

TECHNOLOGICALLY COMPETENT: ETHICAL PRACTICE FOR 21ST CENTURY LAWYERING

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ABSTRACT

The impact of technology and social media on litigation and the infiltration of technology into the U.S. and world markets are undeniable. Currently, ABA Model Rule 1.1 and its Comment include a broad requirement of technological competence for ethical practice. This Article will identify the obligations of technological competence embodied in Model Rule 1.1 and examine the current cases and ethical decisions that reveal the evolving national and state-specific technological competence standards. After reviewing the timeline of cases and current scholarly literature, this Article proposes a more specific ethical standard for baseline knowledge of various technologies according to current practice and use of ever-expanding technologies by today's lawyers. The landscape is constantly changing in the field of legal technologies, and attorneys must follow the new professional norms of technological competence for their ethical practice. Overall, this goal may be achieved by more specific rules or guidelines, CLE requirements, and state ethical mandates or guidance that will create clarity for digital lawyering and boundaries for the ethical practice of law for a digital age. More robust technological guidelines and areas of ethical competence will prepare attorneys to practice law effectively and ethically in the ever-expanding digitized landscape of the 21st century.

Keywords: ABA Model Rules, legal ethics, professional responsibility, technological competence, technology

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INTRODUCTION

“I find the great thing in this world is not so much where we stand, as in what direction we are moving: To reach the port of heaven, we must sail sometimes with the wind and sometimes against it - but we must sail, and not drift, nor lie at anchor.”²

Imagine a time when calling and email were the primary modes of professional communication and digital connectivity. A transition occurred less than twenty years ago at the turn of the millennium with the increased prevalence of the internet. Companies like AOL, Hotmail, Google, and Yahoo drastically altered the practice of law for attorneys and other professionals in the United States.³ Since the late 1990s, the expansion of technologies beyond email have

² Oliver Wendell Holmes, *THE AUTOCRAT OF THE BREAKFAST TABLE*, 93 (1883).

³ See, e.g., Pew Research Center, *Most Working Americans Now Use the Internet or Email at Their Jobs* (Sept. 24, 2008), <http://www.pewinternet.org/2008/09/24/most-working-americans-now-use-the-internet-or-email-at-their-jobs> [<https://perma.cc/236T-4VT4>]. Although email

exponentially grown with technology giants like Facebook, Twitter, Amazon, Microsoft, and proprietary legal online services like LegalZoom.⁴ Today, the practice of law has made a huge transition into other more sophisticated digital realms: 1) encrypted information; 2) cloud computing; 3) virtual law practice; 4) artificial intelligence embedded in research; 5) social media; and 6) electronic discovery and courtroom technologies for a digital age. The ABA and state ethical and procedural rules are still grappling with the expansion of the use of more sophisticated digital communications by lawyers and their clients. Texting has become an accepted business practice in addition to email.⁵ One recent example of the impact of texting in legal practice was illuminated by an Iowa Supreme Court decision.⁶ The attorney in that case ignored thirty-five text messages and five certified letters that required updates on the court case from his clients, and the Court held that the lawyer violated the ethical rules.⁷ The Court concluded that the attorney had not kept his clients reasonably informed about the status of the insurance case and suspended his license to practice law indefinitely as a reasonable sanction for the misconduct.

Technology has an obvious and drastic effect on the practice of law and will continue to expand during the next twenty years. As a result, attorneys should anticipate the use of emerging technologies, such as social media, by his or her clients. The legal profession, though, is notoriously slow to adapt to innovations in the legal practice.⁸ Currently, ABA Model Rule 1.1 and its associated Comment 8 currently include the requirement of technological competence for an ethical practice.⁹ The ABA Comment notes that an ethical practice includes knowledge and understanding of the risks and benefits associated with certain relevant technologies, but it does not specify the available technologies used for today's

officially infiltrated the business market in the late 1990s, it took the legal profession over a decade to create new rules to encourage boundaries and professionalism within the practice of law; see also Brenda R. Sharton & Gregory J. Lyons, *The Risks of E-Mail Communication: A Guide to Protecting Privileged Electronic Communications*, 17 BUS L. TODAY 1 (Sept./Oct. 2007).

⁴ See Garrit De Vynck, *LegalZoom Gains \$2 Billion Valuation in Funding Round*, BLOOMBERG NEWS (July 31, 2018), <https://www.bloomberg.com/news/articles/2018-07-31/legalzoom-gains-2-billion-valuation-in-latest-funding-round>.

⁵ See, e.g., David L. Hudson, Jr., *Can Lawyers Text Potential Clients?* ABA Journal (Dec. 2017) http://www.abajournal.com/magazine/article/can_lawyers_text_potential_clients [<https://perma.cc/4L9P-9V9Q>].

⁶ Iowa Sup. Ct. Att'y Disciplinary Bd. v. Humphrey, 812 N.W.2d 659 (Iowa 2012).

⁷ *Id.* at 662-663.

⁸ See, e.g., Mark A. Cohen, *Lawyers and Technology: Frenemies or Collaborators?*, FORBES (Jan. 15, 2018), <https://www.forbes.com/sites/markcohen1/2018/01/15/lawyers-and-technology-frenemies-or-collaborators/#1e2a1e2f22f1> [<https://perma.cc/A52U-6ZFT>]; See also Richard Susskind, *Forward to Nicole Black*, CLOUD COMPUTING FOR LAWYERS, xi (2012).

⁹ MODEL RULES OF PROF'L CONDUCT, r. 1.1 cmt. 8 (AM. BAR ASS'N 1983).

legal practice.¹⁰ The impact of technology and social media on litigation and infiltration into our domestic and world markets are undeniable.¹¹ Moreover, areas of technological competence for lawyers have expanded to the ethical use of technology, e-filing, social media, prominent web presence and virtual lawyering, cloud computing, courtroom technologies, e-discovery, and more.¹² Best practices for lawyering in an era of social media, for example, include informing clients about responsible use of social media during representation and developing firm-wide social media policies.¹³

This paper will identify the obligations of technological competence embodied in Model Rule 1.1 and examine the current case law and ethical decisions that reveal the evolving national and state-specific standards for attorneys' technological competence. After reviewing the timeline of cases and current literature, the paper will propose a more uniform and specific ethical standard for baseline knowledge of various technologies according to current practice and use of ever-expanding technologies by today's lawyers. The landscape is constantly changing in the field of legal technologies, and attorneys must follow the new professional norms of technological competence for their ethical practice. A narrower scope for the national rule and its cogent implementation may be achieved by more detailed or rigorous rules, ABA guidance documents, CLE requirements,

¹⁰ *Id.*

¹¹ I commonly conduct a search of federal and state cases mentioning social media prior to teaching my Law and Technology in Practice seminar (including the common terms of "twitter" or "facebook" or "LinkedIn" or "social media" in Westlaw's Federal and State cases database). In 2014, there were 699 federal reported cases and 486 state reported cases that mentioned social media. In January 2018, there were 1,756 federal cases and 1,393 state cases (not to mention the unreported cases). Thus, the impact and mention of social media in the context of litigation has tripled in a span of four years and continues to increase at a rapid rate. A search for the term "social media" presently reveals 4,738 federal cases and 3,201 state cases. Search Results for Term "Social Media," WESTLAW, <http://www.westlaw.com> (last visited Jan. 21, 2019).

¹² See, e.g., Lois D. Mermelstein, *Keeping Current: Ethics Update: Lawyers Must Keep Up with Technology Too*, 2013-MAR BUS. L. TODAY 1; Stephen Farley, *ABA Survey Says Lawyers Getting Clients via Social Media*, NAT'L L. J. (Aug. 29, 2013), <https://www.natlawreview.com/article/aba-survey-says-lawyers-getting-clients-social-media> [<https://perma.cc/T8ZV-GPMG>]; John G. Browning, *Facing up to Facebook—Ethical Issues with Lawyers' Use of Social Media*, BLOOMBERG LAW: INSIGHTS (Aug. 5, 2014, 12:00 AM), <https://news.bloomberglaw.com/us-law-week/facing-up-to-facebookethical-issues-with-lawyers-use-of-social-media> [<https://perma.cc/8KTJ-6LLA>].

¹³ See, e.g., Ian Urbina, *Social Media: A Trove of Clues and Confessions*, N.Y. TIMES (Feb. 15, 2014), <https://www.nytimes.com/2014/02/16/sunday-review/social-media-a-trove-of-clues-and-confessions.html> [<https://perma.cc/GAH9-Z98B>]; Josh Gilliland, *iWitness: The Admissibility of Social Media Evidence*, 39 LITIGATION 20 (2013).

or state ethical mandates, which will create clarity for digital lawyering and boundaries for the ethical practice of law for a digital age.¹⁴

I. BACKGROUND OF ABA MODEL RULE 1.1 AND DEVELOPMENT OF THE
TECHNOLOGICAL COMPETENCY STANDARD

The American Bar Association's Model Rules of Professional Conduct, especially Rule 1.1 and 1.6, provide some general guidance for attorneys and the need for technological competence.¹⁵ However, these broadly written rules do not provide much specificity regarding what those areas of technological competence should be in practice. The recent 2017 ABA Formal Opinion 477R, though, does provide some hints for typical technological issues that arise with modern-day lawyering and some formal guidance for general areas of technological competency, in conjunction with the ethical standards embodied in Rule 1.1. From paper to digital documents in e-discovery, to cloud computing implications for data storage, hacking, encryption, and data loss, a majority of today's attorneys seem ill-prepared to confront and to utilize all of the technological tools at their disposal, or navigate social media while practicing law.¹⁶ The technological competency standard is meant to address lawyering in a digital age, but the current interpretations to the ethical rules do not clearly articulate the particular technologies within the standard or guidance documents. Further, scholars and judges are still grappling with a functional definition for what would constitute competent representation within the era of this widely expanding digital age for attorneys. In the arena of e-discovery, for example, the law of discoverable computerized data is clearly settled and evidence is discoverable if relevant.¹⁷ However, the ethical norms are still murky in a few areas, including the emerging

¹⁴ See, e.g., Bob Ambrogio, *North Carolina Becomes Second State to Mandate Technology Training for Lawyers* (Dec. 5, 2018), <https://www.lawsitesblog.com/2018/12/north-carolina-becomes-second-state-mandate-technology-training-lawyers.html> [<https://perma.cc/A9CD-A8LQ>].

¹⁵ See, e.g., MODEL RULES OF PROF'L CONDUCT r. 1.1 cmt. 8 and r. 1.6 cmt. 18 (AM. BAR ASS'N 1983).

¹⁶ See, e.g., Am. Bar Ass'n, *Courting Disaster: Being Unprepared for Cyberattacks Can Prove Costly* (Aug. 6, 2018), https://www.americanbar.org/news/abanews/aba-news-archives/2018/08/courting_disaster/ [<https://perma.cc/4HMA-9ZTC>].

¹⁷ See, e.g., *From Paper to Digital Documents, Judge Andrew Peck Traveled (and Set) the Discovery Trail*, A.B.A. J.: LEGAL REBELS (May 16, 2018), <https://legaltalknetwork.com/podcasts/aba-journal-legal-rebels/2018/05/from-paper-to-digital-documents-judge-andrew-peck-traveled-and-set-the-discovery-trail> [<https://perma.cc/5NY9-G287>].

e-discovery world of predictive coding, knowledge of encryption by attorneys, and understanding of artificial intelligence.¹⁸

A. *Substance of the Ethical Norms: Rule 1.1 and Rule 1.6*

Attorneys have a longstanding duty to perform with adequate competency when representing clients according to both the law of torts and the professional responsibility norms.¹⁹ ABA Model Rule 1.1 requires attorneys to have a certain level of competency or “legal knowledge...reasonably necessary for the representation” and the rule extends to several areas of more specific competence.²⁰ The technology amendments to Rule 1.1 now impose a greater duty for technological competency when the primary means of communicating with clients and exchanging documents in this digital age of practice is electronic and many legal services are now delivered electronically.²¹ Thirty-one states currently require attorneys to understand the risks and benefits of technology to align with Model Rule 1.1 and the technology competence standard of Comment 6.²² The ABA Comment to Rule 1.1 specifically notes that an ethical practice today encompasses knowledge and understanding of the associated risks and benefits of certain technologies.²³ Lawyers in sophisticated practices have relied heavily on electronic communications, but reports like the Kia Technology Audit by Casey Flaherty highlight the increasingly deficient technological skills of attorneys in practice.²⁴

¹⁸ See, e.g., *Da Silva Moore v. Publicis Groupe*, 868 F.Supp.2d 137 (S.D.N.Y. 2012); Andrew Peck, *Search, Forward*, LEGALTECH NEWS (Oct. 1, 2011, 12:00 AM), <https://www.law.com/legaltechnews/almID/1202516530534/Search-Forward> [<https://perma.cc/QS2U-SJP8>].

¹⁹ See, e.g., *Kissam v. Bremerman*, 61 N.Y.S. 75, 77 (App. Div. 1899) (stating that a lawyer is responsible to a client for mistakes that lack “diligence commonly possessed and exercised by legal practitioners of ordinary skill and capacity”).

²⁰ MODEL RULES OF PROF’L CONDUCT r. 1.1 (AM. BAR ASS’N 1983).

²¹ See, e.g., ABA Comm’n on Ethics 20/20 Resolution (Sept. 19, 2011).

²² See, e.g., Robert Ambrogi, *31 States Have Adopted Ethical Duty of Technology Competence*, LAWSITES (Mar. 16, 2017), <https://www.lawsitesblog.com/2015/03/11-states-have-adopted-ethical-duty-of-technology-competence.html/> [<https://perma.cc/PR69-LRAJ>]; see also Ivy Grey, *Exploring the Ethical Duty of Technology Competence, Part I, Tech Savvy Is a Requirement, Not an Option*, LAW TECH. TODAY (Mar. 8, 2017), <https://www.lawtechnologytoday.org/2017/03/technology-competence-part-i/> [<https://perma.cc/7T29-ZJ83>]; See also ABA Comm’n on Ethics 20/20 (2012).

²³ See MODEL RULES OF PROF’L CONDUCT r. 1.1 cmt. 8 and r. 1.6 cmt. 18 (AM. BAR ASS’N 1983).

²⁴ See D. Casey Flaherty, *The New Normal: Could You Pass This In-House Counsel’s Tech Test? If the Answer is No, You May Be Losing Business*, A.B.A. J. LEGAL REBELS TECH TOOLBOX (July 17, 2013), http://www.abajournal.com/legalrebels/article/could_you_pass_this_in-house_counsels_tech_test/ [<https://perma.cc/64AP-P6V8>]; see also, D. Casey Flaherty, *Tech Toolbox — Taming Technology*, 32 ACC DOCKET 96, 96 (2014) (describing the audit and his aim of increasing technological competence to reduce wasted time billed).

The ABA drafted and adopted Model Rule 1.1 in 1983 as an aspiration to “[assure] the highest standards of professional competence and ethical conduct.”²⁵ The ABA Model Rules require attorneys to both know the ethical rules and also take reasonable steps within their practice to comply with the rules.²⁶ Often, Model Rule 1.6, which requires lawyers to safeguard confidential client information, now increasingly works in tandem with Model Rule 1.1 duties of competence in a digital era.²⁷ The Comment to Model Rule 1.6 states that attorneys must “act competently to safeguard information relating to the representation of a client against unauthorized access by third parties” throughout the stages of client representation.²⁸ A majority of states in the United States, which currently includes 46 states, now requires compliance with the Mandatory Continuing Legal Education (MCLE) to maintain licensure and the importance of technology is now stressed as an area of emphasis for CLE programming.²⁹ Current trends in law practice management and CLE programming have shifted substantially based on the explosion of digital information and available electronic storage formats in practice today and for overall technological competence.

In 1999, the ABA gave the first formal advisory opinion about protecting the confidentiality of unencrypted email. After various state ethics opinions were divided on the issue, the ABA formal decision gave clarity to the acceptable and prevalent attorney use of electronic communications, including encrypted and unencrypted email with clients and other parties during the practice of law.³⁰ The Committee analyzed the Model Rules of Professional Conduct’s duty of confidentiality in Rule 1.6 to examine the lawyer’s duties to prevent unauthorized disclosure in electronic communications and then also alluded to duties of competency when learning and understanding new electronic modes of communication encompassed in Rule 1.1.³¹ The ABA Committee concluded, unlike some prior ethics decisions, that e-mail communications pose no greater risks than other traditional modes of communication, such as phone, fax, or commercial mail, and thus there would be nothing more than a “reasonable

²⁵ See MODEL RULES OF PROF’L CONDUCT Preface (AM. BAR ASS’N 1983).

²⁶ MODEL RULES OF PROF’L CONDUCT Preamble (AM. BAR ASS’N 1983).

²⁷ MODEL RULES OF PROF’L CONDUCT r. 1.6 (AM. BAR ASS’N 1983).

²⁸ *Id.* at cmt. 18; See also Colo. Bar Ass’n Ethics Comm’n, Formal Op. 119 (2008) (stating that a lawyer must use “reasonable care” to ensure that hidden digital metadata that contains confidential client information is not disclosed to other parties).

²⁹ Links to each jurisdiction’s mandatory CLE rules are available at MCLE Information by Jurisdiction, AM. BAR. ASS’N (2018), http://www.americanbar.org/cle/mandatory_cle/mcle_states.html.

³⁰ See ABA Comm’n on Prof’l Ethics & Prof’l Responsibility, Formal Op. 99-413 (1999).

³¹ *Id.*

expectation of privacy” according to the professional rules during business email communications.³² As a result, the ethics decision also noted that attorneys would not have a duty to obtain direct client consent before sending email communications.³³ However, the opinion did state that lawyers should be obligated to analyze the sensitivity of the client information, the cost(s) of disclosure, and the relative security of the electronic form of communication.³⁴ If great risk(s) of interception are involved when sending the electronic communication, then the Committee aptly noted that lawyers should consult with their client with highly sensitive information and analyze possible risk of disclosure during electronic communications.³⁵ Attorneys must ultimately decide whether other security measures or another mode of transmission would be more prudent to prevent the susceptibility of interception for confidential communications.³⁶ The attorney should then follow any client instruction about the preferred mode of communications for any highly sensitive or confidential information during the course of representation.³⁷

In 2012, the ABA again gave advisement on technology to attorneys through Formal Opinion 477R and extended and commented on the scope of technological competency.³⁸ This formal opinion modernized the ethical duties for lawyers and included basic attorney competencies for protection of data with multiple storage devices, including cloud computing and alternate storage locations, and acknowledged the technological competence and duties for cybersecurity.³⁹ In the cybersecurity realm, lawyers should understand the threats and risks associated with cyber intrusion, investigate how client confidential information is transmitted and understand where it is stored, use reasonable electronic security measures, determine how electronic communications about client matters should be protected during representation, and provide appropriate labeling for confidential client information.⁴⁰ Millennials, a group who represent a fast-growing percentage of legal services clientele in the 21st Century, have grown up with email, social media, and a wide array of technological tools that are viewed

³² *Id.*

³³ *Id.*

³⁴ *Id.*

³⁵ *Id.*

³⁶ *Id.*

³⁷ *See, e.g.*, MODEL RULES OF PROF'L CONDUCT r. 1.2 (AM. BAR ASS'N 1983).

³⁸ *See* ABA Comm'n on Prof'l Ethics & Prof'l Responsibility, Formal Op. 477R (2017).

³⁹ *Id.*

⁴⁰ *Id.*

as empowering business and development.⁴¹ Attorneys must diligently analyze the electronic communications for each client and each case on a case-by-case basis and determine whether each piece of information requires heightened security measures or possibly encryption and then must take “reasonable efforts” to prevent interception.⁴²

According to the ABA Handbook on Cybersecurity and Comment 18 to Model Rule 1.6(c), the factors that will help guide lawyers when determining “reasonable efforts” to protect digital client information include: the sensitivity of the information; the likelihood of disclosure if additional safeguards are not employed; the cost of employing additional safeguards; the difficulty of implementing the safeguards; and the extent to which the safeguards adversely affect the lawyer’s ability to represent clients.⁴³ The ABA makes clear in its formal opinion that inadvertent disclosures will not be sanctioned under Rules 1.1 and 1.6, but lawyers regardless have a duty to take reasonable precautions based on the use and type of information involved even if those precautions may not guarantee the protection of confidential information in all circumstances.⁴⁴ At the beginning of client representation, attorneys should discuss the various options and levels of security for protecting client information and storage options for electronic communications.⁴⁵ If some client information is sensitive or laws and regulations require heightened security, then the lawyers should encrypt information or use a very secure cloud-based or internet-based storage system.⁴⁶ Some state ethics opinions have explored instances when e-mail communications should be given special security or encryption to ensure confidentiality of client information.⁴⁷ For

⁴¹ See Deloitte, *2018 Deloitte Millennial Survey: Millennials disappointed in business, unprepared for Industry 4.0*, DELOITTE (2018), <https://www2.deloitte.com/global/en/pages/about-deloitte/articles/millennialsurvey.html> [<https://perma.cc/EAY3-9XEW>]; see also Ethics Resource Center, *Millennials, Gen X and Baby Boomers: Who’s Working at Your Company and What Do They Think About Ethics*, NAT’L BUS. ETHICS SURVEY (2009), http://observgo.quebec.ca/observgo/fichiers/53123_DAEPI%202.pdf [<https://perma.cc/KTS3-4GXH>].

⁴² Shari Claire Lewis & Avigael C. Fyman, *ABA Issues New Guidance on Confidentiality and the Use of Technology*, RIVKIN RADLER ATTORNEYS AT LAW: PUBLICATIONS (May 17, 2017), <https://www.rivkinradler.com/publications/aba-issues-new-guidance-confidentiality-use-technology/> [<https://perma.cc/NM6S-ZLZE>].

⁴³ Jill D. Rhodes and Vincent I. Polley, *THE ABA CYBERSECURITY HANDBOOK: A RESOURCE FOR ATTORNEYS, LAW FIRMS, AND BUSINESS PROFESSIONALS 7* (2013); see also Richard Susskind & Daniel Susskind, *THE FUTURE OF THE PROFESSIONS: HOW TECHNOLOGY WILL TRANSFORM THE WORK OF HUMAN EXPERTS* (Oxford Univ. Press 2015).

⁴⁴ See ABA Standing Comm’n on Ethics and Prof’l Responsibility, Formal Op. 477R (2017).

⁴⁵ *Id.* at 7.

⁴⁶ *Id.*

⁴⁷ *Id.*

example, the Texas Professional Ethics Commission identified six situations when an attorney should evaluate whether to add security precautions or encrypt data:

1. Communicating highly sensitive or confidential information via email or unencrypted email connections;
2. Sending an email to or from an account that the email sender or recipient shares with others;
3. Sending an email to a client when it is possible that a third person (such as a spouse in a divorce case) knows the password to the email account, or to an individual client at that client's work email account, especially if the email relates to a client's employment dispute with his employer;
4. Sending an email from a public computer or a borrowed computer or where the lawyer knows that the emails the lawyer sends are being read on a public or borrowed computer or on an unsecure network;
5. Sending an email if the lawyer knows that the email recipient is accessing the email on devices that are potentially accessible to third persons or are not protected by a password; or
6. Sending an email if the lawyer is concerned that the NSA or other law enforcement agency may read the lawyer's email communication, with or without a warrant.⁴⁸

ABA Formal Opinion 477R also highlights that attorneys have numerous ways to protect their client information, including secure Wi-Fi, password protection, use of a Virtual Private Network, encryption, another type of secure internet portal, implementing firewalls and Anti-Malware or Anti-Spyware/Antivirus on all devices, or use of secure cloud storage arrangements.⁴⁹

⁴⁸ See Prof'l Ethics Comm'n for the State Bar of Tex., Op. 648 (2015), <https://www.legalethictexas.com/Ethics-Resources/Opinions/Opinion-648.aspx> [<https://perma.cc/HGZ3-APAQ>].

⁴⁹ See ABA Standing Comm'n on Ethics and Prof'l Responsibility, Formal Op. 477R at 6 (2017); see also Nicole Black, *The Ethics of Cloud Computing for Lawyers*, A.B.A. (June 28, 2017), https://www.americanbar.org/groups/gpsolo/publications/gpsolo_ereport/2012/september_2012/ethics_cloud_computing_lawyers/ [<https://perma.cc/74S6-XP66>], and *Metadata Ethics Opinions Around the U.S.*, A.B.A. (Oct. 17, 2017), https://www.americanbar.org/groups/departments_offices/legal_technology_resources/resources/harts_fyis/metadatachart/ [<https://perma.cc/T5G9-KD6A>], and *Tech Overviews & Charts*, A.B.A. (Mar. 13, 2018) https://www.americanbar.org/groups/departments_offices/legal_technology_resources/resources/harts_fyis/ [<https://perma.cc/8NSJ-CCYZ>].

The ABA also determined in Formal Opinion 466 that attorneys may review a juror's or potential juror's Internet presence, including Internet-based social media sites and other websites that are publicly accessible.⁵⁰ Overall, the landscape for ethical lawyering in an altered technological age has impacted daily practice, and lawyers must adapt.⁵¹ The even more novel use of artificial intelligence within the practice of law, blockchain and cryptocurrency in the technology industry, and now service of process via Twitter, are all recent events that highlight the need for continued progress when applying the ethical rules in an ever-changing landscape and highly-sophisticated technological age of legal practice and case management.⁵²

B. Scholarly Literature and Commentary: Law and Technology Trends

*"In civilized life, law floats in a sea of ethics..."*⁵³

Scholars continue to react to the need for more technological training for attorneys, and this section of the article will review those scholarly efforts to monitor and provide commentary for the infiltration of technologies in the legal practice today. The American Bar Association and state bar associations continue to grapple with the necessity for CLE programming in this new era of exploding legal technology and, further, scholars are similarly striving to keep up with recent

⁵⁰ See ABA Standing Comm'n on Ethics and Prof'l Responsibility, Formal Op. 466 (2014).

⁵¹ See, e.g., CLE Seminar Outline, Veronica Root, Associate Professor, Notre Dame Law School, Cloud Computing and Ethical Obligations of Lawyers (Feb. 13, 2015), https://webcache.googleusercontent.com/search?q=cache:ECO5mgP09_UJ:https://www.americanbar.org/content/dam/aba/administrative/litigation/materials/2015_corporate_counselcleseminar/Materials/8b_1_cloud_computing_ethical_obligations.authcheckdam.pdf+&cd=1&hl=en&ct=clnk&gl=us [https://perma.cc/NSX3-MQE2], and Joan Rogers, Ethics 20/20 Rule Changes Approved by ABA Delegates With Little Opposition, Bloomberg (Aug. 15, 2012), <https://www.bna.com/ethics-2020-rule-n12884911245/> [https://perma.cc/ZP9H-U3SL].

⁵² See, e.g., Angela Morris, *Chain Reaction: BigLaw Firms are Working Together with the Goal of Influencing how Blockchain Technology and Smart Contracts Will Operate in the Future*, A.B.A. J. (Aug. 2018),

http://www.abajournal.com/magazine/article/biglaw_cryptocurrency_blockchain_smart_contracts/ [https://perma.cc/2L6Z-R9UY]; Debra Cassens Weiss, *DNC lawsuit against WikiLeaks served via Twitter*, A.B.A. J. (Aug. 14, 2018), http://www.abajournal.com/news/article/dnc_lawsuit_against_wikileaks_served_via_twitter_after_federal_judge_all/?utm_source=maestro&utm_medium=email&utm_campaign=tech_monthly [https://perma.cc/9U8Y-A6MT].

⁵³ Chief Justice Earl Warren, *quoted in* Fred J. Cook, *The Corrupt Society*, THE NATION, at 453 (1-8 June, 1963), *reprinted in* Fred R. Shapiro, THE OXFORD DICTIONARY OF AMERICAN LEGAL QUOTATIONS, at 132 (Oxford Univ. Press 1993).

trends.⁵⁴ Such CLE programming has been focused on the ethical rules for electronic communication, e-discovery, cloud computing, and ethical use of social media within the practice of law.⁵⁵ Lawyers have not typically been at the forefront of technological advances, and have been slow to adopt changes in their delivery of legal services.⁵⁶ In addition, the growth of millennials in the workforce and as lawyers who are delivering legal services has illuminated the need for more advanced legal ethics training.⁵⁷ In an era when social media use is prevalent, attorneys must be increasingly conscientious about the associated risks and benefits of technology and understand the ramifications of using social media, posting comments, or tracking client comments.⁵⁸ Law firms and lawyers are more actively involved in social media than ever, and many ethical duties are implicated by the use or nonuse of social media.⁵⁹ Educating lawyers on the risks and benefits associated with using social media during the course of client representation is essential.⁶⁰ Attorneys also need to be cognizant of the lack of uniformity in the

⁵⁴ See, e.g., Technology CLE Programs, N.Y. State Bar Ass'n, Technology and the L. (Mar. 13-14, 2018), <http://www.nysba.org/March2018TechCLE/> [<https://perma.cc/3RLS-8SSR>]; see also A.B.A. Techshow 2018, L. Technology Today, Bringing Law. and Technology Together (Jan. 18, 2018), <https://www.lawtechnologytoday.org/2018/01/aba-techshow-2018/> [<https://perma.cc/2FE5-BES9>].

⁵⁵ See, e.g., Jack Seward, *Ethical Dilemmas Arising from Electronically Stored Information*, 26 AM. BANKR. INST. J. 54 (June 2007) (revealing that ESI directly impacts the bankruptcy practitioners evidentiary gathering and digital forensic analysis is an active player in identification of debtor's recorded financial information); Ralph C. Losey, *Lawyers Behaving Badly: Understanding Unprofessional Conduct in E-Discovery*, 60 MERCER L. REV. 983 (Spring 2009) (citing that negligence is a big factor in e-discovery and ethical misconduct and lawyers are not keeping current with recent developments in technology); Margaret M. DiBianca, *Ethical Risks Arising From Lawyers' Use of (And Refusal To Use) Social Media*, 12 DEL. L. REV. 179 (2011).
⁵⁶ See, e.g., Mark Britton, *Behind Stables and Saloons: The Legal Profession's Race to the Back of the Technological Pack*, 90 FLA. B.J. 34 (Jan. 2016) (identifying that lawyers have always fallen behind with adoption of new technologies, even the telephone at the turn of the century, and now States have been slow to adopt Comment 8 of ABA Rule 1.1's technological competencies which perpetuates lawyers' technology lag behind their clients).

⁵⁷ See, e.g., Helia Garrido Hull, *Legal Ethics for the Millennials: Avoiding the Compromise of Integrity*, 80 UMKC L. REV. 271 (Winter 2011) (stating that every State Bar has mechanisms for enforcing the rules of professionalism and that more proactive CLR education and law school education should be occurring to prepare students for an ethical practice).

⁵⁸ John G. Browning, *Keep Your "Friends" Close and Your Enemies Closer: Walking the Ethical Tightrope in the Use of Social Media*, 3 ST. MARY'S J. LEGAL MAL. & ETHICS 204 (2013) (revealing the ethical duties and dilemmas of posting on social media).

⁵⁹ Margaret M. DiBianca, *Ethical Risks Arising From Lawyers' Use of (and Refusal to Use) Social Media*, 12 DEL. L. REV. 179 (2011) (highlighting the ethical duties of competence, diligence, preservation of evidence, duty to supervise, and risks associated with social media participation when using social media while practicing law).

⁶⁰ See Angela O'Brien, *Are Attorneys and Judges One Tweet, Blog or Friend Request Away From Facing a Disciplinary Committee?*, 11 LOY. J. PUB. INT. L. 511 (Spring 2010) (revealing that CLE

judiciary's use of social media. Certain jurisdictions, such as Florida, have a more restrictive approach or outright ban the use of social media sites to avoid the appearance of impropriety among judges.⁶¹

E-discovery tools are also at the forefront of discussion when debating ethical lawyering in a digital age because the vast majority of information exchanged between parties is often stored, created, or edited electronically.⁶² After the revision of the Federal Rules of Civil Procedure in 2006 to include e-discovery and various state rules of procedure adopting e-discovery methods, attorneys must have knowledge of the e-discovery management process and understand ways to minimize cost with technological innovations.⁶³ The current Federal rules and many applicable State rules for e-discovery limit the amount of ESI ("Electronically Stored Information") that is discoverable.⁶⁴ Federal courts have applied an undue burden and proportionality test when deciding whether it is reasonable to obtain ESI according to a cost/benefit analysis, the parties' resources, the importance of the issues at stake and relevance of ESI, and the importance of the discovery.⁶⁵ Many states have followed the proportionality analysis, but the lack of technological competence of attorneys during the e-discovery process in recent years has affected the overall discovery process for cases and instances of sanctions, lack of preservation of evidence, and negligence cases abound in the e-discovery realm.⁶⁶ The annual Sedona Conference on e-discovery has been a comprehensive continuing legal education program to attempt to rectify the gaps of knowledge for practicing attorneys who confront e-discovery issues regularly.⁶⁷ ESI issues are

programming and education about the technological competencies for social media use could decrease the number of ethical violations in the future).

⁶¹ *Id.* at 536-538.

⁶² *See, e.g.*, Robert H. Thornburg, *Electronic Discovery in Florida*, 80 FLA B. J. 34 (Oct. 2006) (stating that most business documents, which are over 90 percent digitized, are created electronically and stored electronically).

⁶³ *See* Margaret Rowell Good, *Loyalty to the Process: Advocacy and Ethics in the Age of E-Discovery*, 86 FLA. B. J. 96 (June 2012) (stating that e-discovery knowledge is permeating every practice area and requires technological competence or sanctions or negligent behavior by lawyers will result from ignorance during the course of representation).

⁶⁴ *Id.*

⁶⁵ *Id.* at 97.

⁶⁶ *Id.*; *see also* Ralph C. Losey, *Lawyers Behaving Badly: Understanding Unprofessional Conduct in E-Discovery*, 60 MERCER L. REV. 983 (Spring 2009) (revealing four fundamental forces at play for e-discovery negligence, including general lack of technological sophistication, over-zealous attorney conduct during discovery; a lack of professional development duties; and overall legal incompetence).

⁶⁷ *See, e.g.*, The Sedona Conference, 12th Annual Sedona Conference Institute Program on eDiscovery, <https://thesedonaconference.org/node/2035>.

affecting all areas of practice with the explosion of digitized information and modes of encryption available to secure data.⁶⁸

Another area of technological competence commentary is understanding of cloud computing for lawyers and the general prevention of interception of confidential electronic data during the course of legal practice and representation of myriad clients.⁶⁹ Many law firms have recently been the targets of data breaches, and over 80 percent of large law firms have experienced some kind of data security incident in the past five years.⁷⁰ After adopting cloud computing services, attorneys need to also understand how to use those services with the mammoth amount of client confidential information that might be stored therein and also must safeguard client files by using enhanced security measures or reasonably protect data in the cloud.⁷¹ Many attorneys appear to have gaps in knowledge with metadata scrubbing and associated e-discovery rules, state data security laws, and the general ethical rules and specific guidance provided by ABA Rules 1.1 and 1.6.⁷² Adequate training on security in an age of hacking and interception of data and cloud computing is necessary for the modern era of legal services.⁷³ The ABA Ethics 20/20 Commission recommendations for technology need to be more fully adopted at the State level to provide meaningful incentives for attorneys to learn various cloud computing technologies in addition to the Comment 8 guidelines for practicing in a digital era.⁷⁴ In response to the ABA guidance, some states are beginning to more concretely define core areas of technological competence with some specificity, such as data storage and cybersecurity, and acknowledge that attorneys must understand the risks and benefits associated with such technologies.⁷⁵ Overall, the scholarly and State bar association commentary clearly acknowledges that lawyers have to understand technology related to their practice

⁶⁸ See Peter J. Biging and Jason Ederer, *Legal Malpractice at a Crossroads: Managing the Looming Threats Facing Attorneys and LPL Professionals from the Explosive Growth of ESI and Social Media*, 46 SPG Brief 38 (2017).

⁶⁹ See Stacey Blaustein, Melinda L. McLellan, and James A. Sherer, *Digital Direction for the Analog Attorney—Data Protection, E-Discovery, and the Ethics of Technological Competence in Today's World of Tomorrow*, 22 RICH. J. L. & TECH. 10 (May 2016) (revealing that broad technological knowledge is now an expectation for the ethical practice of law and for competent client representation).

⁷⁰ *Id.*

⁷¹ *Id.*

⁷² *Id.*

⁷³ See Biging and Ederer, *supra* note 68.

⁷⁴ See Andrew L. Askew, *IEthics: How Cloud Computing Has Impacted the Rules of Professional Conduct*, 88 N.D. L. REV. 453 (2012) (revealing the limited State responses to cloud computing and a cloud-based legal practice and the unique ethical issues for cloud computing).

⁷⁵ See, e.g., Blake Klinkner, *Technological Savvy and the Attorney's Ethical Duty of Competency*, 40 WYO. LAW. 54 (June 2017).

area if they are to competently and ethically practice law.⁷⁶ These include basic technologies, such as spreadsheets and word processing and conversion of files to .pdfs, as well as more advanced technologies like scrubbing metadata, cloud storage, e-discovery, and peer to peer networks.⁷⁷

II. WHERE ARE WE NOW (1997-2018): EVOLUTION OF STATE CASES AND ETHICS DECISIONS

A. *Typology of Cases and Ethical Decisions*

As scholars have noted from various reviews of the landscape and changes in technology use by lawyers, the ethical standards for technological competency are now morphing from email safeguards to data security plus interception and other implications of social media, cloud computing, and even artificial intelligence tools for e-discovery.⁷⁸ The types of technology competence that have recently come to the forefront of ethics training based on ABA formal opinions and court cases include:

- ✓ Safeguards against intercepting data and cybersecurity
- ✓ Metadata and encryption
- ✓ E-discovery
- ✓ Social media
- ✓ Juries and instruction on use of technologies
- ✓ Cloud computing
- ✓ Wi-Fi security

The following section of the paper will analyze the State and ethics decisions that focus on the duties of competency (Rule 1.1) and maintaining client confidentiality (Rule 1.6) and provide guidance for technological competency of attorneys through case law examples for ethical (and unethical) practice in a technological age of lawyering.

⁷⁶ See Mark D. Killian, *Vision 2016: Board Considers Enhanced Technology CLE Component*, Florida Bar News (June 15, 2015); Cort Jensen, *The Minimum Tech Stuff Attorneys Need to Know*, 36 MONT. LAW. 18 (Nov. 2010).

⁷⁷ *Id.*

⁷⁸ See, e.g., Stacey Blaustein, Melinda L. McLellan, & James A. Sherer, *Digital Direction for the Analog Attorney—Data Protection, E-Discovery, and the Ethics of Technological Competence in Today's World of Tomorrow*, 22 RICH. J. L. & TECH. 10 (2016); see also Biging & Ederer, *supra* note 68.

*B. National Summary of State Cases*⁷⁹

There are quite a few State cases that illuminate technological competency for attorneys, even though these cases are in their infancy with new technologies still emerging and affecting various practice areas in a plethora of ways.⁸⁰ The new ethical norms require attorneys to keep current by understanding the risks and benefits of technologies for practice according to the new ethical rules for competence and comments for Rule 1.1.⁸¹ The State cases reveal the evolving nature of technology's intersection with legal practice and varying State norms with ethical standards left to interpretation by the courts and the interpretation of reasonable competence in actual practice.

According to the Kansas Supreme Court, an attorney violated the professional conduct rules for competency and diligent representation when failing to appear for scheduled meetings and court dates and by failing to return telephone calls and emails as a guardian ad litem.⁸² The court determined that this lack of responsiveness warranted an indefinite suspension to practice law as the appropriate sanction.⁸³ In a later 2013 Maryland decision, an attorney violated the terms of a fee agreement that was communicated via email and the terms required that expenses which were paid in advance by a client were to be kept in a trust account.⁸⁴ The court concluded that the attorney had violated the Model Rules of Professional Conduct Rule 1.1 by failing to competently communicate and represent essential payment terms and modifications to the bank and ordered an indefinite suspension with right to reapply in ninety days for the lawyer.⁸⁵ In

⁷⁹ Federal cases are excluded for the purposes of this article because there are numerous state ethical decisions and state cases for illuminating areas of technological competency for attorneys.

⁸⁰ *See, e.g., State ex rel. Okla. Bar Ass'n v. Oliver*, 369 P.3d 1074 (Okla. 2016) (revealing that the attorney's problems with the bankruptcy court were caused by his lack of computer skills and frustration when trying to meet the federal court's expectations with electronic pleading requirements). Attorney was then suspended from the Bankruptcy Court for the Western District of Oklahoma for his continued failure to properly and accurately fill out e-filing forms pursuant to the rules and procedure of that court. *See also Robertelli v. N.J. Office of Att'y Ethics*, 134 A.3d 963, 965 (N.J. 2016) (holding that two attorneys violated the N.J. Rules of Professional Conduct when they allegedly instructed a paralegal to "friend" a represented adverse party in a personal injury suit); *Allied Concrete Co. v. Lester*, 736 S.E.2d 699 (Va. 2013) (concluding that an attorney directed a paralegal to instruct their client to delete content from his Facebook page and, in that case, the attorney had his license suspended for five years).

⁸¹ *See supra* notes 9-10.

⁸² *See In re Bock*, 265 P.3d 552 (Kan. 2011).

⁸³ *Id.*

⁸⁴ *See Att'y Grievance Comm'n of Md. v. Chapman*, 60 A.3d 25 (Md. 2013).

⁸⁵ *Id.*

another 2011 Maryland decision, the court decided that there was not enough “clear and convincing” evidence to determine that the attorney violated a rule of professional conduct for communicating reasonably necessary information for the client to make an informed decision.⁸⁶ In 2017, the Kansas Supreme Court decided that an attorney had engaged in malpractice when the lawyer did not follow up on certain cases by telephone and email according to the professional rules and did not make reasonable efforts to expedite the cases for the clients; therefore, the court deemed that disbarment was the appropriate discipline for violation of these ethical rules.⁸⁷ The attorney also failed to respond to the complaint from the Office of the Disciplinary Administrator.⁸⁸ In a 2015 Kansas Supreme Court case, the court sanctioned a judge for pervasive sexual harassment of a female colleague in person and via email.⁸⁹ The judge’s conduct violated the code of judicial conduct and the court determined that the judge’s 90-day suspension without pay was an appropriate sanction for misconduct.⁹⁰

In a recent Maryland Court of Appeals decision, the court determined that the attorney had engaged in “flagrant neglect of client affairs,” which included electronic communications to clients.⁹¹ The Court of Appeals decided that disbarment was the appropriate sanction for the attorney.⁹² In a 2014 case in Kansas, an attorney was sanctioned for misconduct because of a lack of timeliness and unresponsiveness to accounting requests and some of the requested information was electronic.⁹³ A 2013 Maryland case also ordered indefinite suspension for an attorney who did not keep up with discovery obligations, including e-discovery, and failure to communicate with clients.⁹⁴ In a Supreme Court case from Kansas last year, a judge did not act fairly when dealing with the parties, jury, and did not perform duties competently when operating the courtroom and responding to notices.⁹⁵ In another Maryland ethics decision, an attorney had multiple disciplinary actions and failed to respond to communications about the status of the case and submitted erroneous financial statements.⁹⁶ In a 2014 Maryland decision, the court

⁸⁶ See Att’y Grievance Comm’n of Md. v. Rand, 57 A.3d 976 (Md. 2012).

⁸⁷ See *In re Fahrenholtz*, 392 P.3d 125 (Kan. 2017).

⁸⁸ *Id.*

⁸⁹ See *In re Henderson*, 343 P.3d 518 (Kan. 2015).

⁹⁰ *Id.*

⁹¹ See Att’y Grievance Comm’n of Md. v. Shuler, 164 A.3d 209 (Md. 2017).

⁹² *Id.*

⁹³ See *In re Rittmaster*, 326 P.3d 376 (Kan. 2014).

⁹⁴ See Att’y Grievance Comm’n of Md. v. Bocchino, 80 A.3d 222 (Md. 2013).

⁹⁵ See *In re Trigg*, 414 P.3d 1203 (Kan. 2018) and Kansas Supreme Court, 118527, YOUTUBE (Mar. 6, 2018) https://www.youtube.com/watch?time_continue=268&v=_ufmWJ5mSEk (outlining that the judge did not conduct her duties properly in the courtroom and electronically).

⁹⁶ Att’y Grievance Comm’n of Md. v. Gray, 118 A.3d 995, 1014 (Md. 2015).

recommended an indefinite suspension for an attorney that violated the ethical rules of competence when the lawyer failed to respond to letters and digital communications and did not generate invoices in a timely manner.⁹⁷ In a unique case involving representation of the homeless, one Maryland attorney was disbarred for lack of communication for failing to file petitions and to appear at multiple hearings on behalf of her homeless clients.⁹⁸ Finally, in a 2017 case, an attorney in Maryland failed to respond to e-mail communications and neglected a personal injury case for an extended period of time and did not keep up with status or e-discovery in the case.⁹⁹ As a result, the Court of Appeals of Maryland recommended indefinite suspension for the attorney's misconduct, lack of diligence, and lack of competence in that case.¹⁰⁰

An attorney received a three-year suspension of her license to practice law after mismanagement of funds and miscommunication during the closing of her law firm in Georgia.¹⁰¹ This was less than the maximum punishment of disbarment under Rule 1.1.¹⁰² In another Court of Appeals case from Maryland, about a personal injury action where the minor son was hit by a taxicab, an attorney failed to communicate effectively through electronic communications and did not meet filing deadlines.¹⁰³ The court determined that the attorney had failed to competently represent the clients based on failure to communicate and indefinite suspension of the attorney's license was ordered.¹⁰⁴ In another later 2016 Maryland case, the Court of Appeals determined that the attorney should be disbarred based on miscommunication and lack of communication during a foreclosure action and nonexistent communication with another client.¹⁰⁵ In a couple of older cases from 1996, the Supreme Court of Louisiana put an attorney on probation for two years for lack of competent representation, communication, and overt misleading of his client during a social security claim.¹⁰⁶ In that same year, the Maryland Court of Appeals determined that "workaholism" was not a mitigating factor for discipline under the professional rules and an attorney was indefinitely suspended from practicing law after a lack of proper supervision of non-lawyer assistants and lack of communication with the client.¹⁰⁷ Overall, most of the higher state court cases

⁹⁷ Att'y Grievance Comm'n of Md. v. Green, 105 A.3d 500, 514 (Md. 2014).

⁹⁸ Att'y Grievance Comm'n of Md. v. Dominguez, 47 A.3d 975, 986 (Md. 2012).

⁹⁹ Att'y Grievance Comm'n of Md. v. Moore, 152 A.3d 639, 653 (Md. 2017).

¹⁰⁰ *Id.* at 661.

¹⁰¹ *In re* Wofford, 716 S.E.2d 219, 220 (Ga. 2011).

¹⁰² *Id.* at 219.

¹⁰³ Att'y Grievance Comm'n of Md. v. Harris, 810 A.2d 457, 462-463 (Md. 2002).

¹⁰⁴ *Id.* at 485.

¹⁰⁵ Att'y Grievance Comm'n of Md. v. Mollock, 146 A.3d 1117, 1121 (Md. 2016).

¹⁰⁶ *In re* Mayeux, 96-0981 (La. 6/7/96); 673 So.2d 1009 (Mem), 1110.

¹⁰⁷ Att'y Grievance Comm'n of Md. v. Drew, 669 A.2d 1344, 1351 (Md. 1996).

deal with egregious examples of non-communication that drastically affect the outcome(s) of the cases for the clients and, thus, higher sanctions are given based on the lack of diligence and competence at issue.

C. National Summary of State Ethics Decisions

The ethics decisions in each state involve emerging technology, including cloud computing, ESI, storage and interception of data, metadata, and electronic discovery, which demonstrates the need for uniform technological competencies at the state and national level as courts continue to interpret ethical lawyering in a digital age. The ethics decisions in this section of the paper reveal that state ethics boards are continuing to grapple with increased use of technology by attorneys.

1. Cloud Computing

According to a New York ethics decision in 2014, lawyers may use cloud technology to post and share documents in a real estate transaction if the technology available will reasonably protect the confidentiality of the client's information.¹⁰⁸ If the technology does not protect confidentiality, then the attorney must obtain the client's informed consent after clearly disclosing risks.¹⁰⁹ In a Tennessee ethics opinion from 2015, lawyers may store confidential information in the cloud if the attorney takes reasonable care to preserve its confidentiality and protect against loss and other risks.¹¹⁰ The meaning of reasonable care will depend on the information, the technology and the circumstances.¹¹¹ Furthermore, in a 2010 Vermont ethics decision, the court concluded that a lawyer may use Software as a Service (SaaS, which is also known as "cloud computing") to store, back up, and transmit confidential client information and documents and may also use remote document synchronization systems and web-based email/calendaring systems.¹¹² However, attorneys must take reasonable precautions to protect confidentiality and ensure access to materials.¹¹³ The decision pointed out that there may be circumstances that would not be reasonable (and SaaS technology should not be used or exclusively relied upon) and the use might depend on the circumstances and type

¹⁰⁸ N.Y. State Bar Ass'n, Comm'n on Prof'l Ethics, Formal Op. 1020 (2014).

¹⁰⁹ *Id.*

¹¹⁰ Bd. of Prof'l Responsibility of the Sup. Ct. of Tenn., Formal Ethics Op. 2015-F-159 (2015).

¹¹¹ *Id.*

¹¹² Vt. Bar Ass'n Prof'l Responsibility Comm'n, Formal Ethics Op. 2010-6 (2010).

¹¹³ *Id.*

of technology used.¹¹⁴ Finally, the decision invited the Vermont Supreme Court to examine whether technological changes have warranted changes in procedural and ethical rules.¹¹⁵

In a 2011 North Carolina ethics decision, the court concluded that a lawyer may contract with a SaaS service (“software as a service” vendor) if the lawyer used reasonable care to protect client information.¹¹⁶ Recommended options by this decision included an agreement with the vendor regarding protection, retrieval, and disposition of confidential information 1) during and after the contractual relationship; 2) in the event that the vendor goes out of business; and 3) in evaluation of the vendor’s security measures and back-up measures for hosted data.¹¹⁷ Accordingly, the duties of diligence and competence require the lawyers to keep current with changes in technology and the impact of cloud computing and online security.¹¹⁸ In a 2013 Maine ethics decision, the court determined that a lawyer may use cloud computing and storage, including web-based email, online document creation and data storage, SaaS (software-as-a-service), PaaS (platform-as-a-service), and IaaS (infrastructure-as-a-service), for client matters.¹¹⁹ The decision also recommended practices to ensure reasonable compliance with the ethical obligation of confidentiality, including agreements to secure from cloud computing providers, and observed that the standard of reasonable care requires attorneys to periodically educate themselves on changes in technology.¹²⁰

In a subsequent 2010 New York ethics decision, the opinion stated that attorneys who use cloud computing by an online service as their backup file storage system must take reasonable care to protect the confidentiality of the information.¹²¹ These reasonable measures may include: making sure that the provider has an enforceable obligation to preserve confidentiality and security and will notify the lawyer if served with process requiring production of client information; investigating the adequacy of the provider’s security measures and recovery methods; using available technology to guard against reasonably foreseeable infiltration attempts; and investigating the provider’s ability to purge, wipe, and move data.¹²² In another recent 2016 Illinois decision, the opinion determined that a lawyer may use an outside cloud-computing service to store and

¹¹⁴ *Id.*

¹¹⁵ *Id.*

¹¹⁶ Council of the N.C. State Bar, Formal Ethics Op. 6 (2011).

¹¹⁷ *Id.*

¹¹⁸ *Id.*

¹¹⁹ Prof’l Ethics Comm’n for the State Bar of Me., Op. 207 (2013).

¹²⁰ *Id.*

¹²¹ Comm’n on Prof’l Ethics for the State Bar of N.Y., Op. 842 (2010).

¹²² *Id.*

transmit client information if the lawyer understands the technology well enough to be able to assess the risk of inadvertent disclosure or authorized access, and then can act reasonably to protect the digital information.¹²³ The lawyer must conduct a “due diligence investigation” before selecting a technology provider and must also regularly review the chosen provider’s security measures and the opinion suggests “reasonable inquiries and practices.”¹²⁴ An ethics opinion from Tennessee concluded that attorneys may store confidential information in the cloud if they take reasonable care to preserve the confidentiality of information and protect against potential loss and other risks.¹²⁵ According to the 2015 opinion, the meaning of “reasonable care” depends upon the information, the technology, and the circumstances in the case.¹²⁶

2. Metadata and Electronically Stored Information (“ESI”)

An Oregon ethics decision revealed that a lawyer has obligations of competence and confidentiality when communicating via electronic media and must have a “basic understanding” of the technology of metadata or use adequate technology support.¹²⁷ Even further, a lawyer who receives a document with metadata that he or she reasonably should know was inadvertently sent with metadata included must inform the sender and then also confer with the client about the risks of returning the document versus the risks of retaining it and reading it.¹²⁸

In a California ethics opinion, the decision outlines the various duties for attorneys when dealing with clients who regularly store and transmit digital information.¹²⁹ An attorney in these situations may not represent the client in litigation unless the lawyer is competent in the client’s storage and transmission technology or professionally consults with a lawyer who is.¹³⁰ According to the California guidance, a lawyer must know enough about the spoliation of digitally stored information through their routine practice to be able to inform the client when to issue a litigation hold in reasonable anticipation of litigation.¹³¹ The attorney must also be able to represent to the court that they have fully met and

¹²³ Ill. State Bar Ass’n Prof’l Conduct Advisory Op. 12-06 (2016).

¹²⁴ *Id.*

¹²⁵ Prof’l Ethics Comm’n for the State Bar of Tenn., Op. F-159 (2015).

¹²⁶ *Id.*

¹²⁷ Bd. of Governors for the State Bar of Or., Op. 187 (2011).

¹²⁸ *Id.*

¹²⁹ State Bar of Cal. Standing Comm’n on Prof’l Responsibility and Conduct, Formal Op. 184 (2012).

¹³⁰ *Id.*

¹³¹ *Id.*

complied with all discovery obligations and preservation/discovery of electronic files.¹³² Finally, the opinion includes an extensive discussion of the duties of a litigation lawyer of competence, confidentiality, communication, and candor when a client uses digital data storage and transmits information via technologies.¹³³ In 2010, California released an ethics opinion related to technology and confidentiality in digital information as an essential component of competent lawyering in a digital age.¹³⁴ In the decision, it noted that a lawyer should not use any mode of technology to store or transmit confidential information before considering how secure it is and whether reasonable precautions, such as firewalls, encryption, or password-protection, could make the electronic transmission more secure.¹³⁵ The lawyer should also consider the sensitivity of the digital information, the urgency of the situation, the possible effect(s) of an inadvertent disclosure or an unauthorized interception of the data, and the client's instructions and circumstances (based on client's devices used).¹³⁶ An attorney might use a laptop computer at home for client matters and e-mail if the lawyer's personal wireless system has been configured with appropriate security features.¹³⁷ If using a public wireless connection like Wi-Fi in a coffee shop, though, the attorney would need to add safeguards such as firewalls/encryption to safeguard data.¹³⁸

3. E-mail and Encryption

An older 1997 ethics decision in Illinois highlighted that a lawyer may communicate with clients via electronic mail without encryption (and concluded that the expectation of privacy for electronic mail is the same as for ordinary telephone calls) and also concluded that the unauthorized interception of an electronic message is illegal.¹³⁹ This opinion also revealed that lawyers trigger representation of clients when they give advice and participate in chat groups or

¹³² *Id.*

¹³³ *Id.*

¹³⁴ Cal. Standing Comm'n on Prof'l Responsibility & Conduct, Formal Op. 179 (2010).

¹³⁵ *Id.* (Noting that a lawyer should also consider the sensitivity of the digital information, the urgency of the situation, the possible effects of an inadvertent disclosure or an unauthorized interception of the data, and the client's instructions and circumstances (based on client's devices used); an attorney might use a laptop at home for client matters and e-mail if the lawyer's personal wireless system has been configured with appropriate security features. If using a public wireless connection like in a coffee shop, though, the attorney would need to add safeguards such as firewalls/encryption to safeguard data).

¹³⁶ *Id.*

¹³⁷ *Id.*

¹³⁸ *Id.*

¹³⁹ Ill. Advisory Op. on Prof'l Conduct, Formal Op. 96-10 (1997).

other online services that might involve offering personalized legal advice with anyone involved in the services.¹⁴⁰ The New York State Bar Association concluded that a lawyer may not use computer technology to investigate, examine, or trace the origins of e-mail and other electronic documents that lawyers receive from other parties and their counsel.¹⁴¹ Even at the early stage in 2001, the opinion addressed software that enables users to discover what is visible on a computer screen and get behind email to find things such as revisions and comments made at various stages, their authors, and the identities of recipients.¹⁴²

In an older 1997 Alabama decision, the ethics opinion concluded that a law firm may use software for collection matters that electronically link creditors and law firms to aid in collection of creditors' accounts for collection of debt purposes.¹⁴³ A Kansas ethics opinion, though, stated that the lawyer for the corporation could not give customers of the corporation legal advice in conjunction with technical computer advice when the advice was designed, in whole or in part, to sell a company's computer software package that intends to remedy legal problems.¹⁴⁴ According to a 2007 Pennsylvania ethics decision, a suspended attorney may perform purely administrative work (e.g., computer-related technology work and accounting and billing) for the firm where he formerly worked as a lawyer because those activities are not law-related.¹⁴⁵ However, the attorney should not have a title that would suggest responsibility for any law-related matters at the firm.¹⁴⁶

In another older Iowa ethics opinion from 1997, the decision clearly noted that the transmission of confidential information through e-mail or the Internet or other non-secure proprietary networks requires written consent from the client after disclosure of the potential loss of confidentiality.¹⁴⁷ A Pennsylvania ethics decision from 2000 also concludes that a lawyer is not per se prohibited from using a new

¹⁴⁰ *Id.*

¹⁴¹ N.Y. Bar Ass'n on Prof'l Ethics, Formal Op. 749 (2001).

¹⁴² *Id.*

¹⁴³ Ala. Ethics Op., Informal Op. RO-97-01 (1997).

¹⁴⁴ Kan. Ethics Advisory Comm'n, Formal Op. 97/03 (1997). This advice would intrude on the professional independent judgment of the attorney regardless of whether there is fee-splitting with a non-lawyer.

¹⁴⁵ Pa. Bar Ass'n Comm'n on Legal Ethics & Prof'l Responsibility, Formal Op. 2007-300 (2007); *see also* Pa. Bar Ass'n Comm'n on Legal Ethics & Prof'l Responsibility, Formal Op. 2007-500 (2007) (revealing standards for mining metadata and reasonable judgment of attorneys when using technology).

¹⁴⁶ *Id.*

¹⁴⁷ Iowa Sup. Ct. Bd. of Prof'l Ethics & Conduct, Formal Op. 97-1 (1997); *see also* Iowa Sup. Ct. Bd. of Prof'l Ethics & Conduct, Formal Op. 15-01 (2015). (revealing a modernized standard for informing clients when sending and receiving client information via electronic communications).

software program that instantaneously analyzes speech patterns to detect lies.¹⁴⁸ However, the attorney must obtain the consent of all parties to the conversation after disclosing the software's capabilities and how he intends to use the results.¹⁴⁹ In a later ethics decision from Pennsylvania, the opinion states that a lawyer may give a computer company access to client data in the course of upgrading or testing the software, if the lawyer makes reasonable efforts to ensure that the company puts in place reasonable procedures to protect the confidentiality of client information.¹⁵⁰

4. Virtual Lawyering

A 2017 Ohio ethics decision addressed shared office space and a virtual law office.¹⁵¹ The decision concludes that a lawyer may practice through a virtual law office, and the office may include shared physical office space with non-lawyers.¹⁵² The lawyer, however, must use reasonable care to make sure that clients receive and understand all virtual communications, must take reasonable steps to protect the confidentiality and security of client information, must have a competent understanding of the technologies used, and should have a thorough discussion with the client whether additional securities are necessary.¹⁵³ If using an outside technology vendor, the attorney must also make sure that the vendor's activities are consistent with the lawyer's ethical obligations.¹⁵⁴ In an older Kansas ethics decision, the opinion stated that a lawyer employed by a corporation could not give customers of the corporation legal advice in conjunction with technical computer advice when that advice was designed in part to sell a company's computer software package that was meant to remedy legal problems.¹⁵⁵ Further, a corporate lawyer who gave legal advice to corporate customers was not engaged in unethical fee-splitting unless there was direct or indirect charge by the corporation for that advice.¹⁵⁶ In an early Maryland ethics opinion on digital communications, the

¹⁴⁸ Phila. Bar Ass'n Prof'l Guidance Comm'n, Formal Op. 2000-1 (2000).

¹⁴⁹ *Id.*

¹⁵⁰ Pa. Bar Ass'n Comm'n on Legal Ethics & Prof'l Responsibility, Formal Op. 2007-100 (2007); *see also* Pa. Bar Ass'n Comm'n on Legal Ethics & Prof'l Responsibility, Formal Op. 2005-105 (2005).

¹⁵¹ Ohio Bd. of Prof'l Conduct, Ethics Op. 2017-5 (2017).

¹⁵² *Id.*

¹⁵³ *Id.*

¹⁵⁴ *Id.*

¹⁵⁵ Kan. Bar Ass'n, Legal Ethics Op. 97-03 (1997).

¹⁵⁶ *Id.*; *see also* Phila. Bar Ass'n, Op. 2007-3 (2007) (revealing that a suspended lawyer may perform purely administrative work that did not involve client contact, such as computer-related technology work and accounting and billing).

decision states that a lawyer may use the Internet and a web page to advertise his law firm, but the attorney must be careful to make clear to clients which States the lawyer is licensed to practice in.¹⁵⁷

An older Arizona ethics decision noted that a lawyer's website is a "communication" about the lawyer that is subject to the ethics rules, and advertisements by Arizona attorneys that appear electronically both inside and outside of the state and must comply with Arizona ethics rules.¹⁵⁸ Lawyers may not mention in either a website or chat room that he or she specializes in a particular area of law unless that area is a certified specialty and may not use a trade name on the law firm website.¹⁵⁹ In a more recent Virginia ethics opinion on virtual lawyering and sharing office space, the decision pointed out that a lawyer who practices from a virtual law office or a shared executive suite may need to take special additional steps to meet his or her obligations of confidentiality, communication, and supervision.¹⁶⁰ As an example, the lawyer may need help with ensuring that third-party technology providers protect the confidentiality of client information, and lawyers must communicate clearly with clients in a digital age and make sure that they understand and confirm that digital information or electronic information has been received and understood.¹⁶¹

A 2011 North Carolina ethics opinion determined that the law firm could use an online banking system to manage the client trust accounts, if reasonable care is exercised to minimize risks.¹⁶² According to that opinion, the law firm's managing attorneys should educate themselves frequently about internet security risks and online banking best practices, and install safety measures for the firm including strong password policies, encryption, and security software. The managing attorneys should also hire a technology expert for advice, and make sure relevant firm members and staff are trained on using security measures.¹⁶³ In a 2018 Tennessee ethics decision, a company that has a website as a "legal marketplace" constituted advertising, not referral services, and was not deemed to be an "Intermediary Organization" under TN Rule 7.6, so an attorney may participate in the service.¹⁶⁴ The company launched a "legal marketplace website" enabling businesses and other individuals to post descriptions of matters for which they

¹⁵⁷ Md. State Bar Ass'n Comm. on Ethics, Op. 1997-26 (1997).

¹⁵⁸ State Bar of Ariz. Ethics Comm., Ethics Op. 97-04 (1997).

¹⁵⁹ *Id.*

¹⁶⁰ Va. State Bar Legal Ethics Comm., Legal Ethics Op. 1872 (2013).

¹⁶¹ *Id.*

¹⁶² N.C. State Bar Grievance Comm., Formal Ethics Op. 7 (2011); *see also* N.C. State Bar Grievance Comm., Formal Ethics Op. 6 (2011).

¹⁶³ *See* Formal Ethics Op. 6., *supra* note 162.

¹⁶⁴ Bd. of Prof'l Responsibility for the Sup. Ct. of Tenn., Op. 2018-F-165 (2018).

sought legal services, and lawyers responded by submitting fee quotes and marketing materials.¹⁶⁵ All users paid a fixed annual fee to participate on the website and an additional flat fee per matter or quote submitted.¹⁶⁶ According to the opinion, the website did not collect any portion of the lawyers' fees, and the amount paid by attorneys did not depend on the fees resulting from business obtained through the website.¹⁶⁷

According to a 2016 ethics opinion from the District of Columbia, lawyers who use social media websites must have a basic understanding of the sites' technology, including privacy and data collection policies and should also keep current with any changes in this technology.¹⁶⁸ The ethics decision recommends using disclaimers to avoid inadvertent formation of a lawyer-client relationship and its associated duty of confidentiality while using social media websites.¹⁶⁹ The decision also warns that blogging or tweeting about legal developments would risk conflicts based on position.¹⁷⁰ For example, if a lawyer receives client messages or potential clients through social media, the attorney should consider suggesting a more secure method of communication and always exercise caution before permitting any access to the lawyer's contact list or email address book.¹⁷¹ The lawyer should also obtain the client's written informed consent before posting about a client matter on social media and should include disclaimer(s) stating that past outcomes are not a guarantee of similar results in future matters.¹⁷² Finally, the decision noted that a lawyer may endorse or recommend another attorney on social media if the endorsement or recommendation is not false or misleading.¹⁷³

All of these cases illuminate the infancy of addressing technology competence in various jurisdictions and many issues involved through historical guidance of the State ethics decisions. The State courts and ABA Committee still have a lot of issues to respond to, and the rules will likely be formalized in the near future as deficiencies come to light during the practice of law and trends reveal themselves during the ordinary course of legal business. The practice of law is increasingly complex in the virtual realm in many practice areas and the volumes of digital information for each client may continue to expand and overwhelm practitioners throughout the nation. As a result, the ABA and State Ethics

¹⁶⁵ *Id.*

¹⁶⁶ *Id.*

¹⁶⁷ *Id.*

¹⁶⁸ D.C. Bar, Ethics Op. 370 (2016); *see also* D.C. Bar Ethics Op. 371 (2016), at 1 (describing ethical use of social media for e-discovery and while practicing law in D.C.).

¹⁶⁹ Ethics Op. 370, *supra* note 168.

¹⁷⁰ *Id.*

¹⁷¹ *Id.*

¹⁷² *Id.*

¹⁷³ *Id.*

Commissions will increasingly need to give more specific advice about technology competence within particular practice areas and support research to incentivize law firms to predict the future landscapes for the practice of law.

III. NEED FOR REVISION OR FORMAL GUIDANCE: A PROPOSAL FOR MORE DETAILED STANDARDS FOR TECHNOLOGICAL COMPETENCY MANDATES

After reviewing the court decisions and scholarly literature, more specific mandates for technological competence for ethical practice in the 21st century and clarity through identifiable core technological skill sets for attorneys in practice are necessary. Some States have alluded to possibilities toward enhancing technological training, such as CLE requirements or more robust State models. Law school curricula are beginning to include law and technology in practice courses with instruction on basic technologies and use of secure cloud computing case management systems, such as the prevalent Clio and MyCase.¹⁷⁴ In addition, some jurisdictions require more rigorous diligence with metadata in conjunction with e-discovery ethical norms.¹⁷⁵ The following chart attempts to highlight the core competencies that are needed for attorneys during a modern, technologically-savvy, and ethical practice of law. In addition to basic understanding of risks and benefits of the technology, lawyers in practice should know how to use the technologies and integrate them into their practice area through CLE programming or current awareness updates as a more cogent continuing education practice in the digital era.¹⁷⁶ North Carolina recently adopted more detailed standards for mandatory CLE programming for attorneys.¹⁷⁷ To that end, the following ten technological skill

¹⁷⁴ See CLIO: LEGAL CASE & PRACTICE MANAGEMENT SOFTWARE, <https://www.clio.com/> [<https://perma.cc/Y4SG-KPM5>] (last visited Jan. 20, 2019); MYCASE: CASE MANAGEMENT SOFTWARE FOR ATTORNEYS & SMALL LAW FIRMS, <https://www.mycase.com/> [<https://perma.cc/7Z7N-48E7>] (last visited Jan. 20, 2019).

¹⁷⁵ See, e.g., *Metadata Ethics Opinions Around the U.S.*, AMERICAN BAR ASSOCIATION (Oct. 17, 2017), https://www.americanbar.org/groups/departments_offices/legal_technology_resources/resources/harts_fyis/metadatachart.html [<https://perma.cc/X2M5-KUYM>].

¹⁷⁶ See *supra* notes 20-21 and accompanying text.

¹⁷⁷ See e.g., Bob Ambrogi, *North Carolina Becomes Second State to Mandate Technology Training for Lawyers*, LAWSITES (Dec. 5, 2018), <https://www.lawsitesblog.com/2018/12/north-carolina-becomes-second-state-mandate-technology-training-lawyers.html> [<https://perma.cc/3Z5G-7ZMT>] (describing mandatory technological proficiency through CLE training in certain technology programs including “a) an IT tool, process, or methodology designed to perform tasks that are specific or uniquely suited to the practice of law; b) using a generic IT tool process or methodology to increase the efficiency of performing tasks necessary to the practice of law; c) the investigation, collection, and introduction of social media evidence; d) e-discovery; e) electronic filing of legal documents; f) digital forensics for legal investigation or litigation; and g) practice management software”).

competencies would provide more specific norms for Rule 1.1 and would be a useful addition to clarify the standard for technological competence if the Comment to Rule 1.1[8] is revised in the near future. The chart could also provide useful guidance for CLE programming by State Bar Councils and Associations.

A Proposal: Rule 1.1 Technological Skill Competencies	Attorney Scope of Understanding Based on Current Ethical Rules
1. Cybersecurity Norms	= Reasonable security efforts to prevent interception of confidential data (<i>e.g.</i> firewalls, password protection, encryption, and third party access by cloud providers) ¹⁷⁸
2. Metadata and ESI	= Knowledge of inadvertent receipt of information with metadata and security of confidential electronically stored information during the discovery process and course of client representation. ¹⁷⁹
3. E-discovery	= Performance of e-discovery based on Federal and State rules, intake norms for e-discovery, relevancy of ESI, and scrubbing metadata or conversion of documents. ¹⁸⁰
4. Cloud Computing	= Knowledge of cloud computing technologies and storage, third-party access, and reasonable safeguards to store data. ¹⁸¹
5. Wi-Fi Security	= Basic security options, non-use of public Wi-Fi, reasonable protection(s) to prevent interception of client data, and encryption for confidential client information. ¹⁸²

¹⁷⁸ See *e.g.*, *supra* notes 38-48 and accompanying text.

¹⁷⁹ See *e.g.*, *supra* notes 127-138 and accompanying text.

¹⁸⁰ See *e.g.*, *supra* notes 62-68 and accompanying text.

¹⁸¹ See *e.g.*, *supra* notes 108-126 and accompanying text.

¹⁸² See *e.g.*, *supra* notes 31-42 and accompanying text.

6. E-mail and Encryption	= Knowledge of encrypted and unencrypted email, reasonable protection to protect confidential or highly sensitive client email, and e-discovery implications for practice. ¹⁸³
7. Virtual Law Firms	= Reasonable electronic communication and accurate marketing to clients and duty to keep clients informed throughout client representation and understanding of state ethical norms for virtual lawyering. ¹⁸⁴
8. Social Media	= Knowledge of social media tools, development of law firm social media policies, understanding of e-discovery implications, and informed consent for client(s) when needed upon intake of case. ¹⁸⁵
9. Digital Documents	= Basic digital document management, use of an expert when outside attorney area of competency, prevention of interception, encryption or password protection with highly sensitive data, and scrubbing documentation for e-discovery. ¹⁸⁶
10. Modern Communication Methods	= Effective communication methods in addition to traditional norms, including texting, emailing, social media, and secure online or cloud client messaging services. ¹⁸⁷

Some States have articulated more detailed ethical standards for e-discovery, encryption, metadata, and virtual lawyering.¹⁸⁸ In addition, some State CLE mandates are more rigorous for technological competency and ethics

¹⁸³ See *e.g.*, *supra* notes 139-150 and accompanying text.

¹⁸⁴ See *e.g.*, *supra* notes 152-172 and accompanying text.

¹⁸⁵ See *e.g.*, *supra* notes 168-173 and accompanying text.

¹⁸⁶ See *e.g.*, *supra* notes 71, 116-138 and accompanying text.

¹⁸⁷ See, *e.g.*, *supra* note 4, 108-126 and accompanying text.

¹⁸⁸ See *supra*, Parts II and III.

continuing legal education.¹⁸⁹ Overall, in addition to the recent formal ABA opinion 477A on general understanding of risks and benefits for use of technology in practice and the reasonableness standard, there needs to be a list of tangible technological skills that attorneys consult to competently practice law and to prevent ethical violations in the modern era. The ten core technological competencies in this section of the paper would encompass essential areas and CLE programming for an ethical practice in the digital age. Finally, law schools could then educate their students according to these more narrowly tailored technology standards for the 21st century.¹⁹⁰

CONCLUSION

The age of technological enhancements in the legal profession is only accelerating.¹⁹¹ New innovations for the practice of law are occurring each day, including artificial intelligence and visualization tools that will make knowledge management and practicing more efficient.¹⁹² All attorneys must strive to keep up with practice management during an era of thriving innovation and burgeoning digital information while monitoring the latest revisions to the ethical rules.¹⁹³

The American Bar Association and State Legal Ethics Commissions will have to keep monitoring all of the changes in the practice of law, including the prevalence of virtual lawyering, and be vigilant while creating uniform standards for technological competence under Rule 1.1. New contract services are emerging for the preservation of information, including digital information such as ESI and metadata, and are now affecting many lawyers. Surely, artificial intelligence will

¹⁸⁹ See, e.g., Mark D. Killian, *Board Considers Enhanced Technology CLE Component*, FLORIDA BAR (June 15, 2015), <https://www.floridabar.org/the-florida-bar-news/board-considers-enhanced-technology-cle-component/> [<https://perma.cc/UWC5-EYCJ>] (stating that as lawyers “[w]e don’t even know enough to know what we don’t know...[t]hat’s how bad it is and we have to get caught up”); Cort Jensen, *The Minimum Tech Stuff Attorneys Need to Know*, 36 MONT. LAW. 18 (Nov. 2010).

¹⁹⁰ Some law schools currently offer technology training, such as the Legal Technology Assessment by Procertas or the LTC4 by the Legal Technology Core Competencies Certification coalition. See e.g., Robert Ambrogi, *OK, We Get Technology Competence, But How Do We Get Technologically Competent?*, ABOVE THE LAW (Nov 6, 2017, 6:30 PM) <https://abovethelaw.com/legal-innovation-center/2017/11/06/ok-we-get-technology-competence-but-how-do-we-get-technologically-competent/> [<https://perma.cc/B7SY-MYE5>].

¹⁹¹ See SUSSKIND & SUSSKIND, *supra* note 43; See also Donna Seyle, *eLawyering in an Age of Accelerating Technology*, GP SOLO EREPORT (Jan. 2013); Daniel Martin Katz, *Quantitative Legal Prediction—or—How I Learned to Stop Worrying and Start Preparing for the Data-Driven Future of the Legal Services Industry*, 62 EMORY L. J. 909 (2013); John O. McGinnis & Russell G. Pearce, *The Great Disruption: How Machine Intelligence Will Transform the Role of Lawyers in the Delivery of Legal Services*, 82 FORDHAM L. REV. 3041 (2014).

¹⁹² See *supra* note 191.

¹⁹³ See *supra* Parts II and III.

also affect attorneys during the representation of clients for many years to come. While grappling with these new technologies, attorneys must be ready to confront the utilities and risks for use of innovative technological tools while also analyzing costs for ethical practice according to the current norms articulated by the ABA and State rules and associated ethical decisions. Certainly, the future is bright for the intersection of technology and the law and efficiencies will be created. However, attorneys must thoroughly understand and ethically use innovations in technology. A more narrowly tailored list and uniform State adoption of core technology competencies for the ethical practice of law is needed to better pave the way toward the future and prevent instances of misconduct.