug. 12, 2020), https://www.law.com/legaltechnews/ 2020/08/12/brave-new-world-how-ai-tools-are-used-in-the-legal-sector/ (last visited Nov. 15, 2020).

135. WOLTERS KLUWER, THE FUTURE READY LAWYER: THE GLOBAL FUTURE OF LAW 19 (2019) [hereinafter FUTURE READY LAWYER 2019].

136. The Supreme Court database includes case information, voting information by Justice, background information on the Court, and trends that help predict case outcomes. KEVIN D. ASHLEY, ARTIFICIAL INTELLIGENCE AND LEGAL ANALYTICS: NEW TOOLS FOR LAW PRACTICE IN THE DIGITAL AGE 111–12 (2017).

137. Daniel Martin Katz et al., *A General Approach for Predicting the Behavior of the Supreme Court of the United States*, PLOS ONE, Apr. 12, 2017, at 1, 14.

138. 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, 1171 (2004).

139. Lohr, *supra* note 51; *see also* SUSSKIND, *supra* note 111, at 282.

140. *Legal Analytics for Patent Litigation*, LEXMACHINA, https://lexmachina.com/patent-litigation/ [https://perma.cc/3TBD-2SCY]; Lohr, *supra* note 51.

141. SUSSKIND, *supra* note 111, at 282; ASHLEY, *supra* note 136, at 123–24.

142. Agnieszka McPeak, *Disruptive Technology and the Ethical Lawyer*, 50 U. TOL. L. REV. 457, 464 (2019); GAVELYTICS, http://www.gavelytics.com/ [https://perma.cc/24VR-VC VJ].

can now also use these new tools to complement their instincts and "check their work" against data-driven algorithms.[143]

Lawyers must understand that any tool's predictive capability depends on the inputs—or "features"—it relies on. This is important because "the types of features vary widely across prediction approaches."[144] For example, the Lex Machina patent prediction tool, somewhat counterintuitively, does not directly consider features concerning the legal merits of the case; rather, it considers factors like past win rates, the bias of the forum, and patent case participation counts.[145] Future predictors may directly analyze the merits of cases, which could improve performance and allow the predictors to explain their reasoning using legal analysis that lawyers could understand.[146]

Predictive tools can also reflect biases. For example, a predictive crime policing system that emphasizes nuisance crimes in its algorithm will disproportionately suggest that low-income communities are crime ridden, while one that emphasizes financial crimes may skew toward white-collar criminals.[147] Some tools, such as the risk assessment software known as COMPAS, predict the risk of recidivism to inform sentencing.[148] The COMPAS algorithm, though unknown, has been criticized as reflecting biases against African-American offenders and perpetuating inequities in sentencing.[149]

Typically, the algorithms used in predictive analytics are proprietary "black boxes," much like the algorithms used in eDiscovery applications.[150] There is thus a need for additional transparency around the inputs, features,

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143. *See* SUSSKIND, *supra* note 111, at 275.

144. ASHLEY, *supra* note 136, at 125.

145. *Id.* at 125–26.

146. *Id.* at 124–25.

147. *See* CATHY O'NEIL, WEAPONS OF MATH DESTRUCTION: HOW BIG DATA INCREASES INEQUALITY AND THREATENS DEMOCRACY 85–91 (2016).

148. Matthias Spielkamp, *Inspecting Algorithms for Bias*, MIT TECH. REV., July–Aug. 2017, at 96, 97.

149. AM. BAR ASS'N, REPORT TO THE HOUSE OF DELEGATES ON RESOLUTION 112, at 8 (2019), https://www.americanbar.org/content/dam/aba/directories/policy/annual-2019/112-ann ual-2019.pdf [https://perma.cc/LM36XNB9]; *see also* Julia Angwin et al., *Machine Bias*, PROPUBLICA (May 23, 2016), https://www.propublica.org/article/machine-bias-risk-assessm ents-in-criminal-sentencing [https://perma.cc/QA6Q-U72X]. *See generally* John Villasenor, *Artificial Intelligence and Bias: Four Key Challenges*, BROOKINGS: TECHTANK (Jan. 3, 2019), https://www.brookings.edu/blog/techtank/2019/01/03/artificial-intelligence-and-bias-four-key-challenges/ [https://perma.cc/C2GB-YP4Y] (noting that arrest statistics are not "race neutral" and that this relationship "could propagate in sentencing recommendations made by an AI system that uses prior arrests as an input").

150. Ronald Yu & Gabriele Spina Alì, *What's Inside the Black Box? AI Challenges for Lawyers and Researchers*, 18 LEGAL INFO. MGMT. 2, 6 (2019) ("[C]alls for greater algorithmic transparency . . . are usually confronted with the observation that algorithms have proprietary nature and are protected under trade secret law.").

and biases that may inhere in predictive algorithms as well. The bar can ensure that predictive analytics promote fair and reasonable assessments of clients,[151] and lawyers should understand the bases for these predictions.

The bar's responsibility to promote transparency is underscored by recent litigation over COMPAS. In *State v. Loomis*, the Wisconsin Supreme Court denied a due process challenge to a court's use of the COMPAS system in sentencing.[152] It recognized that studies have "raise[d] concerns regarding how a COMPAS assessment's risk factors correlate with race"[153] along with the "black box" nature of the COMPAS algorithm[154] but permitted the use of COMPAS in sentencing nonetheless because, according to the court, there were independent reasons to support the sentence.[155] The court did nothing to require transparency around the COMPAS algorithm, preventing any analysis of its underlying biases.[156] This is troubling as the COMPAS algorithm could have compounded cognitive errors, such as "anchoring" or hindsight bias, regardless of the alleged independent reasons supporting the sentence.[157]

Particularly in the United States' current climate of racial healing and renewal, lawyers and courts should be completely transparent about *any* biases—including algorithmic ones—that inform their decision-making. These cannot be swept under the rug. But that is precisely what the Wisconsin Supreme Court did.[158] The Institute of Electrical and Electronics Engineers (IEEE) has explained that predictive technologies will not be accepted until the public reaches a state of "informed trust";[159] it is not easy to trust anything that lacks transparency and is perceived to have bias.

There is, however, cause for optimism. At least one court has suggested that the COMPAS algorithm may be open to more scrutiny.[160] Contrary to the

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151. *See* Spielkamp, *supra* note 148, at 98.

152. 881 N.W.2d 749, 753 (Wis. 2016).

153. *Id.* at 763.

154. *See id.* at 761 ("Although Loomis cannot review and challenge how the COMPAS algorithm calculates risk, he can at least review and challenge the resulting risk scores set forth in the report attached to the [Presentence Investigation Report].").

155. *Id.* at 753.

156. *See* Recent Case, State v. Loomis, *881 N.W.2d 749 (Wis. 2016)*, 130 HARV. L. REV. 1530, 1535 (2017).

157. INST. ELEC. & ELECS. ENG'RS, ETHICALLY ALIGNED DESIGN 220 (2019) [hereinafter ETHICALLY ALIGNED DESIGN] (defining anchoring "as the excessive reliance on an initial piece of information"). *See generally* Jeffrey J. Rachlinski, *A Positive Psychological Theory of Judging in Hindsight*, 65 U. CHI. L. REV. 571 (1998) (discussing hindsight bias in judges).

158. *See* Recent Case, *supra* note 156, at 1535.

159. ETHICALLY ALIGNED DESIGN, *supra* note 157, at 220 ("Informed trust rests on a reasoned evaluation of clear and accurate information about the effectiveness of [autonomous and intelligent systems] and the competence of their operators.").

160. Henderson v. Stensberg, No. 18-CV-555, 2020 WL 1320820, *3 (W.D. Wis. Mar. 20, 2020).

due process challenge in *Loomis*,[161] *Henderson v. Stensberg* involved an equal protection challenge.[162] The *Henderson* court noted the bias of COMPAS and alleged it was used to deny an African-American inmate parole.[163] The court denied the defendant's motion to dismiss and distinguished *Loomis* because it "wasn't an equal protection case,"[164] suggesting that claims challenging the COMPAS algorithm or its application may be actionable under the Equal Protection Clause. For now, the law remains unclear, and no court has mandated transparency on the part of COMPAS's creator, Northpointe, or any other provider of predictive technology.

5.   *Online Dispute Resolution, Court, and Trial Technology*

It is one thing to use emerging technology to predict or inform decisions and entirely another to use technology to render decisions or resolve disputes. This subsection addresses ODR, which comprises a continuum all the way from more traditional court proceedings that are merely administered online to decisions that are resolved by an algorithmic "judge."[165]

While predictive analytics can make informative predictions about the Supreme Court's cases or complex patent cases, AI "judges" cannot resolve those sorts of cases.[166] Today's ODR is primarily used for simple, low value claims.[167] The current tools mostly guide disputes toward resolution much like a mediator.[168] One of the first ODR tools was created by eBay to resolve disputes about shipping, product quality, and other issues.[169] Numerous other entities have since created ODR tools, including Cybersettle, Smartsettle, and Modria.[170] Cybersettle focuses on malpractice claims and used a "blind bidding" process to reach consensus.[171] Smartsettle—a more complex application—uses algorithms to build a set of issues on which to negotiate and

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161. 881 N.W.2d 749, 753 (Wis. 2016) (noting that the case involves a due process issue).

162. 2020 WL 1320820, at *1.

163. *Id.* at *1.

164. *Id.* at *2.

165. RICHARD SUSSKIND, TOMORROW'S LAWYERS: AN INTRODUCTION TO YOUR FUTURE 100–02 (2d ed. 2017).

166. *See* Eugene Volokh, *Chief Justice Robots*, 68 DUKE L.J. 1135, 1137 (2019).

167. *Online Dispute Resolution Offers a New Way to Access Local Courts*, *supra* note 34.

168. *See* ONLINE DISP. RESOL. ADVISORY GRP., CIV. JUST. COUNCIL, ONLINE DISPUTE RESOLUTION FOR LOW VALUE CIVIL CLAIMS 11–16 (2015), https://www.judiciary.uk/wp-content/uploads/2015/02/Online-Dispute-Resolution-Final-Web-Version1.pdf [https://perma.cc/6E4V-XCMN] (providing examples of ODR systems in action).

169. *See* ETHAN KATSH & ORNA RABINOVICH-EINY, DIGITAL JUSTICE: TECHNOLOGY AND THE INTERNET OF DISPUTES 34–35 (2017).

170. Barnett & Treleaven, *supra* note 22, at 404–05.

171. KATSH & RABINOVICH-EINY, *supra* note 169, at 35–36.

propose successive "settlement" packages to either side.[172] Modria handles a broad range of cases, "from simple debt repayment cases to complex child custody cases."[173] Another platform—Matterhorn—"has been operating in courts since 2014; [it] now operates in more than one hundred state courts and agencies and has contracts in at least thirteen states."[174] Matterhorn focuses on small claim disputes and allows lawyers to upload statements by parties, law enforcement, and court personnel in lieu of court hearings.[175] It does not render substantive decisions without a judge, but it automates court functionality, collects data, and saves costs.[176]

Other countries have also implemented ODR systems. In Canada, the British Columbia government began operating an online tribunal in 2016 that resolves small claims and disputes between neighbors.[177] Estonia began a project where an algorithmic judge adjudicates small contract disputes and allows appeal to a human.[178] China has "internet courts" that adjudicate contract disputes and other issues with the assistance of AI judges that "autonomously create[] indictments, investigative demands[,] and written rulings" on discovery and other issues.[179] In Singapore, ODR is being used for claims involving motor accidents, alimony, and child support.[180] And in England, an Online Civil Money Claims Court uses an algorithmic blind bidding process to settle small claims disputes.[181] These tools, again, handle relatively simple disputes, but they underscore that, in some cases, technology can resolve disputes without human intervention.

The AI-based algorithms in ODR tools can increase access to justice.[182] For example, some ODR platforms, such as Smartsettle, can provide parties—particularly disadvantaged ones—with settlement ideas and negotiation

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172. *Id.* at 36.

173. *Online Dispute Resolution—Proven Technology*, TYLER TECH., https://www.tylerte ch.com/resources/resource-downloads/brochure-online-dispute-resolution-proven-technology [https://perma.cc/X6XD-GY6J].

174. Avital Mentovich et al., *Are Litigation Outcome Disparities Inevitable? Courts, Technology, and the Future of Impartiality*, 71 ALA. L. REV. 893, 930 (2020).

175. KATSH & RABINOVICH-EINY, *supra* note 169, at 162.

176. *ODR Solutions*, MATTERHORN, https://getmatterhorn.com/odr-solutions/ [https://per ma.cc/9X79-5NZJ].

177. Orna Rabinovich-Einy & Ethan Katsh, *The New New Courts*, 67 AM. U. L. REV. 165, 190 (2017).

178. Eric Niiler, *Can AI Be a Fair Judge in Court? Estonia Thinks So*, WIRED (Mar. 25, 2019), https://www.wired.com/story/can-ai-be-fair-judge-court-estonia-thinks-so/ [https://perm a.cc/BQG6-E9DC].

179. Forrest, *supra* note 10.

180. Mentovich et al., *supra* note 174, at 931.

181. Hyde, *supra* note 10; *see also* KATSH & RABINOVICH-EINY, *supra* note 169, at 159 (discussing Her Majesty's Online Court in England).

182. ONLINE DISP. RESOL. ADVISORY GRP., *supra* note 168, at 2; *see also* KATSH & RABINOVICH-EINY, *supra* note 169, at 47.

leverage that they may not have had otherwise.[183] Still, there is always the concern that ODR algorithms, as with predictive analytics tools, could be "opaque" with biases that impinge on fairness.[184] For this reason, transparency is again needed. But ODR can facilitate fair settlements for parties who otherwise may have had difficulties with the justice system. Additionally, ODR may help *reduce* racial and socioeconomic biases by imposing additional structure to proceedings and by reducing face-to-face interactions.[185] One study found, for example, that shifting from in-person hearings to online ones using the Matterhorn platform reduced biases based on age and race.[186] Lawyers and the profession at large should be mindful of how they can support the adoption of these ODR tools to enhance equity and the ethical administration of justice.

B.   A Synthesis of Legal Ethics Implications

The legal technology transformation described in Section II.A may improve both the efficiency and quality of lawyers' work product for years to come, all while possibly improving client confidences and reducing costs. But these technologies raise crucial ethical issues as well.

1.   Fostering Legal Technology Competence and Communication

The medical profession is understood to have more rigorous standards than the legal profession.[187] This should change. As Chief Justice Burger remarked almost fifty years ago, "We do not disparage the law as a profession when we insist that, like a carpenter or an electrician, the advocate must know how to use the tools of his trade."[188] He questioned the "traditional assumption" that every lawyer is competent in all respects and noted that "[this] assumption has been diluted by the vast changes in the complexity of our social, economic[,] and political structure."[189] Technology, certainly, has been among the significant changes in the legal profession's social and economic structure in the intervening fifty years.

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183. KATSH & RABINOVICH-EINY, *supra* note 169, at 49.

184. *Id.*

185. Mentovich et al., *supra* note 174, at 975.

186. *Id.*

187. *See* Warren E. Burger, *The Education and Training of Trial Lawyers: The Bar's Role*, B. LEADER, Sept.–Oct. 1979, at 2, 3.

188. Warren E. Burger, *The Special Skills of Advocacy: Are Specialized Training and Certification of Advocates Essential to Our System of Justice?*, 42 FORDHAM L. REV. 227, 233 (1973) (internal quotation marks omitted).

189. *Id.* at 239.

Chief Justice Burger's remarks transcend the passage of time. Consistent with his views, lawyers today may be doing an ethical disservice to their clients when they fail to understand emerging legal technologies.[190] The duty of competence in ABA Model Rule 1.1, as discussed above, is codified in most states[191] and requires lawyers to understand the benefits and risks of technology.[192] Numerous benefits and risks can immediately be divined from even a high-level description of the technology areas discussed in the previous Part: selecting and properly using legal research tools can ensure that the research is most efficient and finds high-quality cases; deploying the best predictive coding strategy can avoid inefficient keyword searching; using a computer-aided brief writing tool can make writing more punchy, clear, and persuasive; using predictive analytics can provide insights that bolster a lawyer's strategy; and ODR tools can streamline resolution of a relatively simple matter. Being aware of these technologies and the specific platforms that are available in each area opens up a world of possibilities. A lawyer in 2021 who completely lacks familiarity with emerging legal technologies is like a current-day electrician or carpenter who is unfamiliar with the most modern tools needed to crimp wires or shape wood.

Certainly, the duty of technological competence may vary: in some states, the ethical duties associated with understanding technology may only apply when the lawyer *chooses* to use the technology,[193] while in other states, there may be a *general ongoing duty* to consider and understand the technology.[194] And various review panels may have differing views on the scope of a lawyer's duty for any given technology. But regardless of the standard, the duty of technological competence matters and has been used to sanction lawyers that fail to comply.[195]

Ethical principles that have been articulated but not codified also illustrate the importance of engaging with technology. As explained by the IEEE, "uninformed adoption" of new legal technologies may prevent their safe operation, while "uninformed avoidance" of new legal technologies poses the

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190. Law Technology Now, *Evaluating Legal Technology Applications*, LEGAL TALK NETWORK (Mar. 18, 2020), https://legaltalknetwork.com/podcasts/law-technology-now/2020/03/evaluating-legal-technology-applications/ [https://perma.cc/E5Q5-GN8C].

191. Allen, *supra* note 27.

192. *See* MODEL RULES OF PRO. CONDUCT r. 1.1 cmt. 8 (AM. BAR ASS'N 2020).

193. *See, e.g.*, La. St. Bar Ass'n, Pub. Op. 19-RPCC-021 (2019) ("The consensus is that if a lawyer is going to use technology, that lawyer has a duty to comply with . . . the ABA Model Rules of Professional Conduct."); Robert Amborgi, *Ethics Opinion Misses the Mark on Tech Competence*, ABOVE THE LAW (May 20, 2019), https://abovethelaw.com/2019/05/ethics-opinion-misses-the-mark-on-tech-competence/ [https://perma.cc/M93Z-RC3R].

194. *See, e.g.*, State Bar of Cal. Standing Comm. on Pro. Resp. & Conduct, Formal Op. 2015-193 (2015).

195. *See, e.g.*, James v. Nat'l Fin. LLC, No. 8931, 2014 WL 6845560, at *13 (Del. Ch. Dec. 5, 2014).

risk that there will be "blanket distrust of all forms" of emerging technology, thus causing "a failure to realize the significant improvements in the legal system" from emerging AI and other technologies.[196] An informed bar, therefore, is best to ensure effective use of these technologies and to foster trust in them. An uninformed bar, by contrast, will breed skepticism and distrust over the technologies.

The risk of an uninformed bar is real. As of this writing, only two states—Florida and North Carolina—have mandatory technology-related continuing legal education (CLE) requirements (akin to the ethics CLE requirements that are mandatory in many states).[197] These CLE requirements require lawyers to learn about new technologies that can be used in the practice of law.[198] Such requirements are worth considering, as a 2020 survey of lawyers found that nearly three-fourths of lawyers lack familiarity with disruptive legal technologies.[199] Most states require lawyers to obtain ethics credits as part of their CLE requirements[200] and should require lawyers to learn about the ethics of emerging legal technologies as well. By integrating legal technology discussions into required ethics CLE courses, developing a stand-alone technology-based CLE requirement, or both, the bar would send a message to lawyers about the importance of learning new technologies.[201] However, any technology-based CLE requirement must be meaningful and have some measure of quality control.[202]

Lawyers should also work to ensure their clients understand these new technologies. ABA Model Rule 1.4 requires lawyers to "promptly inform the client of any decision or circumstance with respect to which the client's informed consent . . . is required[,]" to "reasonably consult with the client about the means by which the client's objectives are to be accomplished[,]" and to "explain a matter to the extent reasonably necessary to permit the client

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196. ETHICALLY ALIGNED DESIGN, *supra* note 157, at 213.

197. *In re* Amendments to Rules Regulating the Fla. Bar 4-1.1 & 6-10.3, 200 So. 3d 1225, 1226 (Fla. 2016); 27 N.C. ADMIN. CODE 1D.1518(a)(2) (2019); *see also* Jeff Cox, *Why Every State Should Require Technology CLEs*, LAW TECH. TODAY (May 20, 2019), https://www.law technologytoday.org/2019/05/why-every-state-should-require-technology-cles/ [https://perma.cc/CYL3-9G83].

198. Cox, *supra* note 197.

199. WOLTERS KLUWER, THE 2020 WOLTERS KLUWER FUTURE READY LAWYER: PERFORMANCE DRIVERS 4 (2020) [hereinafter FUTURE READY LAWYER 2020].

200. David L. Hudson Jr., *How To Avoid 10 Common Ethics Pitfalls*, A.B.A. J. (June 1, 2020), https://www.abajournal.com/magazine/article/how-to-avoid-10-common-ethics-pitfalls [https://perma.cc/2C46-UC23].

201. Continuing legal education can take many forms beyond traditional CLE courses, including collaborative projects with in-house counsel or demonstrations about new technologies from vendors. *See* 2 DOUGLAS C. BARNARD ET AL., SUCCESSFUL PARTNERING BETWEEN INSIDE AND OUTSIDE COUNSEL § 28A:14 (2020).

202. *See* DEBORAH L. RHODE ET AL., LEGAL ETHICS 126 (7th ed. 2016).

to make informed decisions."[203] For example, if an attorney wants to use predictive coding in discovery, the attorney should convey that to the client, provide a rationale for doing so, and educate the client on the technology to the extent needed to inform the client's decision. In other words, the lawyer should obtain informed consent for a decision both to use and not to use TAR. Additionally, different eDiscovery tools may be better equipped to handle unique types of evidence (such as IoT data) or evidence that relates to a particular subject matter. Lawyers and their clients must be prepared to make these sorts of decisions—not just for eDiscovery tools but also for decisions relating to the best technologies to use for legal research, legal writing, predictive analytics, and other areas.

The interplay between Model Rule 1.1 (competence) and Model Rule 1.5 (fees) is also significant.[204] Model Rule 1.5(a) ensures that lawyers charge reasonable fees.[205] Since the legal technologies discussed above frequently improve efficiency and reduce costs, Rule 1.5 counsels that lawyers explain to their clients the potential cost savings from using these tools.[206] Only a lawyer with the requisite technological competence could provide these explanations as needed.

Apart from formal rules, attorneys and the bar also should be educating their clients—and the public at large—about the benefits and risks of emerging technologies to ensure ordinary citizens understand how these technologies could affect—or taint—their interactions with the legal system.[207]

2. Duty of Supervising Lawyers and Vendors That Use Technologies

Lawyers also have a duty to supervise consultants and junior lawyers using legal technologies in their matters. ABA Model Rule 5.1 requires that law firm partners and lawyers with "supervisory authority" make "reasonable efforts" to ensure lawyers under their supervision comply with the ethical rules.[208] To discharge this obligation, lawyers again must understand the technology. How could a senior lawyer, unaware of how to use a particular eDiscovery tool, engage in meaningful oversight of an attorney who uses that tool? Certainly, a surgeon without experience using a robotic endoscope would not be trusted to oversee a medical student performing surgery using

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203. MODEL RULES OF PRO. CONDUCT r. 1.4(a)(1)–(2), (b) (AM. BAR ASS'N 2020).
204. Law Technology Now, *supra* note 190.
205. MODEL RULES OF PRO. CONDUCT r. 1.5(a) (AM. BAR ASS'N 2020).
206. *See id.* r. 1.5(b).
207. *See* ETHICALLY ALIGNED DESIGN, *supra* note 157, at 216.
208. MODEL RULES OF PRO. CONDUCT r. 5.1(a)–(b) (AM. BAR ASS'N 2020).

that scope. Supervisory lawyers must be capable of asking thoughtful, probing questions to junior lawyers in each case in order to make informed decisions about whether to use a given technology in that case. Poor supervision could trigger discipline under Model Rule 5.1(c), making supervisory lawyers "responsible for another lawyer's violation of the Rules of Professional Conduct" where they "ratif[y] the conduct involved" or "know[] of the conduct" and fail to mitigate it.[209]

Additionally, Model Rule 5.3 requires that attorneys supervise nonlawyer "persons" who are "employed or retained by or associated with a lawyer."[210] This Rule requires supervising lawyers to "make reasonable efforts to ensure that the [nonlawyer] person's conduct is compatible with the professional obligations of the lawyer."[211] Thus, when a lawyer is supervising third-party predictive analytics, eDiscovery, AI document drafting, or any other vendor, the lawyer must ensure that those third parties are performing their duties within the bounds of legal ethics requirements.[212] The ABA explicitly contemplated oversight of technology vendors under the Rule by including references to "hiring a document management company" (e.g., an eDiscovery vendor) in the Comments.[213] Technology vendors are mindful of this oversight rule.[214] As one eDiscovery TAR vendor has said, lawyers "have to make sure that I'm not clearly just being reckless and doing things I shouldn't do, and if there's a big decision to be made, consulting with my client, making sure they're educated around their different options, and making a recommendation to them."[215]

Lawyers should not blindly defer to recommendations from vendors; to supervise, lawyers must be independently educated on different available options for using technology. In the state of Washington, "[a] lawyer using [a third-party] service must . . . conduct a due diligence investigation of the provider and its services and cannot rely on lack of technological sophistication to excuse the failure to do so."[216] Without such due diligence, technology vendors may get too comfortable, feeling empowered to "control" eDiscovery or other technology-aided processes "as if [the vendors] were the attorneys" and exposing the attorneys to ethical risks.[217]

Other ABA Model Rules are relevant to the oversight requirement as well. Rule 5.4 prohibits fee sharing between lawyers and nonlawyers and

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209. *Id.* r. 5.1(c).
210. *Id.* r. 5.3.
211. *Id.* r. 5.3(b).
212. *See id.*
213. *Id.* cmt. 3.
214. *See, e.g.*, Kluttz & Mulligan, *supra* note 36, at 879–80.
215. *Id.*
216. Wash. Bar Ass'n Comm. on Pro. Ethics, Advisory Op. 2215 (2012).
217. Kluttz & Mulligan, *supra* note 36, at 879.

underscores that only *lawyers* can bill for legal services.[218] And Rule 5.5 prevents nonlawyers from engaging in the "unauthorized practice of law."[219] These Rules show that there must be both a financial and literal separation between services rendered for "the practice of law" and other, non-legal services provided by consultants. There are frequent debates over the meaning of "the practice of law," and this was an issue for LegalZoom and Avvo.[220] Avvo—an attorney referral service—has been deemed as engaging in the improper practice of law.[221] But in *Lola v. Skadden, Arps, Slate, Meagher & Flom LLP*—a Second Circuit decision—outside assistants that provided TAR document review services were not deemed to be practicing law.[222] The court held that outside document review consultants could not engage in the practice of law if they "exercised no legal judgment whatsoever" and merely applied criteria given to them by lawyers.[223] It concluded with a crucial note: "tasks that could otherwise be performed entirely by a machine cannot be said to engage in the practice of law."[224]

Lola is interesting because several of the "weak AI" legal technologies presented in Section II.A do not perform tasks *entirely* by machine. In these technologies, the AI is "weak" because some measure of human judgment is required for each of these tasks: for example, AI-based legal research still requires a natural language query; predictive coding still requires identification and coding of a seed set; and brief-drafting tools still require a human drafted brief as input.[225] For these reasons, it is no surprise that, under *Lola*, use of these tools by vendors or consultants to generate outputs can each be viewed as practicing law.[226] But is that fair? Should each creator of new legal technology be deemed to be practicing law when providing consulting services? This Article submits not. Rather than shifting the burden of "practicing law" onto legal technology providers, *Lola* reinforces that attorneys and the bar should clarify the degree of oversight needed to ensure that lawyers are the ones practicing law and to ensure that they have the education necessary to faithfully execute their duty of supervision.[227] To be clear, legal consultants and technology vendors often understand aspects of

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218. MODEL RULES OF PRO. CONDUCT r. 5.4(a)–(b) (AM. BAR ASS'N 2020).

219. *Id.* r. 5.5.

220. *See supra* notes 108–110 and accompanying text.

221. *See* Barton & Rhode, *supra* note 110, at 974.

222. 620 F. App'x 37, 44 (2d Cir. 2015).

223. *Id.* at 45.

224. *Id.* Other cases that cite *Lola*, for example, have held that individuals engaging in document review employed legal judgment by adding tags and commenting on documents. *See, e.g.*, Henig v. Quinn Emanuel Urquhart & Sullivan, LLP, 151 F. Supp. 3d 460, 470–71 (S.D.N.Y. 2015).

225. *See* discussion *supra* Section II.A.

226. *See Lola*, 620 F. App'x at 45.

227. *See id.* at 42 (noting that defining the practice of law is a state decision).

legal practice, but the scope of their knowledge cannot shield lawyers from the ethical duty of oversight.

The line between "practicing law" and "consulting" will likely remain blurry, which underscores why the roles of lawyers and their technology vendors (such as eDiscovery or analytics consultants) should be clearly defined and circumscribed. The Comment to Rule 5.5 makes plain that the meaning of "the practice of law . . . varies from one jurisdiction to another[]" but that, regardless of the definition, "limiting the practice of law to members of the bar protects the public against rendition of legal services by unqualified persons."[228] Could a machine ever be a "qualified person?" This line-drawing challenge is beyond the scope of this Article, but it does underscore that the ethical duties pertaining to the relationships between lawyers and their nonlawyer service providers will continue to evolve.

3. Lawyers' and Judges' Ethical Duties of Nondiscrimination

Section II.A noted that the algorithms underlying AI-based legal prediction tools and dispute adjudication tools may reflect biases that result either from the algorithm or from its training data. Racial biases in such tools may impact client advice, negotiation strategies during mediations, and—in the case of online courts—disposition of an entire case. Lawyers should be aware of the ethical implications of these issues.

In 2016, the ABA adopted Model Rule 8.4(g) after a nearly twenty-year effort to codify an antidiscrimination rule into the Model Rules.[229] The Rule prohibits a lawyer from "engag[ing] in conduct that the lawyer knows or reasonably should know is harassment or discrimination . . . in conduct related to the practice of law."[230] The thrust of the Rule was not targeted toward technology, and it does not prohibit "'manifest' . . . bias or prejudice."[231] But one could imagine that a decision to use or rely on racially or socioeconomically tinged predictive analytics data, AI-based jury selection software, or mediation tools could be deemed conduct "related to" the practice of law and perhaps conduct that the lawyer "reasonably should know" is discriminatory.[232]

To date, Rule 8.4(g) is in its infancy. It has only been adopted by a few states, and others have rejected it.[233] Recently, in 2020, Pennsylvania adopted

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228. MODEL RULES OF PRO. CONDUCT r. 5.5 cmt. 2 (AM. BAR ASS'N 2020).

229. Veronica Root Martinez, *Combating Silence in the Profession*, 105 VA. L. REV. 805, 811 (2019).

230. MODEL RULES OF PRO. CONDUCT r. 8.4(g) (AM. BAR ASS'N 2020).

231. Martinez, *supra* note 229, at 855.

232. MODEL RULES OF PRO. CONDUCT r. 8.4(g) (AM. BAR ASS'N 2020).

233. Martinez, *supra* note 229, at 811–12. Several states have expressed concerns about the rule based on First Amendment or other constitutional concerns. *Id.* at 812.

a rule similar to 8.4(g),[234] bringing the total number of adopting states to three.[235] Still, others may adopt the Rule in response to growing concerns about discrimination and racism in the United States.

Is there a point at which using a well-known, implicitly biased, and discriminatory tool should trigger certain ethical obligations under Rule 8.4(g)? Because the Rule is new, questions like these are still up for debate. The Rule, in fact, may have little effect and instead be largely symbolic:

> Because the ABA focused on passing an antidiscrimination rule instead of on adopting a strategy aimed at eliminating bias and enhancing diversity within the profession, states will be able to adopt rules that look similar to the ABA [R]ule without actually engaging in activities that are likely to have a significant impact on improving diversity within the legal profession.[236]

Regardless of the Rule or its implications, this Article submits that open dialogue around the discriminatory biases that may inhere in AI-based algorithms can further drive discussions about the biases that may exist within the profession as a whole. Often, individuals are more willing to admit that an "algorithm" is biased than that they themselves are biased. Emerging technology, in this sense, may be a gateway to more direct acknowledgment of both the profession's and the justice system's implicit and structural biases.

III. THE ETHICAL URGENCY IN LIGHT OF COVID-19

The ethical issues described in Part II were urgent before the COVID-19 pandemic, and the rapid expansion of legal technology was already expected. In 2019, Richard Susskind predicted that "[t]he 2020s will be a period of redeployment" and that "lawyers and judges will undertake different work and work differently."[237] But the redeployment has been faster than expected; since COVID-19 struck, the virus has placed lawyers, judges, and other legal professionals throughout the United States and the world on "stay-at-home" orders, and the profession has been forced to redeploy in

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234. *See* Josh Blackman, *Pennsylvania Adopts Variant of ABA Model Rule 8.4(g)*, REASON (June 11, 2020, 2:55 PM), https://reason.com/2020/06/11/pennsylvania-adopts-variant-of-aba-model-rule-8-4g/ [https://perma.cc/EJF5-QCBU].

235. Matt Fair, *Backers of Anti-Bias Rule for Attys Reject "PC Police" Tag*, LAW360 (June 17, 2020), https://www.law360.com/legalethics/articles/1283827/backers-of-anti-bias-rule-for-attys-reject-pc-police-tag [https://perma.cc/E3ZV-ZNVH].

236. Martinez, *supra* note 229, at 852.

237. SUSSKIND, *supra* note 111, at 274.

hyperdrive.[238] This Part considers the resulting shift toward legal technology and the ethical implications triggered by this shift.

A. *Immediate Shift Toward Legal Technology in Response to COVID-19*

Legal practitioners' hands have now been forced. The stay-at-home orders that began early in 2020 are expected to continue for the foreseeable future.[239] The global chair of Dentons, a multinational law firm, has explained that "no matter what is allowed, people do not go quickly or easily back to the office."[240] Nor should they. A quick return to the office could accelerate the spread of COVID-19, which is why law firm leaders continue to exhibit caution: conferences are canceled and staying at home has been established as the "new normal."[241] This new normal has resulted in many core changes to legal practice.

The most obvious and immediate shift has been the increase in teleworking. The ABA's *2019 Profile of the Legal Profession* found that the typical lawyer telecommutes about forty times per year but that roughly one-fourth of lawyers did not telecommute at all.[242] Now, virtually every lawyer is telecommuting daily.[243] This has increased lawyers' use of VPN technologies to connect to networks, attorney time entry systems, practice management systems, and many other technologies.[244]

Another significant change has been the widespread use of videoconferencing. Once used as a last resort, videoconferencing is now used to coordinate team meetings, to take or defend depositions, and even to participate in remote court arguments or trials. To underscore the dramatic

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238. Nicole Black, *COVID-19 Forces the Legal Profession's Hand and Technology Adoption Increases Exponentially*, ABOVE THE LAW (Apr. 16, 2020), https://abovethelaw.com /2020/04/covid-19-forces-the-legal-professions-hand-and-technology-adoption-increases-expo nentially/ [https://perma.cc/96UH-HRAS].

239. Joe Andrew, Opinion, *Let's Stop Asking "When Are We Going Back to the Office?,"* THE HILL (Apr. 28, 2020, 11:00 AM), https://thehill.com/opinion/finance/494889-lets-stop-asking-when-are-we-going-back-to-the-office [https://perma.cc/B7XH-6CZF].

240. *Id.*

241. *See* Samantha Stoke & Patrick Smith, *As States Move to Reopen, Law Firms Exercise Caution*, AM. LAW. (Apr. 23, 2020), https://www.law.com/americanlawyer/2020/04/23/as-states-move-to-reopen-law-firms-exercise-caution/ [https://perma.cc/L282-DSGY].

242. ABA PROFILE OF THE LEGAL PROFESSION, *supra* note 39, at 56.

243. Andrew, *supra* note 239.

244. *See* Max Mitchell, *Lawyers Strike Back as COVID-19 Becomes the Mother of Law-Firm Innovation*, THE LEGAL INTELLIGENCER (May 5, 2020), https://www.law.com/thelegal intelligencer/2020/05/05/lawyers-strike-back-as-covid-19-becomes-the-mother-of-law-firm-in novation/ [https://perma.cc/Q6G6-52NH].

increase, one need look no further than Zoom, which had 10 million users at the end of 2019 and a whopping 200 million users by March of 2020.[245]

The shift to remote depositions has also been significant. Before COVID-19, remote depositions were peddled by several legal technology companies for nearly a decade, but they were only taken in the most extenuating of circumstances.[246] Back then, there were concerns about the ethics of taking depositions remotely[247] such that remote depositions were rare and "most often used for relatively brief examinations that [did] not involve numerous documents."[248] Now, attorneys are taking remote depositions in even the most complex cases.[249] Initially, some attorneys resisted remote depositions, seeking postponements in favor of in-person depositions,[250] but courts have refused those requests, with one court noting that "[t]his court will not require parties to appear in person with one another in the midst of the present pandemic. Nor is it feasible to delay the depositions until some unknown time in the future."[251] Accordingly, the default norm has been flipped, with remote depositions being the default and in-person depositions being reserved for only the most unusual situations.[252]

Beyond depositions, there has also been a shift toward online courts. For years, most of the relevant discussion was limited to a few online courts that handled relatively simple small claims disputes.[253] The COVID-19 pandemic,

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245. Ellen Rosen, *The Zoom Boom: How Videoconferencing Tools Are Changing the Legal Profession*, A.B.A. J. (June 3, 2020), https://www.abajournal.com/web/article/ethics-videoconferencing-tools-are-changing-the-legal-profession [https://perma.cc/BXD2-JHZM].

246. *See, e.g.*, Jason Primuth, *Legal Videoconferencing Technology to Enhance the Deposition Experience*, LEXITAS (June 5, 2019), https://www.lexitaslegal.com/blog/2019/06/legal-videoconferencing-technology-to-enhance-the-deposition-experience/ [https://perma.cc/6JXA-ZN64].

247. *Advanced Deposition Technologies Create Ethics Issues for Litigators*, PR NEWSWIRE (June 22, 2010, 10:00 AM), https://www.prnewswire.com/news-releases/advanced-deposition-technologies-create-ethics-issues-for-litigators-96879494.html [https://perma.cc/9GX7-79H3].

248. Shockey v. Huhtamaki, Inc., 280 F.R.D. 598, 602 (D. Kan. 2012).

249. *See* Steven M. Auvil & Tamara Fraizer, *No Excuses: Remote Depositions Required in the Age of COVID-19*, NAT'L L. REV. (May 14, 2020), https://www.natlawreview.com/article/no-excuses-remote-depositions-required-age-covid-19 [https://perma.cc/UD77-4TKH].

250. *Id.*

251. SAPS, L.L.C. v. EZCare Clinic, Inc., No. CV 19-11229, 2020 WL 1923146, at *2 (E.D. La. Apr. 21, 2020); *see also* Learning Res., Inc. v. Playgo Toys Enters. Ltd., 335 F.R.D. 536, 539 (N.D. Ill. 2020) (concluding "the health concerns created by the COVID-19 pandemic create 'good cause' for the entry of an order requiring that [the] deposition take place by remote videoconference").

252. *See, e.g.*, Manley v. Bellendir, No. 18-CV-1220-EFM, 2020 WL 2766508, at *3 (D. Kan. May 28, 2020) (concluding that the plaintiff's past substance abuse made it necessary to have an in-person deposition "to keep Plaintiff focused and efficiently conduct the deposition").

253. *See supra* Section II.A.5.

however, has no doubt accelerated the interest in online court proceedings. At the appellate level, remote arguments have become routine, with the Supreme Court permitting its first-ever telephonic arguments[254] and numerous other courts of appeal doing the same.[255] These remote arguments have generally gone better than expected.[256]

Even trials have been remote. Recently, the Eastern District of Virginia held an entire bench trial in a complex patent case via Zoom.[257] Initially, one of the parties objected to the trial, arguing that the case had "inherent complexities[,]" that videoconferencing would cause glitches, and that the new trial platform would prevent attorneys from evaluating the credibility of witnesses and conducting effective cross examination.[258] But the trial ultimately had few glitches. The trial judge remarked that "the format worked very well" and that his "ability to evaluate the credibility of the witnesses was probably improved[.]"[259]

Beyond federal court, remote bench trials have also been held in state courts.[260] A Texas state court, for example, recently held a jury trial.[261] That trial was not without some hiccups, but the jury successfully reached a

254. Adam Liptak, *Supreme Court Hears First Arguments via Phone*, N.Y. TIMES (May 4, 2020), https://nyti.ms/2SBpOob [https://perma.cc/A25Y-CJC3].

255. *Appeal Without Argument: A Coronavirus Contingency, or the New Normal?*, CROWELL & MORING (Mar. 24, 2020), https://www.crowell.com/NewsEvents/AlertsNewsletters/all/Appeal-Without-Argument-A-Coronavirus-Contingency-or-the-New-Normal [https://perma.cc/9G9X-NFYV].

256. Liptak, *supra* note 254 (observing that "[o]n the whole, the Supreme Court's first argument held by telephone went smoothly"); Adam Feldman, *Empirical SCOTUS: Results from the Court's Experiment with a New Oral Argument Format*, SCOTUSBLOG (May 22, 2020, 4:51 PM), https://www.scotusblog.com/2020/05/empirical-scotus-results-from-the-courts-experiment-with-a-new-oral-argument-format/ [https://perma.cc/X27C-M9CA] (concluding "this experiment with the new format appeared successful in providing the [J]ustices with opportunities to ask questions and listen to answers without interruption from other [J]ustices").

257. Ryan Davis, *Cisco Patent Trial Kicks Off over Zoom Without a Hitch*, LAW360 (May 6, 2020), https://www.law360.com/articles/1269331/ [https://perma.cc/BXF3-HRWA].

258. *See* Defendant Cisco Systems, Inc.'s Objections to Issues Raised at April 8, 2020 Telephonic Conference & Memorandum in Support of Its Expedited Motion Opposing Trial Entirely by Videoconference at 1, Centripetal Networks v. Cisco Sys., No. 2:18-CV-00094 (E.D. Va. 2020).

259. Ryan Davis, *After 5 Weeks, Zoom Patent Trial in Cisco Case Nears End*, LAW360 (June 11, 2020), https://www.law360.com/articles/1281604/ [https://perma.cc/FG29-SZBA].

260. Angela Morris, *Now Trending in Texas: Full-Blown Bench Trials via Zoom*, TEX. LAW. (Apr. 21, 2020), https://www.law.com/texaslawyer/2020/04/21/now-trending-in-texas-full-blown-bench-trials-via-zoom/ [https://perma.cc/9LEG-YQ5U].

261. Nate Raymond, *Texas Tries a Pandemic First: A Jury Trial by Zoom*, REUTERS (May 18, 2020) https://www.reuters.com/article/us-health-coronavirus-courts-texas/texas-prepares-for-a-pandemic-first-a-jury-trial-by-zoom-idUSKBN22U1FE?feedType=RSS&feedName=technologyNews [https://perma.cc/VZ8Y-L9H5].

verdict.[262] Globally, a project called Remote Courts Worldwide is now sharing worldwide best practices for remote and online hearings.[263] The website currently identifies more than fifty countries that are providing some form of online or remote court services.[264] That would have been unfathomable in early 2020.

The (perhaps reluctant) acceptance of online proceedings is noteworthy because videoconferencing technology is far from where it could be. For example, a technology known as telepresence has been referred to as "high-quality video conferencing on steroids [where] the mind joins the dots so that you feel you are physically in the same space as those to whom you are linked."[265] These more "realistic" technologies could vitiate some existing concerns—for example, concerns about the ability to assess the credibility of witnesses.[266]

Another shift in legal practice has been the increased use of cloud-based technologies for editing documents and storing files. The ABA's *2019 Legal Technology Survey Report* commented that cloud computing exhibited a "very slow pace of growth" in the legal industry and that there were "poor—and worsening—cybersecurity approaches" taken by lawyers who use cloud-

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262. Charles Scudder, *In a Test Case, Collin County Jury Renders Verdict on Zoom for the First Time; Too Risky for a Full Trial?*, DALL. MORNING NEWS (May 22, 2020), https://www.dallasnews.com/news/courts/2020/05/22/in-a-test-case-collin-county-jury-meets-on-zoom-for-the-first-time-but-some-lawyers-say-its-too-risky-for-real-trial/ [https://perma.cc/2Q3R-62WR] (reporting that several jurors did not respond when called on because their microphones were on mute; one juror switched digital backgrounds; and, at one point, a juror left the room during a break to place a personal phone call and had to be directed back on to the Zoom meeting room). However, the verdict was non-binding because the trial was a summary jury proceeding, which is a one-day summary trial allowing the attorneys to present arguments in front of a jury before the full case is tried. *Id.* In Texas, such proceedings are part of dispute resolution and are often required for civil cases expecting to last longer than a week. *Id.*

263. The website, spearheaded by Professor Richard Susskind and backed by the U.K. government, "'offers a systematic way of remote-court innovators and people who work in the justice system to exchange news of operational systems, as well as of plans, ideas, policies, protocols, techniques, and safeguards.'" *International Project Launched to Share Best Practice on Remote Court Hearings*, GLOB. LEGAL POST (Mar. 30, 2020), https://www.globallegalpost.com/bigstories/international-project-launched-to-share-best-practice-on-remote-court-hearings-98403165/ [https://perma.cc/FWF8-M28S]. Susskind explains that the site's goal is preventing the "unnecessary duplication of effort across the world." *Id.*

264. REMOTE COURTS WORLDWIDE, https://remotecourts.org/news.htm [https://perma.cc/K88S-BE95].

265. SUSSKIND, *supra* note 111, at 256. For a discussion of the use of virtual reality technology in the courtroom, see generally NEAL FEIGENSON & CHRISTINA SPIESEL, LAW ON DISPLAY: THE DIGITAL TRANSFORMATION OF LEGAL PERSUASION AND JUDGMENT 163–94 (2009).

266. *See* Davis, *supra* note 259 (discussing the effect of online trial on determining witness credibility). *But see* Richard Susskind, *The Future of Courts*, THE PRACTICE, Jul.–Aug. 2020, https://thepractice.law.harvard.edu/article/the-future-of-courts/ [https://perma.cc/5MHF-RJH7] (noting that video hearings raise concerns for assessing the credibility of witnesses).

based tools.[267] In fact, only 58% of lawyers were using cloud-based services in 2019—up only slightly from 55% in 2018—with solo practitioners and small firms leading the way.[268] Though some larger law firms still use VPN technologies, which retrieve data from the law firm's physical servers, many large firms are switching to the cloud.[269] Moreover, with lawyers working from home, they might also use personal devices or cloud-based tools such as Google Docs, iCloud, or Dropbox to work on and share documents. Currently, lawyers are also more likely to be using electronic or paper-based files at home, which could expose confidential client information to additional risk.

B. *Ethical Implications of the Recent Shift*

As with the technologies described in Section II.A, the recent technological shifts described in Section III.A have important ethical ramifications. To be sure, the shifts in technology described in this Part are more incremental, but a significant disruption has certainly occurred. In their daily work, lawyers are more dependent on technology than ever before, raising several additional ethical issues.

First, the duty of technological competence remains important. Lawyers who are working from home must be capable of connecting to their firm or company's VPN or cloud-based services; they must be comfortable with videoconferencing platforms and be able to advocate for their clients using these platforms. As noted, few litigators were taking remote depositions in early 2020.[270] Now they all are.[271] Those depositions require new skills: knowing how to "show" documents to witnesses over videoconference; knowing how to "read" the witness on a computer screen; knowing how to ask effective questions and maintain control despite latency delays; and more. Different teleconferencing platforms may be more or less desirable for taking a remote deposition. New CLE training courses and articles address these topics.[272]

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267. Dennis Kennedy, *2019 Cloud Computing*, AM. BAR ASS'N TECHREPORT 2019 (Oct. 2, 2019), https://www.americanbar.org/groups/law_practice/publications/techreport/abatechreport2019/cloudcomputing2019/ [https://perma.cc/D7X9-JTT6].

268. *Id.*

269. Victoria Hudgins, *COVID's Impact: Lawyers Utilize More Work from Home Tech, Strategies*, LEGALTECH NEWS (June 3, 2020), https://www.law.com/legaltechnews/2020/06/03/covids-impact-lawyers-utilize-more-work-from-home-tech-strategies/[https://perma.cc/WFN6-SN4B].

270. Abernethy et al., *supra* note 13.

271. *See* Auvil & Frazier, *supra* note 249.

272. *See, e.g.*, Abernethy et al., *supra* note 13 (highlighting a number of issues and skills counsel may need to address); Eliot Williams & Daniel Rabinowitz, *How to Conduct Depositions Remotely*, LAW360 (Mar. 30, 2020), https://www.law360.com/articles/

There are also additional aspects of "competence" that have emerged as a result of the shift to remote work. A high-bandwidth connection may be pertinent: "Digital hearings can also be tricky for people who don't have high-speed internet or aren't as comfortable using videoconferencing technology."[273] A lawyer may be deemed incompetent based on objects that appear in the lawyer's background on-screen or based on perhaps overly casual dress. One judge remarked, for example, "We've seen many lawyers in casual shirts and blouses, with no concern for ill-grooming, in bedrooms with the master bed in the background, etc. One male lawyer appeared shirtless and one female attorney appeared still in bed, still under the covers."[274] For the first time in history, a flushing toilet was heard during a Supreme Court argument.[275] Shifts away from the office have changed behavior and have perhaps, in some instances, reduced levels of professionalism. In these instances, lawyers may be embracing technology *too much*.

Second, lawyers must be ever mindful of ABA Model Rule 1.3, which requires that they always "act with reasonable diligence and promptness in representing a client."[276] The near-ubiquitous availability of technology underscores that the pandemic is no excuse for delay and that lawyers can continue to practice. Relatedly, lawyers must err on the side of overcommunicating with their clients about any impacts COVID-19 may be having on their legal practice. This is required by ABA Model Rule 1.4, which requires that a lawyer obtain informed consent.[277] For example, clients may not be keen on remote depositions or trials, and attorneys should obtain informed consent from their clients before pursuing these. Just as lawyers should communicate the benefits and risks of AI-based and other emerging legal technologies discussed in Part II, they also need to provide clarity to

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1258351/how-to-conduct-depositions-remotely [https://perma.cc/44WY-TX3K] (providing a guide for attorneys conducting remote depositions); *Live Webcast: How to Conduct Remote Depositions*, S.C. BAR ASS'N (Apr. 30, 2020), https://www.scbar.org/shop-cle/livecourse/live-webcast-how-to-conduct-remote-depositions/ (offering attorneys a CLE credit hour to attend an online session regarding remote depositions).

273. Zoe Schiffer, *The Jury Is Still Out on Zoom Trials*, VERGE (Apr. 22, 2020), https://www.theverge.com/2020/4/22/21230022/jury-zoom-trials-court-hearings-justice-system-virtual-transparency [https://perma.cc/CQ9Y-364B].

274. *See* Letter from the Hon. Dennis Bailey, Judge, Seventeenth Jud. Cir. Fla., https://www.westonbar.org/so/61N5VoOJe?fbclid=IwAR3gBGUaUfpC8qs0612nMrw-lSDgZkDFiOiCcKGXBjd3SDS8PisCrslHN6c#/main [https://perma.cc/YJT9-JGQ9].

275. Ariane de Vogue, *Supreme Embarrassment: The Flush Heard Around the Country*, CNN (May 6, 2020), https://www.cnn.com/2020/05/06/politics/toilet-flush-supreme-court-oral-arguments/index.html [https://perma.cc/HP3N-EMU4].

276. MODEL RULES OF PRO. CONDUCT r. 1.3 (AM. BAR ASS'N 2020).

277. *Id.* r. 1.4(b) ("A lawyer shall explain a matter to the extent reasonably necessary to permit the client to make informed decisions regarding the representation.").

their clients about the changing norms of legal practice occurring as a result of the pandemic.

A third issue that has been exposed by the pandemic is confidentiality. Model Rule 1.6 states that "[a] lawyer shall make reasonable efforts to prevent the inadvertent or unauthorized disclosure of, or unauthorized access to, information relating to the representation of a client."[278] These risks are heightened when lawyers are increasingly working remotely and using cloud-based applications.[279] And the risks are also escalated by the use of insecure videoconferencing—the threat of "zoom bombing" is real.[280] Lawyers are encouraged to guard against such risks by ensuring that videoconferences are private and password protected, and they must avoid sharing clients' confidential information on their computer screens.[281]

Additionally, risks of revealing confidential information are heightened when lawyers print or view client confidential information or speak on the phone to clients and colleagues from home. Lawyers should work from home in a secure area away from friends, family, and others who live in the same household.[282] A related security issue has been raised by smarthome devices—such as Alexa and Google Home.[283] Those devices have been known to "listen" to conversations, even when the user does not command the device to do so. For that reason, lawyers who are working in an IoT-enabled home must take care to not reveal client confidences near those devices.[284]

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278. *Id.* r. 1.6.

279. *See supra* notes 40–44, 213–215 and accompanying text.

280. *FBI Warns of Teleconferencing and Online Classroom Hijacking During COVID-19 Pandemic*, FED. BUREAU INVESTIGATION BOS. (Mar. 30, 2020), https://www.fbi.gov/contact-us/field-offices/boston/news/press-releases/fbi-warns-of-teleconferencing-and-online-classroom-hijacking-during-covid-19-pandemic [https://perma.cc/W4JU-UC4W] (reporting that the FBI has received numerous reports of Zoom conferences being interrupted by inappropriate images and threatening language).

281. Such precautions have been recommended by state bar associations. *See, e.g.*, Pa. Bar Ass'n Comm. on Legal Ethics & Pro Resp., Formal Op. 2020-300, at 8 (2020) [hereinafter Pa. Bar. Ass'n].

282. *See id.*; Saul Jay Singer, *Legal Ethics in the Age of the Coronavirus*, D.C. BAR (Mar. 20, 2020), https://www.dcbar.org/news-events/news/legal-ethics-in-the-age-of-the-coronavirus [https://perma.cc/64GB-EZT3] (noting that when working from home or other nontraditional sites, lawyers "must carefully consider the security and confidentiality of their policies, procedures, and systems").

283. Sara Morrison, *Alexa Records You More Often Than You Think*, VOX (Feb. 21, 2020, 7:10 AM), https://www.vox.com/recode/2020/2/21/21032140/alexa-amazon-google-home-siri-apple-microsoft-cortana-recording (last visited Dec. 30, 2020).

284. Pa. Bar Ass'n, *supra* note 281, at 8; Morrison, *supra* note 283 (noting that smarthome speakers can be activated accidentally and that such recordings are kept on servers that may be reviewed); Mark A. Cohen, *COVID-19 Will Turbocharge Legal Industry Transformation*, FORBES (Mar. 24, 2020, 6:10 AM), https://www.forbes.com/sites/markcohen1/2020/03/24/covi

IV. THE FUTURE IN FOCUS: THE NEED TO ADAPT BEYOND COVID-19

The COVID-19 pandemic has triggered many technological changes. In fact, the legal profession has likely been more accepting of technology now than at any time in history. Lawyers, meanwhile, have adapted to a long-term teleworking environment thanks to this technology.[285]

With that said, the technology changes seen thus far have been largely driven by necessity. As lawyers continue to engage with technology and (eventually) emerge from the pandemic, the legal profession has an opportunity to seize this moment and become more engaged with emerging technologies than ever before. Indeed, some have already suggested that COVID-19 will catalyze a broader adoption of more disruptive legal technologies.[286] A whopping 82% of clients are expecting law firms to increase their use of legal technologies once they emerge from the pandemic, and more than two-thirds of legal organizations are prepared to increase their legal technology use.[287]

Sections II.B and III.B illustrated that the ethical issues implicated by legal technology span a wide range of areas. Beyond the need to learn and understand legal technologies, there will be an increased need to effectively supervise consultants and third-party providers of that technology; to hold such consultants and providers accountable for the quality, security, and usability of their products; and to ensure (in the case of machine learning or AI-based tools) that lawyers have at least a basic understanding of the algorithms and inputs that drive decisions and predictions made by those tools.

These are complex issues for a profession that has not truly grappled with the changes that are to come. The legal technology industry garnered more

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d-19-will-turbocharge-legal-industry-transformation/#193b69341195 [https://perma.cc/J7EU-J53U] (noting that, historically, the legal profession has "tenaciously clung to the traditional way of doing things" but that, in a matter of weeks, legal education and service have been transformed, and transformation of the court is likely to follow).

285. Mitchell, *supra* note 244.

286. Cohen, *supra* note 284 (predicting that the coronavirus "will propel law into the digital age" and that, post-coronavirus, "going digital" will be the new norm for the legal profession); Lev Breydo, *Can Covid-19 Help Catalyze LegalTech Adoption?*, AM. BAR ASS'N (May 19, 2020), https://www.americanbar.org/groups/business_law/publications/committee _newsletters/legal_analytics/2020/202005/fa_2/ [https://perma.cc/EAB6-UAN8] (predicting that many present COVID-19 changes will likely be here to stay).

287. Sara Lord, *The New Normal—Law Firms May Never Be the Same*, BLOOMBERG L. (May 7, 2020, 3:47 PM), https://news.bloomberglaw.com/bloomberg-law-analysis/analysis-the-new-normal-law-firms-may-never-be-the-same [https://perma.cc/6LY7-DNXB].

than \$1 billion in investments in 2019.[288] Organizations like the International Legal Technology Association (ILTA) boast more than one thousand members,[289] and more legal technology companies crop up each year.[290] One would think that, in this climate, the bar would have taken a robust role in providing meaningful oversight to the industry. But the bar's role has been at one extreme or another: attempting to suppress innovation completely (as with entities like Avvo and LegalZoom) or largely ignoring legal technologies and leaving them to the vagaries of the free market.[291] This has reflected longer term trends whereby the bar resists change and seeks to preserve the status quo.[292]

As a self-regulating profession,[293] the bar must do more to articulate an affirmative vision and understanding of the role both lawyers and legal technology will play in the profession. To date, however, bar associations and the bar generally have done little.[294] Certainly, aspirational statements have been made and some rules have been changed: the ABA revised the Model Rules in 2012 to include the duty of technology competence.[295] And organizations like the Sedona Conference have adopted substantive principles around eDiscovery.[296] But the Sedona Conference lacks oversight authority over the bar; does not promulgate enforceable rules (or even model rules); and has not yet expanded its scope to broader issues, including the general issues of technology competence, the issues pertaining to the duty of supervision, or the issues of transparency around AI and cybersecurity.[297]

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288. Sam Skolnik, *Legal Tech Broke Investment Record in 2019 as Sector Matures*, BLOOMBERG L. (Dec. 30, 2019, 4:50 AM), https://news.bloomberglaw.com/us-law-week/bigge st-legal-tech-deals-and-developments-of-2019 [https://perma.cc/4AHW-WEGF].

289. *About ILTA*, INT'L LEGAL TECH. ASS'N, https://www.iltanet.org/about?ssopc=1 [https://perma.cc/8M9D-HT8W] (reporting that the ILTA has 1,358 members).

290. *See* DISCOVER LEGAL TECHNOLOGY, https://techindex.law.stanford.edu/ [https://perma.cc/8YNK-B5GU] (curating over one thousand legal technology companies); Mitchell, *supra* note 244 (explaining one example of a legal technology company catalyzed by the COVID-19 pandemic).

291. *See Avvo, LegalZoom, Rocket Lawyer CEOs Advise on Moving Profession (and Your Practice) Forward*, AM. BAR ASS'N (Apr. 2017), https://www.americanbar.org/news/ abanews/publications/youraba/2017/april-2017/legal-tech-titans-offer-advice-on-moving-profe ssion--and-your-pr/ [https://perma.cc/YT4K-VNB7].

292. MOLITERNO, *supra* note 33, at 216 (noting that the bar was slow to allow immigrants, women, and African-Americans to enter the profession).

293. *Id.* at 215.

294. *See id.* at 224 (noting that this, unfortunately, is not altogether surprising, as lawyers tend to look backward rather than forward, and "[i]t is not in lawyers' nature to be forward-looking planners, sensitive to cultural trends").

295. Kluttz & Mulligan, *supra* note 36, at 868 (construing Rule 1.1 of the ABA Model Rules of Professional Conduct).

296. *Id.* at 885.

297. *Avvo, LegalZoom, Rocket Lawyer CEOs Advise on Moving Profession (and Your Practice) Forward*, *supra* note 291.

The bar can do better. As Chief Justice Burger said, "It is not merely the right but the duty of members of the [b]ar to challenge the failure of the leadership of the organized [b]ar to set high standards and the failure of local bar associations to enforce the same high standards."[298] The bar can do far more to articulate meaningful standards, goals, and aspirations for the profession and the companies that have entered the legal technology space. Given the broad and vast ethical implications of legal technologies discussed in this Article and the rapid changes that are occurring and will continue to occur, the urgency is real. The bar can lay the groundwork for a profession that does not just react to new and disruptive legal technologies but is instead prepared to adapt to its long-term use.

A. Vision

As a first principle, lawyers, bar associations, and legal organizations need to do the difficult work of articulating a vision of what the legal profession might look like in a changing technological world. While prescribing a precise vision is beyond the scope of this Article, the discussions above underscore several crucial themes that could be incorporated into such a vision:

- An acknowledgment that emerging and disruptive technologies have impacted legal practice, that such technologies are integral to practice, and that such technologies will continue to play a critical role in the advancement of the profession
- A desire that all lawyers have some basic measure of competence in legal technologies so that they can be in a position to evaluate the relative strengths and weaknesses of different technologies and articulate if, when, and how it may or may not be desirable to use technology
- A recognition that clearer guidance is needed around the role of lawyers vis-à-vis legal technology vendors, including an effort to better understand the roles that these entities should play in the profession along with the principles that should guide lawyers' oversight and use of technological tools
- Principles of transparency around legal technologies, particularly AI-based and machine learning algorithms, so that providers of AI tools are required to make some disclosures around the inputs, features, and value judgments that underlie their algorithms—relatedly, principles that would facilitate the bar's ability to meaningfully

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298. Warren E. Burger, *The Decline of Professionalism*, 63 FORDHAM L. REV. 949, 958 (1995).

> compare and assess legal technologies, much like a legal technology "consumer reports"

- Principles around access to justice and its relationship to legal technologies so that lawyers understand how technology could be leveraged to increase access to courts and representation
- Principles around proper cybersecurity so there is a framework for protecting client confidences that is adaptable to technology changes both at home and in the office

Articulating and coordinating visions, both in the ABA and across bar associations generally, would be of tremendous help in establishing new norms. Doing so will require some humility and, frankly, a recognition that lawyers cannot undertake this effort entirely alone. Other perspectives, including those of judges and legal technology innovators, will be useful.[299] Were such a vision to percolate through the bar and through the profession more broadly, it would aid in generating inertia within legal institutions and the bar at large. Other areas of reform could follow, as offered below.

B.   Law School Curriculum

Coursework in emerging legal technologies will be increasingly crucial as the trends discussed in Parts II and III continue. Such courses do exist— Suffolk Law School has a rigorous certificate program in legal technology[300]—but no law school explicitly requires legal technology coursework.[301] The ABA's standards for accrediting law schools do not require such coursework.[302] Instead, they generically state that lawyers should have "competency" in "[l]egal analysis and reasoning, legal research, problem-solving, and written and oral communication in the legal context" and be capable of "[e]xercis[ing] . . . proper professional and ethical responsibilities[] [and]. . . [o]ther professional skills needed for competent and ethical participation as a member of the legal profession."[303]

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299. MOLITERNO, *supra* note 33, at 224 (noting that the legal profession needs people to participate who are not self-interested and can contribute an independent view, saying "[t]he unwelcome cure is to enlist non-lawyers in the regulation of the legal profession: planners and evaluators of cultural trends. . . . people who can see the path ahead and not merely the ground already trod").

300. Sherry Karabin, *Best Law Schools for Technology*, NAT'L JURIST, Fall 2018, at 17, 18.

301. *See id.* (noting only voluntary courses, not required courses).

302. *See* ABA STANDARDS & RULES OF PROC. FOR APPROVAL OF L. SCH. 2020–2021, Standard 302, at 18 (AM. BAR ASS'N 2020) (listing law school requirements for professional responsibility, writing, experiential learning, law clinics, and pro bono, but not for legal technology).

303. *Id.* at 17.

Today, the lack of legal technology requirements in law school curricula is remarkable. The ABA should revisit its standards for law school accreditation and incorporate legal technology into the required curriculum. This would harmonize law school curricula with the duty of technological competence that the ABA has already articulated under the Model Rules.[304] It is strange indeed that the ABA's own mandates are out of sync in this respect. Chief Justice Burger would likely agree: just as "no medical graduate can leave the medical school, hang up a shingle, and immediately begin treating patients or performing surgery" without learning or experiencing the tools of the trade,[305] the same should apply with respect to law graduates.

C. Bar Requirements and Support

The state bars have also done little to emphasize the importance of legal technology. As noted above, only two states—Florida and North Carolina—require their members to maintain some measure of continuing legal education on legal technology.[306] Bar associations need to reflect on the extent to which lawyers should be required to understand legal technologies in various areas, including legal research, contract drafting, legal writing, predictive analytics, cybersecurity, and other technology areas.

Additionally, bar associations and perhaps the ABA should consider implementing governance structures that allow lawyers to readily understand and compare legal technologies. To date, there is no consumer reports style guide available that allows lawyers to objectively compare and contrast various legal technology service providers in the same product category: for example, different providers of TAR eDiscovery, different providers of AI-based predictive tools, or different document drafting tools. Such a guide could provide high-level comparisons of the values and inputs that undergird the technologies' algorithms and methods of producing results[307] and other qualitative and quantitative information. A consumer reports guide could also provide ratings. The ABA rates judges who are nominated to the federal

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304. MODEL RULES OF PRO. CONDUCT r. 1.1 cmt. 8 (AM. BAR ASS'N 2020) ("To maintain the requisite knowledge and skill, a lawyer should keep abreast of changes in the law and its practice, including the benefits and risks associated with relevant technology, engage in continuing study and education and comply with all continuing legal education requirements to which the lawyer is subject.").

305. Burger, *supra* note 187, at 3.

306. *See supra* note 197 and accompanying text.

307. Of course, transparency requirements—particularly with regard to algorithms—would need to be faithful to intellectual property and trade secret concerns.

bench[308] but does not offer a tool that helps lawyers understand the strengths and weaknesses of different legal technology products.

There is also nothing that ensures legal technology products adhere to minimum standards.[309] One would think that an eDiscovery platform should perform at some minimum standard of precision or recall before being sprung on the market. Bar associations, working groups, or legal think tanks could play a role in articulating such minimal standards[310] so that there is at least some measure of oversight and accountability in the legal technology sector. Now, there appears to be none.

Bar associations and other legal organizations will also need to do more to articulate the roles lawyers should play vis-à-vis legal technologies and their vendors. What is the boundary between the unauthorized and authorized practice of law, and what must lawyers be doing to faithfully oversee technology vendors who, in many cases, play critical roles in eDiscovery, cybersecurity safeguards, jury selection guidance, or other roles that are now informed by technical tools? Through hypotheticals and case studies, perhaps the bar could do more to help lawyers navigate this litany of challenges. And in thinking about the unauthorized practice of law, for example, what can the profession do to promote access to justice while also maintaining appropriate safeguards?

Finally, the bar must also grapple with the role technology will play in perpetuating—or perhaps reducing—implicit biases and discrimination through the use of AI-based algorithms. As discussed above, ABA Model Rule 8.4(g) has gained little traction and is not without controversy.[311] It may not be sufficient to proactively identify and address technological bias.

Some of the efforts described above may be beginning to take root. The ABA, in its 2019 resolution on AI ethics, urged courts and lawyers to address issues pertaining to "(1) bias, explainability, and transparency of automated decisions made by AI; (2) ethical and beneficial usage of AI; and (3) controls and oversight of AI and the vendors that provide AI."[312] This portends that some efforts to address these issues may be afoot, but there is still much work to be done.

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308. *See, e.g.*, STANDING COMM. ON THE FED. JUDICIARY, AM. BAR ASS'N, RATINGS OF ARTICLE III AND ARTICLE IV JUDICIAL NOMINEES: 116TH CONGRESS (2020), https://www.am ericanbar.org/content/dam/aba/administrative/government_affairs_office/webratingchart-trum p116.pdf?logActivity=true [https://perma.cc/P25A-U5BF].

309. *See* Kluttz & Mulligan, *supra* note 36, at 889.

310. *Id.* at 885. The Sedona Conference could expand to evaluate emerging technologies more broadly, or this could occur through the ABA. *See id.*

311. *See supra* notes 229–236 and accompanying text.

312. AM. BAR ASS'N, *supra* note 32.

V. A PATH FORWARD: TOWARD A MORE RESILIENT PROFESSION

The reforms suggested above will not be easy. Forced changes in the profession due to COVID-19 may benefit the profession in the long run, encouraging law firms and the profession as a whole to be nimbler and more receptive to emerging technologies going forward.

Resilience, however, is not one of the legal profession's strengths. Despite the legal profession's short-term resilience thus far, lawyers are generally low scoring on resilience.[313] When coupled with their historical resistance to disruptive technologies,[314] lawyers' lack of resilience could stifle meaningful efforts for lawyers and the profession to adapt in the long term. This Part discusses the importance of both individual lawyers' and institutions' abilities to be resilient and provides some suggestions to help ensure lawyers are prepared to emerge from the COVID-19 pandemic in a way that ensures the profession's long-term success.

A. Individual Resilience

Individual lawyers' resilience is vital to the long-term success of the profession because lawyers have historically been resistant to changes in technology and averse to numbers.[315] Many factors account for this resistance, including a lack of understanding of the technology, organizational culture issues, and cost issues.[316] Beyond the individual attitudes of lawyers, corporate culture matters as well: around half of lawyers surveyed in a 2020 Wolters Kluwer survey reported that organizational issues, such as "a culture that fears change[,]" explained why legal departments and law firms resist new technologies.[317] Indeed, corporate cultures and methodologies can entrench behavior over and create "icebergs[,]" which cause business leaders to dismiss innovative efforts or ideas out of hand.[318]

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313. Michael Simon et al., Lola v. Skadden *and the Automation of the Legal Profession*, 20 YALE J.L. & TECH 234, 270 (2018); Larry Richard, *Resilience and Lawyer Negativity*, LAWYER BRAIN BLOG (Sept. 19, 2012), https://www.lawyerbrainblog.com/2012/09/resilience-and-lawyer-negativity/ [http://perma.cc/9T67-E3DU].

314. *See supra* Section IV.A.

315. FUTURE READY LAWYER 2019, *supra* note 135, at 7; McPeak, *supra* note 142, at 471; Nika Kabiri et al., *Quantifying the Quality of Legal Services: Data Science Lessons from Avvo*, *in* DATA-DRIVEN LAW: DATA ANALYTICS AND THE NEW LEGAL SERVICES 153, 154 (Ed Walters ed., 2019).

316. FUTURE READY LAWYER 2019, *supra* note 135, at 7. And, while about 25% of millennials report having a good understanding of transformational technologies, only around 15% of baby boomers and Generation Xers have a good understanding of these technologies. *Id.*

317. FUTURE READY LAWYER 2020, *supra* note 199, at 13.

318. KAREN REIVICH & ANDREW SHATTÉ, THE RESILIENCE FACTOR 289 (2002).

Perhaps reflecting this resistance to technology, lawyers readily admit that the profession is not as prepared for technological changes as it should be.[319] A 2018 survey from Gartner indicated that 81% of legal departments were unprepared for digitalization.[320] In a 2019 Wolters Kluwer survey, only about one-third of lawyers believed their organization was very prepared to keep pace with changes in the legal market.[321] And in a 2019 survey by the ILTA, more than half of firms were not deploying any AI or machine learning technologies.[322] These trends were echoed in a 2020 survey by Wolters Kluwer, which again found that fewer than one-third of respondents were very prepared to address advancing technological changes.[323] Yet more than four-fifths of the industry acknowledge that technology will change how lawyers deliver services, and more than three-fifths understand that big data and predictive analytics will significantly impact the legal industry.[324] Lawyers, therefore, are beginning to appreciate the importance of technological changes to the future of the profession, and this is key because they must accept these changes to benefit from them in the long run.[325]

Embracing the challenges ahead will not be easy since the legal profession tends to be emotionally fragile. It has long been documented that lawyers tend to exhibit tendencies of pessimism, isolation, and perfectionism.[326] These qualities can serve lawyers well as they pay close attention to detail in marshaling facts and legal arguments.[327] However, they serve lawyers less well when they need to bounce back from adversity, look forward, or adapt.[328] Moreover, being overly pessimistic and isolated can also promote depression and other dysfunctions, and it is vital that lawyers develop

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319. *See, e.g.*, Press Release, Gartner, Gartner Says 81 Percent of Legal Departments Are Unprepared for Digitalization (Dec. 12, 2018), https://www.gartner.com/en/newsroom/press-releases/2018-12-12-gartner-says-81-percent-of-legal-departments-are-unprepared-for-digitalization [https://perma.cc/WLJ4-YFX3].

320. *Id.*

321. FUTURE READY LAWYER 2019, *supra* note 135, at 2.

322. INT'L LEGAL TECH. ASS'N, ILTA'S 2019 TECHNOLOGY SURVEY: EXECUTIVE SUMMARY 18 (2019).

323. FUTURE READY LAWYER 2020, *supra* note 199, at 4.

324. *Id.* at 5.

325. *See* MOLITERNO, *supra* note 33, at 217.

326. Link Christin, *Survival Skill No. 1 for Lawyers: Emotional Resilience*, ATT'Y WORK (Feb. 20, 2019), https://www.attorneyatwork.com/survival-skill-no-1-for-lawyers-emotional-resilience/ [https://perma.cc/NC94-H8LH].

327. *See, e.g.*, ANNE BRAFFORD, POSITIVE PROFESSIONALS: CREATING HIGH-PERFORMING, PROFITABLE FIRMS THROUGH THE SCIENCE OF ENGAGEMENT 167 (2017).

328. REIVICH & SHATTÉ, *supra* note 318, at 19.

a sense of optimism and take note of the positive things in their lives, which allows them to be more resilient and bounce back.[329]

Luckily, resilience is a skill that can be taught even to the most pessimistic of lawyers.[330] Resilience is not fixed; lawyers can teach themselves (or be taught) how to be resilient.[331] Several techniques, including cognitive reframing and mindful meditation, positively correlate with resilience and can be learned.[332]

Researchers have also identified three traits that are prevalent in resilient people: "a staunch acceptance of reality; a deep belief, often buttressed by strongly held values, that life is meaningful; and an uncanny ability to improvise."[333] Optimism grounded in reality is an ability to be positive about the future while, at the same time, understanding the possible challenges to come and facing them head on.[334] Understanding the future of legal technology while having a sense of learned optimism is vital to this. The ability to make meaning out of difficult times is particularly pertinent now. Lawyers must be able to find meaning in the midst of a global pandemic, and this partly involves imagining a robust and exciting future for the legal profession after COVID-19 is gone.[335] Part of that future, this Article submits, includes efforts to help lawyers understand and embrace emerging technologies as helpful, but properly scrutinized, tools of the profession. Doing so will allow lawyers to not just meet—but to exceed—client expectations both in the short and long term.[336] The final trait—the ability to improvise—only reinforces that resilience in the wake of COVID-19 will require lawyers not only to learn about the new technological tools but also to

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329. BRAFFORD, *supra* note 327, at 167; David Kopans, *How to Evaluate, Manage, and Strengthen Your Resilience*, HARV. BUS. REV. (June 14, 2016), https://hbr.org/2016/06/how-to-evaluate-manage-and-strengthen-your-resilience [https://perma.cc/TRS3-XT9G].

330. Christin, *supra* note 326.

331. REIVICH & SHATTÉ, *supra* note 318, at 4 ("Resilience is under your control. You *can* teach yourself to be resilient. You can profoundly change how well you handle setbacks, how enthusiastically you approach challenges."); Diane Coutu, *How Resilience Works*, HARV. BUS. REV. (May 2002), https://hbr.org/2002/05/how-resilience-works [https://perma.cc/UJE4-QE5 R].

332. BRAFFORD, *supra* note 327, at 168–72; Daniel Goleman, *Resilience for the Rest of Us*, HARV. BUS. REV. (Apr. 25, 2011), https://hbr.org/2011/04/resilience-for-the-rest-of-us [https://perma.cc/6WPS-A5NF].

333. Coutu, *supra* note 331.

334. *Id.*

335. *Id.* ("Th[e] dynamic of meaning making is, most researchers agree, the way resilient people build bridges from present-day hardships to a fuller, better constructed future.").

336*. See* HEINAN LANDA, THE MODERN LAW FIRM: HOW TO THRIVE IN AN ERA OF RAPID TECHNOLOGICAL CHANGE 58, 85 (2020).

engage in outside-the-box, creative thinking.[337] For example, *intrapreneurship* will ensure an innovative mindset even through a crisis.[338]

Other behaviors within lawyers' control can enhance lawyer resilience. For example, lawyers can proactively connect with others when stressed and develop a giving, rather than taking, mentality.[339] By helping others, lawyers can remain connected and moderate their stress. Additionally, lawyers must maintain a flexible thinking style.[340] By focusing on the aspects of problems over which they have control, influence, or leverage, lawyers can persevere and adapt.[341] To successfully effect change, lawyers must be excited about and hopeful for the future while undertaking tasks that are within their control and grasp.

If lawyers have a hard time feeling a sense of control over technology, they can become more resilient by embracing discomfort as part of the change process.[342] When one, for example, embraces a small dose of discomfort each day (perhaps by using new technologies), research demonstrates that something that may have initially appeared intolerable may eventually become tolerable and possibly even enjoyable.[343]

The ability of lawyers to be resilient in the above respects will likely be improved if legal education teaches them about legal technology. Much has been written about how law schools fail in their duty to prepare students for the practical realities of practice, and attentiveness to emerging technology is no exception.[344] In light of the trends discussed in this Article, law schools likewise have an ethical duty to ensure that their students are prepared to use legal technologies, particularly as demand and acceptance of them

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337. Coutu, *supra* note 331.

338. Tomas Chamorro-Premuzic, *Why You Should Become an "Intrapreneur,"* HARV. BUS. REV. (Mar. 26, 2020), https://hbr.org/2020/03/why-you-should-become-an-intrapreneur [https://perma.cc/ACX7-NZ8J] (defining "intrapreneur" as "an innovative entrepreneur, but within the ecosystem of a larger, more traditional organization"); Jordan Daykin, *Intrapreneurship*, FORBES (Jan. 8, 2019, 11:31 AM), https://www.forbes.com/sites/jordandayki n/2019/01/08/intrapreneurship/#723ee3da4ea3 [https://perma.cc/A2AM-SP8F] ("Utilizing and optimizing existing products while embracing innovation is a key element of lasting growth and profitability.").

339. RANDALL KISER, SOFT SKILLS FOR THE EFFECTIVE LAWYER 93 (2017).

340. *Id.*

341. *See* MICHAEL NEENAN, DEVELOPING RESILIENCE: A COGNITIVE-BEHAVIOURAL APPROACH 20 (2d ed. 2018) ("[T]o allow adaptation to new circumstances, resilient attitudes must be flexible in nature. We must accept that an adversity has occurred, distinguish between what is and isn't within out control to change, and try out different problem-solving methods.").

342. *Id.* at 102–04.

343. *Id.* at 104.

344. *See, e.g.*, ASHLEY, *supra* note 136, at 6–7 (noting that "law firms have long called for law schools to graduate 'practice ready' students" and discussing some possible approaches to teaching law students about process engineering and other topics that will aid their understanding of emerging technology); MOLITERNO, *supra* note 33, at 225.

increases.[345] As briefly noted above, this trend has already begun at certain law schools.[346] But as also noted above, such courses are not even mandated by the ABA's law school accreditation body,[347] and there is no evidence these courses will be required anytime soon. Requiring them, however, will likely produce more resilient law school graduates. Likewise, adopting additional, meaningful CLE training in legal technologies will help lawyers exhibit resilient qualities, as discussed above.

B. Institutional Resilience

Individual lawyers are but one part of the resilience equation. Institutional resilience will be crucial too. Whether lawyers work within law firms, corporations, legal services organizations, or bar association committees, those *institutions* need to be resilient themselves. As the recent *Report of the National Task Force on Lawyer Well-Being* noted, institutional—or structural—resilience may be even more important than individual resilience. This will "require[] leaders to develop organizations and institutions that are resource-enhancing to help give people the wherewithal to realize their full potential" and should be addressed from a "systemic perspective."[348]

While the resilience of individual lawyers can certainly play a role in an institution's resilience, different factors are at play when an entire institution is involved. On the one hand, one could imagine situations where there are several resilient, innovative lawyers in an organization seeking to make the organization more adaptable to changing times, only to be shot down.[349] On the other hand, one could also imagine organizations with an open door for "*intrapraneurs*"—individuals who seek to improve institutions from the inside through experimentation and innovation.[350] Law firms have increasingly promoted resilience and innovation from within, whether in stand-alone projects or as a dedicated "innovations and technology partner."[351] Even within the most rigid cultures, the institutional resilience of an organization can be transformed by identifying others who are exhibiting

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345. Sean Semmler & Zeeve Rose, *Artificial Intelligence: Application Today and Implications Tomorrow*, 16 DUKE L. & TECH. REV. 85, 91 (2017).

346. *See* discussion *supra* Section IV.B.

347. *See supra* note 302 and accompanying text.

348. NAT'L TASK FORCE ON LAW. WELL-BEING, THE PATH TO LAWYER WELL-BEING: PRACTICAL RECOMMENDATIONS FOR POSITIVE CHANGE 52 (2017).

349. REIVITCH & SHATTÉ, *supra* note 318, at 287 (describing corporate culture that is set in its ways, where "[a] methodology is put down years before that may have been adaptive at the time" and that "[t]he trajectory is then set").

350. Bill Henderson, *Can Intrapreneurship Solve the Innovator's Dilemma? Law Firm Examples*, *in* DATA DRIVEN LAW: DATA ANALYTICS AND THE NEW LEGAL SERVICES, *supra* note 315, at 200.

351. *Id.* at 207.

leadership qualities and focusing on the activities that are within those leaders' control.[352]

But the burden is not solely on individual lawyers to create a solid institutional culture of resilience. There are several things law firms and legal organizations can do to ensure their organization is as resilient as possible. For example, an institutional culture that sees lawyers as individuals with unique strengths will help lawyers feel more adaptable than if they felt they were merely cogs in the machine.[353] Similarly, giving lawyers more autonomy and control over their work can foster broader institutional resilience as well.[354] Providing lawyers with this empowerment could also improve their general well-being—and, as a result, their resilience.[355]

The above characteristics of institutional resilience confer several benefits to law firms, companies, and bar associations that are seeking to adjust to the changing needs of the profession. First, institutional resilience is effectively an investment in an insurance policy for the future—one that is not limited to a particular disruptive event and one that creates a culture that could adapt through any major change.[356] Second, resilient organizations will relish the opportunity to proactively identify risks and create strategies to prevent those risks.[357] And third, institutional resilience will improve collaboration amongst and between lawyers, their clients, and legal technology providers.[358] All of these qualities will serve the legal profession's institutions well.

VI. CONCLUSION

At the dawn of the twenty-first century, it was perhaps healthy to have a dose of skepticism about the impact new legal technologies might have on the legal profession. Lawyers' initial resistance to technology was partially justified, then, due to an uncertain future. Now, however, there is no excuse, and the evidence is clear. A long-term technological transformation has been ongoing for more than two decades, and a wide range of disruptive technologies, including those that use machine learning and AI, are helping lawyers perform legal tasks far more efficiently and productively than in the

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352. *See* REIVITCH & SHATTÉ, *supra* note 318, at 290–92.

353. Anne Brafford, *Three Things Law Firms Can Do to Build (and Keep) Resilient Teams*, LAW PRAC. TODAY (Nov. 14, 2016), https://www.lawpracticetoday.org/article/firms-build-resilient-lawyers/ [https://perma.cc/SW8Y-VJW4].

354. *Id.*

355. Cheryl Ann Krause & Jane Chong, *Lawyer Wellbeing as a Crisis of the Profession*, 71 S.C. L. REV. 203, 236, 238 (2019).

356. YOSSI SHEFFI, THE POWER OF RESILIENCE: HOW THE BEST COMPANIES MANAGE THE UNEXPECTED 359–60 (2015).

357. *Id.* at 367.

358. *See id.* at 369.

past. Meanwhile, the COVID-19 pandemic has demonstrated that lawyers can—and do—embrace new technologies when forced to do so.

The critical long-term question is, What will happen once COVID-19 subsides? History indicates that "[t]he American legal profession resists change until the change dictates its own terms with the profession[,]"[359] as has happened with the pandemic. There is therefore a legitimate concern that the profession's current acceptance of technology is but a fleeting moment in time and that the legal profession will regress backward, failing to account and plan for technological disruptions—and other crises—that may befall the profession the future. There are already some suggestions that this will happen.[360]

Any such regression would not be acceptable. The ethical issues implicated by emerging technologies are too significant—and the stakes are too high—to sweep meaningful efforts to reform the profession under the rug. The COVID-19 pandemic must be viewed by the profession as a catalyst toward real and systemic changes in the profession's posture toward technology. As one Forbes contributor put it, "COVID-19 is different."[361] Without legal technology, the profession would have been decimated during this pandemic—but with technology, it lives on.

Long term, the legal profession can do better than simply survive. It can thrive. But to get there, the profession must remain optimistic about its technological future and at the same, accept the reality that technology will continue to disrupt its current state. Once it does so and as lawyers continue to develop a more resilient, long-term posture, the profession can articulate a meaningful vision for the future—one where disruptive technology and its vendors are viewed as integral to the profession, one where the roles of different players in the legal technology ecosystem are clear, and one where access to justice and nondiscrimination play a vital role. This will allow the profession to initiate the critical reforms needed to ensure that lawyers are prepared for the ethical and technological challenges—and opportunities—ahead.

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359. MOLITERNO, *supra* note 33, at 224.

360. *See, e.g.*, Victoria Hudgins, *Resilient or Stubborn? 5 Ways COVID-19 Hasn't Changed Legal Tech*, LEGALTECH NEWS (Jun. 17, 2020), https://www.law.com/legaltechnews /2020/06/17/resilient-or-stubborn-5-ways-covid-19-hasnt-changed-legal-tech/ [https://perma.cc /HAV6-4R7Q] ("From not increasing tech spend to continued deference to time tracking, there's strong indications the profession won't change as much as some expected.").

361. Mark A. Cohen, *COVID-19 and the Reformation of Legal Culture*, FORBES (Apr. 14, 2020, 8:29 AM), https://www.forbes.com/sites/markcohen1/2020/04/14/covid-19-and-the-refor mation-of-legal-culture/#7899162c171d [https://perma.cc/R4YR-8DSK].