THE FUTURE OF EDISCOVERY IN TENNESSEE

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INTRODUCTION

When the Federal Rules of Civil Procedure were last amended, "Facebook didn't exist, 'Twitter' was still a sound, the 'cloud' was still in the sky, '4G' was a parking space, 'applications' were what you sent to college, 'LinkedIn' was a prison, and for most people, "Skype" was a typo!"[1] All of that has changed in just the last seven years. Unfortunately, despite these monumental changes to human life brought by technological advancements, not much has changed in the eDiscovery marketplace since 2006. eDiscovery is still overly burdensome, extremely expensive, and technologically overwhelming. Further, stakeholders in litigation involving electronic discovery are concerned that it will get worse due to the velocity, volume, and variety of data that will be discoverable.[2] For in-house and outside counsels who deal with eDiscovery on a regular basis, there has been no measurable progress in solving the unique risks and costs it presents.

Lawyers have not properly adapted to the "new" rules or adjusted their processes appropriately. Cooperation in forming discovery plans as envisioned by the Sedona Conference Cooperation Proclamation[3] and calls to treat the meet and confer process seriously under Rule 26(f) have been largely ignored.[4] Additionally, technology solutions currently on the market

1. THOMAS L. FRIEDMAN & MICHAEL MANDELBAUM, THAT USED TO BE US: HOW AMERICA FELL BEHIND IN THE WORLD IT INVENTED AND HOW WE CAN COME BACK 64 (Picador 2012).

2. *See* Edd Dumbill, *Volume, Velocity, Variety: What You Need to Know About Big Data,* FORBES (Jan. 19, 2010), http://www.forbes.com/sites/oreillymedia/2012/01/19/volume-velocity-variety-what-you-need-to-know-about-big-data (explaining the increasing problem of keeping up with data storage technology to match the increasing volume, velocity, and variety of data).

3. The Cooperation Proclamation was drafted by the non-profit think tank the Sedona Conference Working Group on Electronic Document Retention and Production with input and support of both federal and state judges. Its mission was to "help create 'toolkits' of model case management techniques and resources for the Bench, inside counsel, and outside counsel to facilitate proportionality and cooperation in discovery." *The Sedona Conference Cooperation Proclamation*, THE SEDONA CONFERENCE, https://thesedonaconference.org/cooperation-proclamation (last visited May 21, 2014).

4. Sanctions can be sought against attorneys who violate discovery rules; however, according to a study by the Institute for the Advancement of the American Legal System, discovery sanctions are only sought in around three percent of cases, and of the motions that are filed, only twenty-six percent are granted in whole or in part. Daniel C. Girard & Todd I. Espinosa, *Limiting Evasive Discovery: A Proposal for Three Cost-Saving Amendments to the Federal Rules*, 87 DENVER U. L. REV. 473, 475 n.7 (2009–2010) (referencing INST. FOR THE ADVANCEMENT OF THE AM. LEGAL SYS., CIVIL CASE PROCESSING IN THE FEDERAL DISTRICT COURTS 46 (2009), http://www.du.edu/legalinstitute/pubs/PACER%20FINAL%201-21-09.pdf) (last visited May 21, 2014).

have failed to serve the legal community. In general, these technologies are difficult to use, unaffordable to the average lawyer, not transparent in their pricing,[5] and lacking in customer service. In an era where task-oriented technology applications that improve human lifestyles have been rapidly and exponentially developed, lawyers have not been provided similar technologies to improve their services. This is simply a technological failure.

On December 1, 2006, the Federal Rules of Civil Procedure were amended to address the rapidly evolving challenges to discovery presented by electronically created data and rapid changes in the way human beings communicate and interact. The 2006 amendments (1) established electronically stored information ("ESI") as a separate object of discovery;[6] (2) directed the parties to discuss issues related to eDiscovery, thereby requiring attorneys to know clients' IT systems;[7] (3) introduced an expectation of cooperation;[8] (4) added ESI into management conference provisions;[9] (5) introduced a "reasonably accessible" standard for producing sources of ESI;[10] (6) provided a "safe harbor" preservation rule to avoid sanctions;[11] (7) added form of production to Federal Rule of Civil Procedure 34(b)(2)(E); (8) addressed inadvertent production of documents;[12] and (9) addressed discovery of ESI from non-parties.[13] Following suit with the Federal Rules, the Tennessee Rules of Civil Procedure were amended in 2009 to expressly address ESI[14] and resolve any doubt as to whether the rules pertaining to ESI only applied in federal courts in Tennessee.[15] Tennessee's rules are largely patterned after their

5. *See* D. Casey Flaherty, *E-Discovery Costs Prediction: It's Time to Share,* LAW TECH. NEWS, August 12, 2013; D. Casey Flaherty, *Standardizing E-Discovery Costs Redux,* LAW TECH. NEWS, December 17, 2013.

6. FED. R. CIV. P. 34(a)(1)(A).

7. FED. R. CIV. P. 26(f)(3)(C).

8. FED. R. CIV. P. 37(e).

9. FED. R. CIV. P. 16(b)(3)(B)(iii).

10. FED. R. CIV. P. 26(b)(2)(B).

11. FED. R. CIV. P. 37(e).

12. FED. R. CIV. P. 26(b)(5)(B); FED. R. CIV. P. 26(f)(3)(C).

13. FED. R. CIV. P. 45(a)(1)(A)(iii).

14. *See* TENN. R. CIV. P. 16, 26, 33, 34, 37, and 45.

15. *See* Delozier v. First Nat'l Bank of Gatlinburg, 109 F.R.D. 161, 164 (E.D. Tenn. 1986) (discovery dispute involving ESI in the form of microfilm); State v. Hall, 976 S.W.2d. 121, 146–47 (Tenn. 1998) (considering whether data generated by telephone company's computer system was hearsay); Frye v. St. Thomas Health Servs., No. 03C1466, 2005 WL 5417507 (Tenn. Cir. Ct. May 31, 2005) (declining to follow landmark *Zubulake v. UBS Warburg*, *LLC* line of cases); Medtronic Soframor Danek, Inc. v. Michelson*,* 229 F.R.D. 550, 559–62 (W.D. Tenn. May 13, 2003) (establishing comprehensive discovery plan to govern production of nine hundred ninety-six backup tapes containing sixty-one terabytes of data); Davis v. Bayer Corp., No. 3:07-0115, Docket Entry No. 47, slip op. at 1 (M.D. Tenn. April 26, 2007) (stating that "the entire scope of electronic discovery is in flux"); John B. v. Goetz, No. 3:98-0168, 2010 U.S. Dist. LEXIS 8821 (M.D. Tenn. October 10, 2007) (comprehensive one hundred eighty-seven page Court Order and Memorandum running the

federal counterparts.[16] These eDiscovery rule changes were a necessary response to the changing technological landscape.

The Committee on Rules of Practice and Procedure of the Judicial Conference of the United States is currently considering proposed amendments to the Federal Rules of Civil Procedure[17] that, if approved, should improve the eDiscovery process and alleviate some of its current burdens.[18] And once again, Tennessee should adopt the same changes effected under the Federal Rules to improve the approach to eDiscovery in state courts. However, rules can only do so much and are only effective if practically implemented. In order to properly reform eDiscovery, improved processes and technologies must empower lawyers to provide better services at lower cost and risk to their clients.

This Article begins by outlining changes in the modern digital world through an examination of essential laws of computing unfamiliar to most lawyers but crucial to an understanding of the changing landscape of technology and its projected impact on modern society. Part II then applies these principles to the practice of law in the context of electronic discovery, pointing to the challenges posed under the current Rules of Civil Procedure, an ever-increasing overabundance of discoverable data, and the inadequacy of existing technology and processes possessed by the typical lawyer to deal with these challenges. Finally, Part III of this Article will examine and advocate for the adoption of the proposed changes to the Federal Rules of Civil Procedure, as well as adoption of similar provisions in Tennessee, and ultimately offer suggestions to reform eDiscovery through process improvement, collaboration, and technology implementation.

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gamut of eDiscovery issues); John B. v. Goetz, 531 F.3d. 448, 461 (6th Cir. 2008) (overturning district court ruling allowing access to governor's computer).

16. *Compare* FED. R. CIV. P. 2 ("There is one form of action—the civil action") *with* TENN. R. CIV. P. 2 ("All actions in law or equity shall be shown as 'civil actions.'") *and* FED. R. CIV. P. 11(a) (requiring signature requirements on pleadings, motions, and other papers) *with* TENN. R. CIV. P. 11.01(a) (requiring signature requirements on pleadings, motions, and other papers); *compare also* FED. R. CIV. P. 21 ("On motion or on its own, the court may at any time, on just terms, add or drop a party.") *with* TENN. R. CIV. P. 21 ("Parties may be dropped or added by order of court on motion of any party or of its own initiative at any stage of the action and on such terms as are just.").

17. Proposed amendments for Civil Rules 1, 4, 6, 16, 26, 30, 31, 33, 34, 36, 37, 55, 84 and Appendix of Forms were approved by the Committee on Rules of Practice and Procedure of the Judicial Conference of the United States at the January 2012, and June 2013 meetings of the Standing Committee. The amendments were open to public comment until February 18, 2014. *See* Committee on Rules of Practice and Procedure of the Judicial Conference of the United States, *Preliminary Draft of Proposed Amendments to Federal Rules of Civil Procedure* (August 2013), *available at* http://www.uscourts.gov/RulesAndPolicies/rules/proposed-amendments.aspx (last visited May 21, 2014).

18. *See id.* at 260 ("The rules proposals are grouped in three sets. One set looks to improve early and effective judicial case management. The second seeks to enhance the means of keeping discovery proportional to the action. The third hopes to advance cooperation.").

I. THE MODERN DIGITAL WORLD

The following story from ancient folklore is helpful to demonstrate the impact of the exponential growth of computing power and technology in our modern digital society.[19] The inventor of the game of chess showed his creation to the ruler of his land.[20] The ruler was so enamored with the game that he allowed the inventor to name his own reward.[21] The wise inventor asked for a quantity of rice to be determined as follows: one grain of rice to be placed on the first square of the chessboard, two grains on the second, four on the third, eight on the fourth and so on, with each square receiving twice as many grains as the previous square.[22] The emperor thought that the man was a fool and agreed.[23] However, the constant doubling resulted in grains of rice piled higher than Mount Everest at the end of the chessboard.[24]

At the halfway point of the chessboard, the pile of rice was unexceptional, at least compared to the pile at the end of the chessboard.[25] After thirty-two squares, four billion grains of rice—the equivalent of a large field—were set aside for the inventor.[26] The doubling effect was deceptively unremarkable at first, akin to linear growth, which caused the ruler's underestimation of the magnitude of the inventor's reward.[27] The real power of exponential growth is seen on the second half of the chessboard, when incredibly large numbers are being doubled.[28]

Technological development is now moving to the second half of its own metaphorical chessboard. The early stages of development were impressive, but it took a long time to move from large IBM mainframe computers and Texas Instruments graphing calculators to the first Apple

19. *Grains on the Chessboard*, 40.11 NATURE GENETICS 1261 (2008) (referencing a legend from Ambalappuzha, Kerala, in Southern India).

20. ERIK BRYNJOLFSSON & ANDREW MCAFEE, RACE AGAINST THE MACHINE: HOW THE DIGITAL REVOLUTION IS ACCELERATING INFORMATION, DRIVING PRODUCTIVITY, AND IRREVERSIBLY TRANSFORMING EMPLOYMENT AND THE ECONOMY 4 (The MIT Ctr. For Digital Bus. 2012), *available at* http://ebusiness.mit.edu/research/Briefs/Brynjolfsson_McAfee_Race_Against_the_Machine.pdf (last visited May 21, 2014) [hereinafter RACE AGAINST THE MACHINE].

21. *Id.*

22. *Id.*

23. *See id.* ("The emperor agrees, thinking that this reward was too small.").

24. *Id.*

25. RAY KURZWEIL, THE AGE OF SPIRITUAL MACHINES: WHEN COMPUTERS EXCEED HUMAN INTELLIGENCE 37 (Penguin Books 2000) [hereinafter SPIRITUAL MACHINES].

26. RACE AGAINST THE MACHINE, *supra* note 20; *see also* Eric W. Weisstein, *Wheat and Chessboard Problem*, MATHWORLD, http://mathworld.wolfram.com/WheatandChessboardProblem.html (last visited May 21, 2014) (describing the mathematical formula for calculating the exponential growth of wheat grains on a chessboard).

27. SPIRITUAL MACHINES, *supra* note 25.

28. The pile on the last chessboard square would contain 18,446,744,073,709,551,615 grains of rice. *See* Weisstein, *supra* note 26.

personal computer.[29] Now, computers can accomplish previously impossible tasks. The first examples of this move are Watson, IBM's Jeopardy champion supercomputer,[30] Google's driverless car,[31] and the "Maker Movement,"[32] which is revolutionizing manufacturing through three-dimensional printing.

Every aspect of society is greatly impacted by the exponential growth of computing power. The legal industry will be no less impacted by these changes. Adapting to these changes will be challenging for the legal community. But lawyers should embrace this challenge with optimism about new opportunities to serve clients by combining skills unique to the legal profession with the implementation of new technology. In order to capitalize on these opportunities, every lawyer must understand four laws of computing: (A) Moore's Law, (B) Kryder's Law, (C) Butters' Law of Photonics, and (D) Metcalfe's Law.

A. Moore's Law[33]

Named after the founder of Intel Corporation, Gordon Moore, Moore's Law states that the number of transistors on integrated circuits doubles approximately every eighteen to twenty-four months.[34] This effectively means that the transistor count or speed of the world's leading central processing unit has doubled every eighteen to twenty-four months.[35] Moore himself thought this trend would last for approximately a decade.[36] In fact, it is approaching its fiftieth year and explains much of the

29. *See IBM Mainframes*, IBM, http://www-03.ibm.com/ibm/history/exhibits/mainframe/mainframe_intro.html (last visited May 21, 2014) (describing the evolution of IBM mainframes over the company's history).

30. *See* Ben Parr, *IBM's Watson Dominates Humanity in Jeopardy,* MASHABLE (Feb. 15, 2011), http://mashable.com/2011/02/15/watson-jeopardy-day-2/ (describing "Watson," IBM's artificial intelligence project which answers questions by running "hundreds of simultaneous algorithmic calculations" to find answers).

31. *See* Chunka Mui*, Fasten Your Seatbelts: Google's Driverless Car Is Worth Trillions,* FORBES (Jan. 22, 2013), http://www.forbes.com/sites/chunkamui/2013/01/22/fasten-your-seatbelts-googles-driverless-car-is-worth-trillions (describing the societal benefits that Google's driverless car could have, including a reduction in accidents and lower pollution).

32. *See* CHRIS ANDERSON, MAKERS: THE NEW INDUSTRIAL REVOLUTION (2012) (proposing a "desktop manufacturing revolution" in which individuals can use "open-source design and 3-D printing" to enable a new generation of entrepreneurs to run their businesses in the United States at a low cost).

33. *See* Gordon E. Moore, *Cramming More Components onto Integrated Circuits,* ELECTRONICS (Apr. 19, 1965), at 114. This periodical has come to be known as Moore's Law in the technology industry. The name stems from an extrapolation of a graph that has continued to remain constant. *Id.*

34. *Id.*

35. *Id.*

36. *Id.*

technological innovation seen over that time.[37] Ray Kurzweil, Google's current Director of Engineering, estimates that the continued validity of Moore's Law means that the average desktop will have the same processing power of the human brain (10^{16} calculations per second) by 2020.[38] By 2050, the average desktop will exceed the processing power of all human brains on Earth.[39] The manifold ramifications of this rapid growth in technological advances should be apparent. The legal profession would be well served to take advantage of, rather than avoid, the resulting opportunities.

B. Kryder's Law[40]

What Moore's Law is to processing speed, Kryder's Law is to storage capability. It is named after Mark Kryder, the former Senior Vice President for Research and Chief Technology Officer for Seagate Corporation.[41] Storage costs have been rapidly and consistently declining.[42] Kryder's Law states that the rate of increase in hard drive capacity doubles every twelve months or less.[43] At present, one terabyte of data—the equivalent of the data contained in a stack of paper covering every cubic foot, floor to ceiling, of four college dorm rooms—can fit in the palm of one's hand.[44] It is estimated that by 2020, a two-and-a-half-inch hard drive costing about forty dollars will hold fourteen terabytes.[45] The rapid decline in storage cost leads organizations and individuals to store massive amounts of duplicative data (emails and unstructured data stored in multiple network locations with copies to multiple portable storage devices), obsolete data (data that has long outlived its usefulness), and trivial data (fantasy football,

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37. *See* Samuel Arbesman, *The Hidden Rules That Shape Human Progress,* BBC (Oct.18, 2012), http://www.bbc.com/future/story/20121018-hidden-rules-of-human-progress.

38. RAY KURZWEIL, THE SINGULARITY IS NEAR: WHEN HUMANS TRANSCEND BIOLOGY, 122–27 (Viking Press 2005).

39. *See* Jonathan Strickland, *What Do You Think Computers Will Be Like in 2050?*, HOW STUFF WORKS, http://computer.howstuffworks.com/computers-in-2050.htm (last visited May 21, 2014).

40. *See* Chip Walter, *Kryder's Law*, SCIENTIFIC AMERICAN, 32 (August 2005).

41. *Id.*

42. *Id.* at 33; *see* Matthew Komorowski, *A History of Storage Cost,* MKOMO.COM, http://www.mkomo.com/cost-per-gigabyte (last visited May 21, 2014) ("Over the last 30 years, space per unit cost has doubled roughly every 14 months increasing by an order of magnitude every 48 months.").

43. *See* Walter, *supra* note 40, at 32.

44. *See A Few Facts About IBM Storage*, IBM, http://www-03.ibm.com/ibm/history/exhibits/storage/storage_facts.html (last visited May 21, 2014) ("A terabyte of paper stacked would be 66,000 miles high.").

45. *See New Hard Drive Tech Will Help Seagate Crack 5Tb Barrier in 2014, 20Tb in 2020*, PCWORLD (Sep. 11, 2013, 1:57 PM), http://www.pcworld.com/article/2048586/new-hard-drive-tech-will-help-seagate-crack-5tb-barrier-in-2014-20tb-in-2020.html.

lunch emails, chain letters, etc.).[46] It is not possible for lawyers to sift through this extreme proliferation of data to obtain information for their cases as they have traditionally done. Consequently, lawyers will have a massive need for assistance from technology.

C. Butters' Law of Photonics[47]

Butters' Law is named after Gerry Butters, the former head of Lucent's Optical Networking Group, a part of Bell Labs.[48] It purposefully parallels Moore's Law and states that the amount of data produced out of optical fiber doubles every nine months.[49] This means that the cost of transmitting information over an optical network is cut in half every nine months.[50] Nielsen's Law restates Butters' Law for consumer application: The bandwidth available to end-users increases by fifty percent annually.[51] The implication of Butters' Law is that more forms of data will come through optic fiber.[52] There will be more audio, video, and other multi-faceted formats that will add to the cost and complexity of eDiscovery.[53] And with this proliferation of data inputs comes a host of new forms of output which must be mastered in order to find the necessary information to adequately prepare for the challenges that discovery from new and emerging sources of information bring. In a world of Google Glass[54] and a multitude of devices connected to the Internet—referred to as the "Internet of Things" or "Internet of Everything"[55]—the ubiquitous use of technology

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46. *Id.*

47. Rich Tehrani, *As We May Communicate*, TMC.NET (Jan. 2000), http://www.tmcnet.com/articles/comsol/0100/0100pubout.htm.

48. *Id.*

49. *Id.*

50. *Id.*

51. *See* Jakob Nielsen, *Nielsen's Law of Internet Bandwidth*, NIELSEN NORMAN GROUP (Aug. 5, 1998), http://www.nngroup.com/articles/law-of-bandwidth.

52. *See id*.

53. *See generally* Kelly Foss, *Reducing Civil Litigation Costs by Promoting Technological Innovation: Adopting Standards of Reasonableness in E-Discovery*, 63 HASTINGS L.J. 1167 (2012) (discussing the increased cost of civil litigation discovery costs due to an increase in stored data).

54. *See generally* Hayley Tsukayama, *Everything You Need to Know About Google Glass*, WASH. POST (Feb. 27, 2014, 12:36 PM), http://www.washingtonpost.com/blogs/the-switch/wp/2014/02/27/everything-you-need-to-know-about-google-glass/ ("The headset has a small prism-like screen tucked into the upper corner of the frame that keeps you constantly plugged in to your e-mail, calls and other notifications so you don't have to miss a beat.").

55. *See* ABI Research, *More Than 30 Billion Devices Will Wirelessly Connect to the Internet of Everything in 2020* (May 9, 2013), https://www.abiresearch.com/press/more-than-30-billion-devices-will-wirelessly-conne [hereinafter ABI Research]*; see also* Bill Wasik, *Welcome to the Programmable World*, WIRED (May 14, 2013), http://www.wired.com/gadgetlab/2013/05/internet-of-things (discussing how many, if not all, electronic devices are connected to the internet, giving an individual instant access to a plethora of data and information).

will cause a tremendous amount of new outputs that are discoverable in litigation.

D. Metcalfe's Law[56]

Metcalfe's Law is attributed to Robert Metcalfe, who co-invented the Ethernet and founded 3Com.[57] Originally used to describe the value of a telecommunications network, Metcalfe's Law states that the value of a network is proportional to the number of connected users of the system squared.[58] This valuation can be applied to the World Wide Web and social media. The volume of widely used social media sites is rapidly increasing, and the speed at which they are adopted is astounding. Consider the following. Radios were in use for thirty-eight years before fifty million people gained access to them, and televisions were in use for thirteen years before the television audience increased to that size.[59] Instagram, by contrast, only took eighteen months to reach an audience of fifty million users.[60] Most business owners now understand how to incorporate various social media strategies into their marketing and operations.[61] Moving forward, social media will have an increasing impact on the economy and how businesses operate. In turn, this will result in many new forms of discoverable evidence.

II. IMPACT OF THE DIGITAL WORLD ON EDISCOVERY

A. Rule of Civil Procedure 1 and the Problem of Over-Preservation

Federal Rule of Civil Procedure 1 establishes the scope and purpose of the rules of civil procedure.[62] Specifically, Rule 1 states that the rules "should be construed and administered to secure the just, speedy, and inexpensive determination of every action and proceeding."[63] The civil justice system in the United States is struggling to meet these goals.[64] The

56. *Metcalfe's Law*, PRINCETON U., http://www.princeton.edu/~achaney/tmve/wiki100k/docs/Metcalfe_s_law.html (last visited May 21, 2014).

57. *See Inventor of the Week: Ethernet*, MASS. INST. OF TECH. (Apr. 2001), http://web.mit.edu/invent/iow/metcalfe.html.

58. *See* ABI Research, *supra* note 55.

59. *See* GARY VAYNERCHUK, JAB, JAB, JAB, RIGHT HOOK: HOW TO TELL YOUR STORY IN A NOISY SOCIAL WORLD 4 (Harper Collins 1st ed. 2013).

60. *Id.*

61. *See* Geoffrey A. Fowler, *Are You Talking to Me?*, WALL ST. J. (Apr. 25, 2011), http://online.wsj.com/news/articles/SB10001424052748704116404576263083970961862.

62. FED. R. CIV. P. 1.

63. *Id.*

64. *See* Mia Mazza et. al., *In Pursuit of FRCP 1: Creative Approaches to Cutting and Shifting the Costs of Discovery of Electronically Stored Information*, 13 RICH. J.L. & TECH. 11, 1 (2007) ("In reality, few parties to litigation in federal court receive the prompt and economical resolution that FRCP 1 seems to promise."); Robert Bone, *Improving Rule 1: A*

absence of documentary evidence imperils the search for truth.[65] If documents are lost or destroyed because attorneys have not implemented processes to ensure that data is preserved, then justice is not served.[66] If the average lawyer cannot afford current technological tools and is consequently forced to practice law the same way he did a quarter of a century ago, justice is likewise not served.[67] The explosion of data, discussed in Part I above, will have an enormous impact on the speed and cost of resolving disputes.[68] In order to meet the goals of quicker and less expensive resolution of disputes, it will be necessary to ensure that processes are in place for getting information in front of courts in a more efficient manner.[69]

But the typical case presents increasing difficulty in meeting the aspirational goals of Rule 1 with respect to electronic discovery. In an August 31, 2011 letter to the committee considering changes to discovery under the Federal Rules of Civil Procedure, Microsoft Corporation detailed "big data" challenges for litigants.[70] In the letter, Microsoft presented a graphic of a funnel illustrating the big data problem.[71] The volume, variety, and velocity of big data cause a tsunami of noise in the form of data at the top of the funnel.[72] One must find the signal in the noise.[73] At the bottom of the funnel is the small amount of knowledge that is actually worth utilizing. For a litigator seeking to find the key documents that will assist with a case, the challenge is to convert raw data into real knowledge.[74]

Tremendous progress can follow from making the discovery of knowledge the goal of eDiscovery, rather than sifting through mounds of data so that responsive but largely irrelevant documents are produced. In its average case, Microsoft preserves approximately forty-eight million pages,

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Master Rule for the Federal Rules, 87 DENV. U. L. REV. 287 (2010) (noting studies indicating broad agreement among practitioners that the current system is not working well).

65. *See* A. Benjamin Spencer, *The Preservation Obligation: Regulating and Sanctioning Pre-Litigation Spoliation in Federal Court*, 79 FORDHAM L. REV. 2005, 2006–07 (2011).

66. *Id.*

67. *See, e.g.*, John Beisner, *Discovering a Better Way: The Need for Effective Civil Litigation Reform*, 60 DUKE L.J. 547, 563 (2010) ("The volume and costs of discovery in the electronic age amount in some cases to billions of pages and millions of dollars. Moreover, difficulties in managing and organizing electronic data have created opportunities for significant discovery abuse by litigants who see an opportunity to increase their opponents' costs and thereby force a settlement of litigation regardless of merit.").

68. *Id*. at 564–70.

69. *See generally* Mazza et al., *supra* note 64 (suggesting methods of increasing efficiency in eDiscovery collection and filtration).

70. *See* Letter from Microsoft Corporation to Honorable David G. Campbell (Aug. 31, 2011), *available at* http://www.bricker.com/documents/attachments/microsoft.pdf.

71. *Id.*

72. *Id.*

73. *See* NATE SILVER, THE SIGNAL AND THE NOISE: WHY SO MANY PREDICTIONS FAIL BUT SOME DON'T (Penguin 2012).

74. *See* Letter from Microsoft Corporation, *supra* note 70.

collects and processes approximately twelve million pages, reviews approximately six hundred fifty thousand pages, produces approximately one hundred thousand pages, and utilizes one hundred forty-two pages.[75] A study by the Rand Corporation found that seventy-three percent of eDiscovery costs are expended at the review phase.[76] The major problem with that expenditure and the way in which review is currently handled within the eDiscovery process is that an exorbitant amount of money has been spent and the parties still have not obtained any knowledge. Machine learning powered by advanced mathematics should be employed to help the lawyer find the handful of documents that will actually make a difference in his or her case. Generally, only a few key concepts will actually be persuasive turning points in trial or negotiation. Further, a judge or jury can only take cognitive hold of a few concepts at a given time.[77] Technology should empower skilled and intelligent lawyers to find key documents faster and, as a result, reduce costs to the client and to the judicial system.

B. The Inadequacy of Existing Technology for Litigation and the Improvement of Technological Design

Software developed for the legal market would benefit from early input by lawyers into design features. Ideally, rather than taking software from a model that works in another industry and retrofitting it for lawyers, software should be developed for lawyers by companies owned and operated by lawyers. But this has largely not been the case. This failure of design has reduced adoption of technology by lawyers, despite the fact that such software should have pronounced benefits in the legal marketplace.

In the eDiscovery industry, entrepreneurs, programmers, and developers have tackled what they perceived to be the problem and offered a solution.[78] However, the desired result has not been achieved because it is not focused on the actual issue: lawyers obtaining the needed actionable legal intelligence or knowledge to achieve better outcomes for their clients.[79] Lawyers have begun applying machine learning tools—often

75. *Id.*

76. *See* NICHOLAS M. PACE & LAURA ZAKARAS, RAND CORP., WHERE THE MONEY GOES: UNDERSTANDING LITIGANT EXPENDITURES FOR PRODUCING ELECTRONIC DISCOVERY 59 (2012), *available at* http://www.rand.org/content/dam/rand/pubs/monographs/2012/RAND_MG1208.pdf (last visited May 21, 2014).

77. *See* George Miller, *The Magic Number Seven, Plus or Minus Two: Some Limits on Our Capacity for Processing Information*, 101.2 PSYCHOL. REV. 343 (1956).

78. WAYNE MATUS, DAVID STANTON, & BROWNING MAREAN, EDISCOVERY FOR CORPORATE COUNSEL § 24.9 (2013).

79. *See* Charles Yablon & Nick Landsman-Roos, *Predictive Coding: Emerging Questions and Concerns*, 64 S.C. L. REV. 633, 637 (2013) ("[T]he technologies that exist cannot assemble theories of a case, sort documents based on varying grounds of liability, or even decide whether a document is helpful or hurts a particular side's case.").

referred to as "technologically-assisted review" ("TAR")[80] or "predictive coding"[81]—to improve the process of reviewing documents for privilege, responsiveness, and proprietary information that should be subject to a protective order. Implementing these processes has been helpful, but these do not fully address the true needs of attorneys.[82] Litigators live in constant fear that the other side knows something significant that they do not know. TAR and predictive coding will not help lawyers find "unknown unknowns"[83] or avoid a black swan litigation event.[84] The focus of software should be on enhancing the ability of the lawyer to provide service by addressing these needs particular to the legal field.

Further, attorneys are under ethical obligation to pursue efficient and thorough treatment of eDiscovery. Tennessee Supreme Court Rule 8 and the American Bar Association ("ABA") Model Rule of Professional Conduct 1.1 set parameters for competency requirements for practicing attorneys. The Tennessee Rule and the Model Rule state:

> A lawyer shall provide competent representation to a client. Competent representation requires the legal knowledge, skill, thoroughness and preparation reasonably necessary for the representation.[85]

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80. Maura R. Grossman & Gordon V. Cormack, *Technologically-Assisted Review in E-Discovery Can Be More Effective and More Efficient Than Exhaustive Manual Review*, 17 RICH. J.L. & TECH. 11, 3–4 (2011) (noting that, as opposed to an exhaustive manual review in which each and every document in a collection is examined by human eyes, a technologically-assisted review process "involves the interplay of humans and computers to identify the documents in a collection that are responsive to a production request. . . . A [TAR] process may involve . . . keyword search Boolean search, conceptual search, clustering, machine learning, relevance ranking, and sampling.").

81. Yablon & Landsman-Roos, *supra* note 79, at 638 (explaining that predictive coding "generally involves feeding a computer system with a small set of documents—called a 'seed set'—that has been selected by attorneys with knowledge about the responsiveness of those documents. Using this small set of documents and the coding of those documents determined by attorneys, the computer creates a model that then generates a prediction score for every document based on its degree of responsiveness. The assignment of responsiveness scores 'becomes increasingly accurate as the software continues to learn from human reviewers what is, and what is not, relevant or privileged.'") (quoting WHERE THE MONEY GOES, *supra* note 76).

82. Yablon & Landsman-Roos, *supra* note 79, at 637 ("[T]he technologies that exist cannot assemble theories of a case, sort documents based on varying grounds of liability, or even decide whether a document is helpful or hurts a particular side's case.").

83. DONALD H. RUMSFELD & GEN. RICHARD MYERS, DEPT. OF DEF. NEWS BRIEFING (Feb. 12, 2012, 11:30 AM), *available at* http://www.defense.gov/Transcripts/Transcript.aspx?TranscriptID=2636.

84. A "black swan" event is a surprising, unpredictable event of substantial consequence. *See* NASSIM NICHOLAS TALEB, THE BLACK SWAN: THE IMPACT OF THE HIGHLY IMPROBABLE (Penguin 2d ed. 2010).

85. MODEL RULES OF PROF'L CONDUCT R. 1.1 cmt. 8 (1983), *available at* http://www.americanbar.org/groups/professional_responsibility/publications/model_rules_of_

In its latest revision to the Model Rules, the ABA has made it clear that lawyers must keep abreast of the benefits and risks of technology.[86] eDiscovery is full of traps for the unwary.[87] The uninformed lawyer puts himself at risk, provides a more costly service to his client, and exposes the client to more risk when he fails to seek or discover the information needed to provide adequate representation by failing to utilize the benefits of current technology in the process.

III. PROPOSED REFORMS UNDER THE FEDERAL RULES AND RECOMMENDATIONS FOR REFORM TO THE EDISCOVERY PROCESS

A. Proposed Federal Rules Amendments

In August 2013, the Standing Committee on Rules of Practice and Procedure of the Judicial Conference of the United States approved draft amendments for public comment designed to improve the federal discovery process, encourage cooperation by litigants on procedural issues, and eliminate gamesmanship so that cases can be litigated on the merits rather than being sidetracked by costly and time-consuming litigation over discovery.[88] The earliest date for expected approval of these new amendments is December 1, 2015.[89] While the December 1, 2006 amendments were designed to meet many of the same goals, the new proposed amendments will be a marked improvement over current practices, especially once fully understood and embraced into best practices by lawyers.[90] In the context of electronic discovery, the proposed changes to the current rules emphasize cooperation between litigants, proportionality in discovery sought, and judicial case management.[91]

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professional_conduct/rule_1_1_competence/comment_on_rule_1_1.html (last visited May 21, 2014).

86. *Id.*

87. *5 Daunting Problems Facing Ediscovery*, KROLLONTRACK.COM, http://www.krollontrack.com/library/5dauntingproblems_krollontrack2013.pdf (last visited May 21, 2014).

88. *See* Committee on Rules of Practice and Procedure of the Judicial Conference of the United States, *Preliminary Draft of Proposed Amendments to Federal Rules of Civil Procedure*, 3 (August 2013), *available at* http://www.uscourts.gov/uscourts/rules/preliminary-draft-proposed-amendments.pdf (emphasis added) [hereinafter Proposed Amendments].

89. *Id.* at 4.

90. *Id.* at 271.

91. Significantly, the United Kingdom is currently addressing the same issues in "e-disclosure" through Lord Jackson's reforms. *See* Rupert Jackson, Review of Civil Litigation Costs: Final Report (Dec. 21, 2009), *available at* http://www.ciarb.org/information-and-resources/2010/01/22/Review%20of%20Civil%20Litigation%20Costs%20Final%20Report.pdf.

1. Cooperation—Rule 1

Overall, the Committee's proposed amendments are designed to meet the lofty mandate of Rule 1 for "just, speedy, and inexpensive determination of every action and proceeding."[92] The amendment to Rule 1 states that the rules "should be construed, and administered, *and employed by the court and the parties* to secure the just, speedy and inexpensive determination of every action and proceeding."[93] Thus, parties would now share responsibility with the court for implementing the rules to meet these stated goals. While this concept was already stated in the Advisory Committee Comments to Rule 1, its placement in the Rule itself emphasizes the need for procedural cooperation. This should prompt litigants and the lawyers advocating on their behalf to engage in more cooperative conduct.[94] Further, adding the language to the Rule itself should provide judges with more authority to encourage cooperation and an opportunity for more active management of the discovery process. This is especially true when read in conjunction with Rule 26(g)'s certification requirement.[95] A more skeptical reading of new Rule 1, however, might suggest that the changes are only semantic. The proof will be seen in the implementation.

2. Proportionality—Rules 26, 30, 31, 33, 34, & 36

Proportionality requirements have appeared in the Rules since 1983.[96] These requirements are designed to require a cost-benefit analysis, weighing the burden of the discovery sought against the amount in controversy and the benefit of the information in the particular case so that a just, speedy, and inexpensive determination of the matter can be achieved.[97] However, proportionality requirements have been widely ignored in practice.[98] Despite constant complaints by litigants and litigators that discovery is overly burdensome and that costs far exceed benefits, an ABA survey found that sixty-one percent of those surveyed did not believe that lawyers typically request discovery limitations.[99] Gamesmanship in the discovery process likely plays a role. Of course, this concept is not new. Claims that plaintiffs make overly broad document requests and that

92. FED. R. CIV. P. 1.

93. Proposed Amendments, *supra* note 88, at 281 (emphasis added).

94. *See* FED. R. CIV. P. 1, comments to 1993 Amendments.

95. FED. R. CIV. P. 26(g) (providing that an attorney of record must sign discovery requests certifying that the request is not frivolous, not motivated by an improper purpose, and not unreasonable, and giving the court discretion to impose sanctions for violations of these requirements).

96. Proposed Amendments, *supra* note 88, at 264.

97. *Id.* at 265.

98. *Id.*

99. Litigation Section, American Bar Association, *Member Survey on Civil Procedure: Detailed Report*, 76 (2009).

defendants dump largely irrelevant data in response were made with regularity in paper-based discovery. The same thing naturally occurs in electronic discovery.

Proposed Rule 26(b)(1) and Rule 34(b) attempt to bring the previously missing proportionality analysis to the world of eDiscovery.[100] Proportionality limitations are presently found in Rule 26(b)(2)(C), but have been underutilized because their value has not been recognized by judges and litigators. The proposed rule moves proportionality directly into the scope of the discovery conversation. The Committee's apparent goal is for courts and attorneys to better understand the importance of proportionality and better recognize the constraints proportionality is intended to place on discovery. Proposed Rule 26(b)(1) states:

> Parties may obtain discovery regarding any non-privileged matter that is relevant to any party's claim or defense *and proportional to the needs of the case considering the amount in controversy, the importance of the issues at stake in the action, the parties' resources, the importance of discovery in resolving the issues, and whether the burden or expense of the proposed discovery outweighs its likely benefit.*[101]

Perhaps more importantly, the proposed rule eliminates the language "reasonably calculated to lead to the discovery of admissible evidence" currently contained in the rule.[102] In a world of exponentially increasing data sets and the resulting increased burden on litigants and courts, this change is necessary. However, without an adjustment in the behavior of litigants, the laudable goal of the proposed amendment may not be achieved. While the "reasonably calculated" language is being eliminated, it is still true that "[i]nformation within the scope of discovery need not be admissible in evidence to be discoverable."[103] This language has been the hallmark of broad discovery in the United States, vis-à-vis other countries, and could still serve as a basis for litigants' continued insistence on broad discovery that prevents the goals of proportionality from being met.[104]

Proposed Rule 34(b) is similarly designed to limit the scope of discovery and bring proportionality analysis to the forefront of this conversation.[105] In particular, three provisions will likely drive litigants to think more intelligently about their claims and defenses, along with the

100. Proposed Amendments, *supra* note 88, at 264.
101. *Id.* at 289 (emphasis added).
102. *Id.* at 290.
103. *Id.* at 289–90.
104. *Id.* at 266.
105. *Id.* at 308.

information needed to support those claims and defenses. Rule 34(b)(2)(B) requires that any objection in response to a document request be stated with specificity, an apparent attempt to eliminate boilerplate objections.[106] Such objections are effectively meaningless and tend to frustrate the possibility of agreement on procedural issues. The likely outcome of these objections is more costly litigation over discovery, increased costs, and taxing of limited judicial resources.

Proposed Rule 34(b)(2)(C) provides that "an objection must state whether any responsive materials are being withheld on the basis of that objection."[107] Enforcement of this provision should lead to straightforward responses, crystallization of the real issues in the case, and agreement on what will be produced. This is preferable to current practice because it leads to greater predictability and uniformity.

The Committee has proposed that the responding party "should specify the beginning and end dates of production."[108] Further, according to the proposed amendments to Rule 34, responding parties are to complete productions "no later than the time for inspection stated in the request or [at] a later reasonable time stated in the response."[109] This clarity regarding production in the Rule should limit open-ended, rolling productions that increase litigation expenses.

In general, the proposed amendments reduce discovery that may be sought under Rules 30, 31, 33, and 36. The draft amendments reduce the number of depositions from ten to five;[110] oral deposition time has been reduced from seven hours to six;[111] the number of interrogatories is cut from twenty-five to fifteen;[112] and requests for admissions have been limited to twenty-five for the first time.[113] These reforms should force parties to analyze their claims and defenses in more depth and limit discovery to the information needed to prove their case.

Such limitation on discovery is in accordance with the best practices of exceptional lawyers.[114] Experienced litigators plan their closing arguments early and allow information gained through the discovery process to mold and shape their story as the case progresses.[115] Limitation of discovery helps set parameters for the end result early, thus increasing efficiency.

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106. *Id.* at 307.
107. *Id.* at 308.
108. *Id.* at 309.
109. *Id.* at 307.
110. *Id.* at 300.
111. *Id.* at 301.
112. *Id.* at 305.
113. *Id.* at 310.
114. *Id.* at 267–68.
115. MARILYN J. BERGER ET AL., TRIAL ADVOCACY: PLANNING, ANALYSIS, AND STRATEGY 524 (2008), *available at* http://www.wcl.american.edu/org/mocktrial/documents/BergeronTrialAdvocacy-PlanningAnalysisandStrategy-ClosingArguments.pdf.

There are some valid concerns regarding these limitations. For instance, the plaintiffs' bar may raise objections to limiting discovery based on the "just" goal articulated in Rule 1. However, balance may be achieved by encouraging courts to liberally grant motions for leave to expand these limitations. Ultimately, these reforms are expected to bring improvement to the discovery process.

3. Case Management—Rules 4, 16, 26, 34, and 37

In order to meet the goals of cooperation and proportionality discussed above, the Committee has proposed changes that should improve judicial case management. Rule 26(f) contemplates meaningful meet and confer conferences between the parties.[116] These conferences are not currently occurring regularly.[117] The proposed amendment to Rule 26(f) would require the parties to discuss issues related to the preservation of ESI.[118] This proactive approach to preservation will facilitate agreements between the parties early in the case, reducing the likelihood of satellite litigation and sanction motions practice. This requirement works in tandem with draft amendments to Rule 16(b)(3), allowing the court to address preservation issues in the case management order.[119] Additionally, motions under Rule 37(e)—sanctions for failure to preserve—will be influenced by the preservation issues agreed to or raised at the outset of the litigation.[120]

Significantly, Rule 16(b)(3) would enable the court to address Federal Rule of Evidence 502 issues in the scheduling order.[121] Rule of Evidence 502(e) is rarely used, despite its ability to reduce the expense of litigating issues related to the inadvertent production of privileged material.[122] Rule 26(d) and Rule 34(b)(2) would also allow the parties to issue document requests early, prior to the Rule 26(f) conference.[123] This should enhance the parties' abilities to have meaningful discussion at the Rule 26(f) meet and confer, assisting with formulation of a discovery plan to be included in the Rule 16 Case Management Order.[124] In furtherance of the goal of facilitating agreements and reducing likelihood of increased downstream litigation costs associated with eDiscovery disputes, proposed

116. FED. R. CIV. P. 26(f).

117. *See* Lee H. Rosenthal, *A Few Thoughts on Electronic Discovery After December 1, 2006*, 116 YALE L.J. POCKET PART 167, 168 (2006), *available at* http://www.yalelawjournal.org/forum/meeting-and-conferring ("The problem has been that the meet-and-confer is too often treated as a perfunctory 'drive-by' exchange.").

118. Proposed Amendments, *supra* note 88, at 295–99.

119. *Id.*

120. *Id.* at 314–28.

121. *Id.* at 286.

122. *See generally* Paul W. Grimm et al., *Federal Rule of Evidence 502: Has It Lived up to Its Potential?*, 17 RICH. J.L. & TECH. 8 (2011).

123. Proposed Amendments, *supra* note 88, at 294.

124. *See id.* at 299.

Rule 16(b)(3) would allow the judiciary to require the parties to caucus before filing discovery motions.[125] Rule 4 would shorten the time for commencement of discovery.[126] All of these amendments will encourage attorneys to consider their cases proactively and bring the parties together sooner in an effort to resolve potential eDiscovery disputes. The current system—hindsight analysis after the substantive adversarial process is in full force—is too costly to litigants and the judicial system.

The proposed rules are likely to undergo additional change now that the comment period has ended.[127] Even so, Tennessee should adopt similar reforms shortly after the federal rules are finalized. This will be a great benefit to the court system and its litigants. Cases will be resolved in a more just, speedy, and inexpensive manner.[128]

B. Recommendation: Technology Implementation

Attorneys must improve their processes and collaborate openly with their clients so that they can be good partners in achieving these goals. To do so, it is necessary to deploy technological assistance to make real and sustainable improvements. In an era of increasing artificial intelligence, computers are tireless workers, possessing an ability to utilize algorithms in order to analyze data in a vastly shorter amount of time than a team of humans could. However, there are certain things computers cannot do, such as making conceptual connections and asking qualitative "should" or "ought" questions.[129] For example, most Americans would apply the term "baseball" when seeing a picture of a hot dog, a wooden bat, and a bleacher seat, whereas a computer would not unless specifically programmed to do so.[130] Computers are able to construct amazing financial models and automated processes, but they cannot make any decision on when it is most appropriate to deploy the algorithms or to come up with a system of checks and balances regarding the deployment.[131]

The way forward is augmented intelligence: humans utilizing machines to supplement their intelligence. This will beat out humans acting without any technological assistance and machines acting without any human input.[132] In 1997, IBM's Deep Blue dethroned chess grand master

125. *Id.* at 285–86.

126. *Id.* at 282.

127. The comment period ended on February 15, 2014. *See id*.

128. *Id.* at 281.

129. *See* Stanley Fish, *What Did Watson the Computer Do?*, N.Y. TIMES (February 21, 2011, 9:15 PM), http://opinionator.blogs.nytimes.com/2011/02/21/what-did-watson-the-computer-do/.

130. *Id.* (stating "[The computer] has no holistic sense of context and no ability to survey possibilities from a contextual perspective . . . ").

131. *Id.*

132. *Id.*

Gerry Kasparov,[133] and in 2011, IBM's Watson conquered Jeopardy Champions Ken Jennings and Brad Rutter.[134] Before jumping to the conclusion that the man versus machine debate has been settled, it is helpful to consider developments in the world of chess since Kasparov's defeat. After being defeated by Deep Blue, Kasparov invented freestyle chess, which can be played by machine or a combination of human and machine.[135] In the first world championship, the final four did not consist of various supercomputer competitors.[136] Rather, the final four consisted entirely of teams comprised of man and machine.[137] The biggest surprise was that the ultimate winner consisted of a relatively modest computer combined with humans who were not grand masters.[138]

Analytics alone is not the answer, but analytics can inform already intelligent individuals with domain expertise to act in new ways that improve and deliver results. Properly utilized analytics provide new insights and improve upon processes already developed. While other industries have undergone analytical revolutions,[139] the revolution is just beginning in the legal field. Quantitative Legal Prediction[140] and applying advanced algorithms to discovery are part of the early stages of the game-changing technology that legal service providers are beginning to supply. eDiscovery technology that empowers lawyers to discover real knowledge, enhancing their ability to serve clients and achieve better results, should have certain features presently missing from such products. It should be affordable. It should be easy to use, designed with the end-user in mind, but also flexible enough that changes can be made after development to accommodate the needs of the end-user. It should be architected for big data and the web.

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133. *Deep Blue Defeats Garry Kasparov in Chess Match*, HISTORY, http://www.history.com/this-day-in-history/deep-blue-defeats-garry-kasparov-in-chess-match (last visited May 21, 2014).

134. John Markoff, *Computer Wins on "Jeopardy!": Trivial, It's Not*, N.Y. TIMES (Feb. 16, 2011), http://www.nytimes.com/2011/02/17/science/17jeopardy-watson.html.

135. *See* Clive Thompson, *Clive Thompson: Destroying the Grandmasters*, NAT'L POST (November 26, 2013), http://fullcomment.nationalpost.com/2013/11/26/clive-thompson-destroying-the-grandmasters/.

136. *Id.*

137. *Id.*

138. *Id.*

139. For example, in *Moneyball: The Art of Winning an Unfair Game,* Michael Lewis detailed the application of Sabermetrics and new analytics to the game of baseball. *See* Susan Slusser, *Michael Lewis on A's Moneyball Legacy*, S.F. CHRON. (September 17, 2011, 10:37 AM), http://www.sfgate.com/athletics/article/Michael-Lewis-on-A-s-Moneyball-legacy-2309126.php; *see also* Lou Capetta, *Sabermetrics: Are New Age Numbers in Baseball Replacing Common Sense*, BLEACHER REP. (March 21, 2012), http://bleacherreport.com/articles/1118856-saber-metrics-are-new-age-numbers-in-baseball-replacing-common-sense.

140. *See* Daniel M. Katz, *Quantitative Legal Prediction*, 62 EMORY L. R. 909, 912 (2013), *available at* http://www.law.emory.edu/fileadmin/journals/elj/62/62.4/D_Katz.pdf (defining quantitative legal prediction as a technology that can predict likely outcomes, costs, consequences, law firm planning, etc.).

Finally, it should be application-based, designed to solve specific tasks as required by the practicing lawyer, and coupled with real customer service and support to allow continuous improvement in delivery of services.

CONCLUSION

The legal services market is under tremendous pressure from the forces of globalization, technology, and new delivery models. The delivery of legal services and the legal profession will undergo rapid transformation in the next five to ten years. Navigating these waters will be very difficult, but in every difficulty lies opportunity.

Attorneys who utilize technology to amplify their potential will thrive under the new system by providing innovative solutions, coupling their extensive domain knowledge and critical thinking skills with advancements in technology. The end result will be more rewarding work, improved quality of life, more meaningful relationships with clients, and more individuals and businesses obtaining access to justice and legal services. All that is required is to tap the desire for knowledge and solutions that initially drew the practicing attorney to the law.