



4-3-2020

HOW THE FUSION OF TECHNOLOGY AND THE LAW WILL SERVE AS A CATALYST FOR LEGAL EVOLUTION

Andrabi, Nayef

Follow this and additional works at: <https://digitalcommons.law.scu.edu/chtlj>



Part of the [Intellectual Property Law Commons](#), and the [Science and Technology Law Commons](#)

Recommended Citation

Andrabi, Nayef, *HOW THE FUSION OF TECHNOLOGY AND THE LAW WILL SERVE AS A CATALYST FOR LEGAL EVOLUTION*, 36 SANTA CLARA HIGH TECH. L.J. 345 (2020).

Available at: <https://digitalcommons.law.scu.edu/chtlj/vol36/iss3/3>

This Case Note is brought to you for free and open access by the Journals at Santa Clara Law Digital Commons. It has been accepted for inclusion in Santa Clara High Technology Law Journal by an authorized editor of Santa Clara Law Digital Commons. For more information, please contact sculawlibrarian@gmail.com, pamjadi@scu.edu.

HOW THE FUSION OF TECHNOLOGY AND THE LAW WILL SERVE AS A CATALYST FOR LEGAL EVOLUTION

By Nayef Andrabi¹

Much has recently been said about the fears of technologies such as artificial general intelligence. Yet, when we look at the concerns mentioned, it is hard to imagine a world where a machine has replaced a lawyer completely. If we look at the healthcare or finance industry, we do not see the same panic but instead an embracement of the change and innovation that tools such as AI bring. Those industries are thriving. So then, why would Legal not benefit similarly? This Article will look at other sectors to determine how they successfully embraced change to foster innovation and growth. This Article will then provide the tools and machinery we could bring about similar changes and pioneer the way towards Legal Evolution.

CONTENTS

INTRODUCTION.....	346
I. HISTORY	347
II. ANALYSIS	350
A. Finance.....	350
B. Healthcare.....	352
1. Diagnostic imaging interpretation.....	352
2. Clinical diagnostics, risk and disease prediction.....	353
3. Watson.....	353
4. Healthcare bots for customer service	354
C. Legal Profession.....	354
III. PROPOSAL.....	356

¹ Third-year Law Student, Santa Clara University School of Law, Editor-in-chief for the High Technology; Corporate Legal operations Consortium (CLOC) Scholar 2020; B.A attained From the University of British Columbia. I am grateful to my professors, Dean Don Polden, Laura Norris, Michelle Oberman, Eric Goldman and Eli Edwards. My mentors at Oracle Dorian Daley, Christine Coats, Ameen Haddad, Sophia Davis, Eric Sutton, Matt Sarboraria and Richard Fisher. All errors and omissions remain mine alone. I would like to thank my colleagues from Volume 36 of Santa Clara Law’s High Technology Law Journal, including Caitlin Mitchell, Varun Kukreja and Angelica Leo for providing substantive and technical edits.

A. <i>Creation of an Entity: Emerging Technology and the Intersection of Law</i>	358
B. <i>Reformed Rules of Professional Conduct</i>	359
C. <i>Education and Personal Development</i>	363
CONCLUSION	367

INTRODUCTION

Artificial Intelligence (AI) is perhaps the most transformational technology of our era, “likely to leave no stratum of society untouched.”² The legal services sector will be no exception.³ AI generally refers to machines that exhibit human-like intelligence, which lies on a multidimensional spectrum, ranging from artificial general intelligence (e.g., comparable to that of the human mind) to narrow AI (e.g., focusing on specific tasks), and covers diverse machine capabilities such as natural language processing (NLP), classification, and image and concept recognition.⁴ Much has recently been said about people’s fears of artificial general intelligence, as well as the impending replacements of attorneys by AI, both of which are perceived as potential threats to the legal industry.⁵

The fears mentioned above are likely inflated and overshadow AI’s tremendous potential to be used as tools to help lawyers provide more effective, efficient and accurate means to improve their services.⁶ If deployed with care and planning, AI tools will empower attorneys to work more efficiently, deepen and broaden their areas of expertise, and provide increased value, which in turn can improve legal transparency, dispute resolution and access to justice.⁷ Major law firms in the US are slowly adapting to this new technology, and the benefits appear to be extraordinary.⁸

² See Alanna Petroff, U.S. Workers Face Higher Risk of Being Replaced by Robots. Here’s Why, CNN TECH (Jan. 27, 2019), <http://money.cnn.com/2017/03/24/technology/robots-jobs-us-workers-uk/index.html>.

³ See Ben Allgrove, *Considerations For Attorneys Using Artificial Intelligence*, LAW360 (Jan. 28, 2019), <https://advance.lexis.com/api/permalink/bfc46b43-adf1-4dc3-9768-6f543cb7524a/?context=1000516>.

⁴ *Id.*

⁵ *Id.*

⁶ See Dana Remus & Frank Levy, *Can Robots Be Lawyers: Computers, Lawyers, and the Practice of Law*, THE GEORGETOWN J. OF L. ETHICS (Nov. 27, 2016), https://heinonline-org.libproxy.scu.edu/HOL/Page?collection=journals&handle=hein.journals/geojlege30&id=520&men_tab=srchresults.

⁷ *Id.*

⁸ *Id.*

The question then becomes: why is the legal profession slow to adopt AI?⁹ This paper will look to elaborate on that question. This paper will look at the history of technology and how previous transformative periods changed the industry and show the approach the legal profession has taken to those transformative changes. This paper will then go into an analysis of the problem by looking at other industries that have begun adopting AI and evaluate how the legal profession can learn from these industries. The analysis will conclude by proposing a change in how the next generation of lawyers are trained so that the legal profession does not become a reference point for archaic methods in this age of transformation.

I. HISTORY

Over the past 40 years, the structure of law firms and how they operate has changed dramatically, mostly due to advances in technology.¹⁰ Legal scholars note that large firms were extremely inefficient in the 1980s, a time where large firms were also on the rise.¹¹ Associates were paid very highly to perform basic tasks such as proofreading briefs, reviewing documents, and to continuously reinvent the wheel.¹² However, this began to change after the 1980s when law firms became savvier by hiring outside vendors, paralegals, and contract lawyers to cut costs on tasks associates were previously doing.¹³

Towards the end of the 1980s, technology began impacting the field.¹⁴ The major technological advancement in this decade was computerized legal research.¹⁵ At this time, Westlaw and Lexis became accessible via personal computer, which increased efficiency and decreased costs because firms no longer needed as many associates to do legal research and did not need the physical space in the law office to house law libraries.¹⁶ Additionally, in 1986, firms began to utilize laptops, which allowed lawyers and paralegals to work more efficiently and provided them additional memory on their hard drives.¹⁷

⁹ *Id.*

¹⁰ See Harrison Barnes, *The Industrialization of American Law Firms*, LAW CROSSING (Mar. 4, 2017), <https://www.lawcrossing.com/article/296/The-Industrialization-of-the-American-Law-Firm/>.

¹¹ *Id.*

¹² See Sarah Mui, *The 1980s Were Great Years If You Were Law Firm Associates--But If You Were Clients, Not So Much*, ABA J. (Dec. 13, 2013), http://www.abajournal.com/news/article/around_the_blawgosphere_1980s_associates_google_class_bald_eagles/.

¹³ *Id.*

¹⁴ *Id.*

¹⁵ *Id.*

¹⁶ *Id.*

¹⁷ See Nicole Black, *10 Technologies That Changed the Practice of Law*, MYCASE BLOG (July 29, 2014), <https://www.mycase.com/blog/2014/07/10-technologies-changed-practice-law>.

The 1990s began the acceleration of the mergers and acquisitions of law firms.¹⁸ This was the inevitable result of too many inefficient law offices with too many inefficient lawyers.¹⁹ A driving factor of merging law offices was the theory of globalization.²⁰ In the mid-1990s, the Internet reached 50 million users and thus revolutionized the way businesses ran, including law firms.²¹ Rapidly, the need for many large firms disappeared as communication became easier.²² Additionally, with 1990s came the mobile revolution, meaning a lawyer no longer needed to be at a desk or a landline to communicate with clients or colleagues, they could communicate with them from any location of their choosing.²³

In the 2000s, cloud computing and smartphones gave lawyers the ability to work from almost any location on nearly any matter, which allowed solo practitioners and boutique firms to compete more aggressively with the resources of larger firms.²⁴ Another stride in technology was the increased use of case management systems in large and small law firms.²⁵ These systems, such as Clio, MyCase, and Legal Files, are a more efficient and convenient method of managing cases and clients, and includes client contact information, calendars, documents, and automation features that allow lawyers to keep essentially their entire practice on a hard drive or on the Cloud.²⁶

Online non-lawyer legal services also became prevalent with the emergence of companies like LegalZoom.²⁷ These legal sources give anyone the ability to create their own legal documents and legal forms, such as contracts, wills, business formation documents, and bankruptcy filings.²⁸ While individuals who use these sources may be doing work typically done by a lawyer, the sources all proclaim that they are not a substitution for a lawyer and that they do not provide legal representation.²⁹ However, clients are using these sites for a legal purpose, a goal that a lawyer traditionally accomplishes.³⁰

¹⁸ *Id.*

¹⁹ *Id.*

²⁰ *Id.*

²¹ See Black, *supra* note 16.

²² *Id.*

²³ *Id.*

²⁴ *Id.*

²⁵ See Cathy Reisenwitz, *Law Practice Management Software: 5 Popular Choices Compared*, CAPTERRA LEGAL SOFTWARE BLOG (Nov. 29, 2016), <https://blog.capterra.com/law-practice-management-software-6-popular-choices-compared/>.

²⁶ *Id.*

²⁷ *Id.*

²⁸ *Id.*

²⁹ *Id.*

³⁰ *Id.*

As LegalZoom became more popular, there was pushback from the legal community against LegalZoom for encroaching on the legal market, resulting in lawsuits against LegalZoom for the unauthorized practice of law.³¹ For example, The South Carolina Supreme Court was the first court to hold that LegalZoom was not engaged in the unauthorized practice of law in *Medlock v. LegalZoom.com, Inc.*³² In *Medlock v. LegalZoom.com, Inc.*, the plaintiffs alleged that LegalZoom was violating the South Carolina statute against the unauthorized practice of law because of LegalZoom's interactive self-help documents.³³ The Court ultimately accepted LegalZoom's settlement agreement with the plaintiff, but stated that LegalZoom was not engaged in the unauthorized practice of law because nineteen out of twenty of the LegalZoom forms in question were already available to South Carolina residents through South Carolina's state government self-help website.³⁴ Interestingly, South Carolina courts have held that they will determine what is the unauthorized practice of law on a case-by-case basis, instead of employing a clear-cut definition.³⁵ Despite the differences in law from South Carolina to other states, which have ruled differently than South Carolina, legal ethicist, Deborah Rhode states in regard to LegalZoom that they have a "couple million satisfied customers and it's going to be really hard for anyone to shut them down."³⁶

Today, firms of all sizes still utilize paralegals and legal assistants.³⁷ However, due to the advances in technology and cost cutting efforts, the roles of paralegals and legal assistants in both small and large firms have changed.³⁸ Paralegals have taken on bigger roles at firms than they once had, such as assisting lawyers with discovery, legal research, and even trial preparation.³⁹ However, as technology advances, the role performed by a paralegal or junior associate began to be replaced or further supported by computer programs.⁴⁰

Throughout history, robots and other artificial intelligence programs have consistently taken the roles of humans in the workplace across various

³¹ See Robert Ambrogi, *Latest legal victory has LegalZoom poised for growth*, ABA J. (Aug. 1, 2014), http://www.abajournal.com/magazine/article/latest_legal_victory_has_legalzoom_poised_for_growth/.

³² *Id.*

³³ See *Medlock v. LegalZoom.Com, Inc.*, 2013 S.C. LEXIS 362 (S.C., Oct. 18, 2013).

³⁴ *Id.*

³⁵ *Id.*

³⁶ *Id.*

³⁷ See Cynthia Thomas, *The Changing Role of Legal Support Staff*, 40 ABA J. 1 (2014).

³⁸ *Id.*

³⁹ *Id.*

⁴⁰ *Id.*

industries.⁴¹ This started in the industrial revolution and, as history has it, replacing humans with machines has led to better jobs and more of them.⁴² Today, in the legal profession, AI is theoretically capable of advising, communicating, interacting with, negotiating on behalf of, and appearing in court on behalf of clients.⁴³

But it is important not to overstate the current abilities of AI since the technology today is ideally suited for assisting existing attorneys, not replacing them. Hence, professionals need not worry about a computer replacing them entirely, yet.

II. ANALYSIS

Advancement in technology has been a constant in society.⁴⁴ Unlike other advancements, such as the introduction of the personal computer and smartphone, AI is constantly evolving and changing at a rapid rate.⁴⁵ When the smartphone was introduced, the adoption was quick amongst other industries such as finance and health care, but the legal profession was slower to adopt the change.⁴⁶ The reason for this slow integration is that, by nature, lawyers are trained to be risk averse and to focus on actions that employ the highest amount of accuracy possible. But even if accuracy is the key that still does not explain the slow rate of change in the legal profession.

The analysis will start by looking at other industries such as finance and healthcare to understand what changes each industry adopted that were related to technology and AI. This comparison will allow us to gain an understanding on how the changes were initially implemented and how they were implemented across the industry. In addition, each section will describe the benefits that have resulted from the adopted changes. After looking at the industries, this paper discusses the legal profession and attempts to explain why the adoption of technology and AI has been slow. Finally, after discussing the existing barriers, the analysis will transition to a proposal section where I highlight potential solutions to the slow pace of change in the legal industry.

A. Finance

Digital disruption is a transformation that is caused by emerging digital technologies and business models. These innovative new technologies and

⁴¹ *Id.*

⁴² *Id.*

⁴³ See Thomas, *supra* note 36.

⁴⁴ See Debra C. Weiss, *Artificial Intelligence In The Legal Profession Should Be Regulated, Op-Ed Argues*, ABA J. (July 14, 2016), http://www.abajournal.com/news/article/artificial_intelligence_in_the_legal_profession_should_be_regulated_op_ed_a/.

⁴⁵ *Id.*

⁴⁶ *Id.*

models can impact the value of existing products and services offered in the industry. Therefore the term ‘disruption’ is used, as the emergence of these new digital products/services/businesses disrupts the current market and causes the need for re-evaluation.⁴⁷

The finance industry has quietly adopted the digital disruption and continues to embrace the disruption in order to produce better value for their clients.⁴⁸ For example, when ATMs were first introduced, many customers refused to use them.⁴⁹ Gradually, after time and training, finance companies came to see that ATMs could offer a better service experience, and a trust was formed.⁵⁰ ATMs are robots.⁵¹ They are very simplistic, purpose-built robots – but they provide consistent, convenient, low-cost service and customers have grown to trust them.⁵² The same principles will apply to other, more sophisticated financial services applications.⁵³

A reason for the rapid change and adoption of disruption in the finance industry was because of fintech companies.⁵⁴ Fintech companies are businesses that leverage new technology to create new and better financial services for both consumers and businesses.⁵⁵ Due to these disruptors, the industry has been forced to adapt quickly so they may keep up with the change.⁵⁶ Fintech has not only provided customers with more options, but has also pushed the big players to change the way they view technology and its implementation.

Thanks to Fintech, the seven leading US commercial banks have prioritized strategic technological advancement with investments in AI applications to better service their customers, improve performance and increase revenue. Top banks refer to AI as an “augmenting” force for their employees, not a “replacement.”⁵⁷ For example, JPMorgan Chase has invested in technology and recently introduced a Contract Intelligence (COiN) platform designed to “analyze legal documents and extract important data points and clauses.”⁵⁸ Manual review of 12,000 annual commercial credit agreements

⁴⁷ OXFORD COLLEGE OF MARKETING, *Digital Disruption: What is it and How Does it Impact Businesses?*, <https://blog.oxfordcollegeofmarketing.com/2016/02/22/what-is-digital-disruption/>.

⁴⁸ See generally *Financial Services Technology 2020 and Beyond: Embracing disruption*, PRICEWATERHOUSECOOPERS (Jan 28, 2019), <https://www.pwc.com/gx/en/financial-services/assets/pdf/technology2020-and-beyond.pdf>.

⁴⁹ *Id.*

⁵⁰ *Id.*

⁵¹ *Id.*

⁵² *Id.*

⁵³ PRICEWATERHOUSECOOPERS, *supra* note 46.

⁵⁴ *Id.*

⁵⁵ *Id.*

⁵⁶ *Id.*

⁵⁷ *Annual Report 2016*, J.P. MORGAN (2016),

<https://www.jpmorganchase.com/corporate/investor-relations/document/2016-annualreport.pdf>.

⁵⁸ *Id.*

normally requires approximately 360,000 hours.⁵⁹ Results from an initial implementation of this machine learning technology showed that the same amount of agreements could be reviewed in seconds.⁶⁰ The results of technology such as this is to allow for mundane tasks to be completed by AI programs so that the human can focus on the client.⁶¹

B. Healthcare

Analogous to law, the healthcare industry is an industry that is more analogous to the law than finance. Just like legal professionals, healthcare professionals are bound to a higher standard of ethics and professional responsibility.⁶² Healthcare is an industry that has more strict standards than the legal profession for the adoption of emerging technology.⁶³ The reason: human lives are on the line.⁶⁴ The healthcare industry is not able to take the same kind of risk with a product or advancement as the finance industry.⁶⁵ For healthcare companies, a product needs to be 100% accurate before it can be deployed.⁶⁶ Not only that, to implement a ground-breaking technological solution requires FDA approval and the willingness of professionals to be open to the technology.⁶⁷

Even with all the strict rules in place for change in the healthcare industry, this is one area which is seeing exciting potential through the rapid changes in technology.⁶⁸ Listed below are examples of how emerging technology and AI are reshaping the healthcare industry:

1. Diagnostic imaging interpretation

AI-enabled diagnostic imaging interpretation uses deep learning techniques and categorization technology on very large sets of medical images to create algorithms that allow for faster and more-accurate reading of x-ray studies, MRI exams and computerized tomography (CT) scans.⁶⁹ AI-enabled

⁵⁹ Kumba Sennar, *AI in Banking – An Analysis of America’s 7 Top Banks* (2019), <https://emerj.com/ai-sector-overviews/ai-in-banking-analysis/>.

⁶⁰ *Id.*

⁶¹ *Id.*

⁶² Elad Walach, *Overcoming AI Barriers In Health Care*, FORBES (July 11, 2018), <https://www.forbes.com/sites/forbestechcouncil/2018/07/11/overcoming-ai-barriers-in-health-care/#4dfff09e38dc>.

⁶³ *Id.*

⁶⁴ *Id.*

⁶⁵ *Id.*

⁶⁶ *Id.*

⁶⁷ *Id.*

⁶⁸ See Walach, *supra* note 61.

⁶⁹ Laura Craft, *Emerging Applications of AI for Healthcare Providers*, GARTNER (2018), <https://www.gartner.com/document/3753763?ref=solrAll&refval=214587642&qid=>

diagnostic imaging interpretation solutions can improve image reading accuracy and improve clinician productivity.⁷⁰ By aiding image diagnosis, the incidence of missed or inaccurate diagnoses should decrease.⁷¹ These solutions will also help to alleviate the projected severe and growing shortage of imaging specialists.⁷² In September 2016, the Royal College of Radiologists reported that 99% of radiology departments in the U.K. were unable to meet the demands they faced in 2015.⁷³ And a study by the Mayo Clinic found that from 1999 through 2010, the number of CT scans increased by 68%, and MRI exams by 85%.⁷⁴ With the aging of the population, the number of radiology studies will keep growing.⁷⁵ By using AI-enabled diagnostic imaging interpretation, it should lead to increase productivity, improved clinical outcomes, decreased diagnostic error, and increased patient and clinician satisfaction.⁷⁶

2. Clinical diagnostics, risk and disease prediction

Predictive algorithms for the risk of readmission, disease and clinical deterioration are not new to the healthcare industry.⁷⁷ There are plenty of algorithms available for things like 30-day readmission risk and predicting the likelihood of disease.⁷⁸ In the past, these have been human-programmed and hard-coded.⁷⁹ Now, deep learning and machine learning are being applied for greater precision and accuracy, enabling the goals of precision health.⁸⁰ Companies like Medial EarlySign use machine learning to identify individuals who are at high risk of having certain cancers, often months before clinical signs are present.⁸¹ CareSkore brings machine learning to its real-time predictive algorithm for a patient's risk of readmission while they are still in the hospital.⁸²

3. Watson

⁷⁰ *Id.*

⁷¹ *Id.*

⁷² *Id.*

⁷³ *Id.*

⁷⁴ *Id.*

⁷⁵ See Craft, *supra* note 68.

⁷⁶ *Id.*

⁷⁷ The Medical Futurist, *Artificial Intelligence Will Redesign Healthcare* (Aug. 4, 2016), <https://medicalfuturist.com/artificial-intelligence-will-redesign-healthcare>.

⁷⁸ *Id.*

⁷⁹ *Id.*

⁸⁰ *Id.*

⁸¹ *Id.*

⁸² *Id.*

One of the most well-publicized use of AI for clinical diagnostics is Watson for Oncology, which identifies a potential diagnosis and comes up with a recommended treatment protocol based on its ability to analyze the content of both structured and unstructured notes, and correlate this with patient data.⁸³ Other companies are quickly entering this space and are using AI to bring the precision of diagnosis and personalized treatment plans down to the molecular and genomic levels (such as Turbine, Deep Genomics and Whole Biome).⁸⁴ There are many opportunities to leverage AI to improve the efficiencies of running a hospital.⁸⁵ Many components of the real-time healthcare system rely on predictive, prescriptive and cognitive capabilities.⁸⁶ Ample opportunity exists to use AI to eliminate waste, automate processes and eliminate bottlenecks across supply chain, patient throughput and capacity management, and manage the volumes of data that are produced.⁸⁷

4. Healthcare bots for customer service

Increasingly, some healthcare providers are offering patients interactive online "chats" for things like bill paying, appointment scheduling, medication refills or other simple administrative needs.⁸⁸ Similar to virtual health assistants, they use NLP, sentiment analysis and concept extraction technologies to create the scripts.⁸⁹ In some cases, image analysis is added to read bar codes, photos or handwritten notes.⁹⁰ The chatbots create a personalized interface and are available 24/7.⁹¹

With so many restrictions in place, progress is being made with the goal of improving the industry and society in general. Healthcare professionals and leaders do not see emerging technology as a threat, but rather as a tool to improve the status quo and create new possibilities.

C. Legal Profession

As other industries take leaps to make changes to their practices, the legal profession is still way behind.⁹² One of the reasons for the resistance to

⁸³ See Craft, *supra* note 68.

⁸⁴ *Id.*

⁸⁵ *Id.*

⁸⁶ *Id.*

⁸⁷ *Id.*

⁸⁸ Carmen Johnson, *Healthcare Chatbots Insights and Threats in the Target Market*, TECH NEWS STORE (2019), <https://technewsstore.com/global-healthcare-chat-bots-market-share-new-trends-future-strategies-and-forecast-by-2027/>.

⁸⁹ *Id.*

⁹⁰ *Id.*

⁹¹ *Id.*

⁹² See Freek Vermeulen and Niro Sivanathan, "Stop Doubling Down on Your Failing Strategy – How to Spot (and Escape) One before It's Too Late," HARVARD BUS. REV. 110-17 (Dec. 2017), <https://hbr.org/2017/11/stop-doubling-down-on-your-failing-strategy>.

change is the unwillingness of the leaders within the profession to adapt to the change.⁹³ Karl Weick, [should specify who this is], calls it consensual neglect: the tendency of organizational decision makers to tacitly ignore events that undermine their current strategy and double down on the initial decision to justify their prior actions.⁹⁴

This phenomenon of “consensual neglect” seems a particularly apt description of the strategic posture of many lawyers in today’s rapidly changing market for legal services.⁹⁵ Ignoring strong indicators that old approaches – for managing legal work processes, leverage, staffing, project management, technology, and client relationships – are no longer working, they choose to double down on their current strategies rather than making a change that would enable an effective response to evolving market conditions.⁹⁶ Like the French military in the 1930s, they are ready to fight the last war but, unfortunately, not to meet the challenges that are barreling toward them.⁹⁷

Since 2008, the market for law firm services has changed in significant and permanent ways.⁹⁸ Clients who previously deferred to their outside firms on virtually all key decisions regarding the organization, staffing, scheduling, and pricing of legal matters, are now, in most cases, in active control of all of those decisions.⁹⁹ Increasingly, clients are demanding more “value” in return for their money, and by value they mean greater efficiency, predictability, and cost effectiveness in the delivery of legal services.¹⁰⁰ What once was a seller’s market has now clearly become a buyer’s market, and the ramifications of that change are significant.¹⁰¹

Clients today are more willing than ever before to combine the services of several different providers to achieve increased efficiencies.¹⁰² They are more open than ever before to utilizing non-traditional providers (including non-law firms) to provide a wide range of services previously obtained almost exclusively from law firms.¹⁰³ And clients are far more likely today to keep work in-house, bringing their outside counsel in only where needed to supply

⁹³ *Id.*

⁹⁴ *Id.*

⁹⁵ *Id.*

⁹⁶ *Id.*

⁹⁷ *Id.*

⁹⁸ *Is Big Law Having Its Kodak Moment?*, LEGAL TECH BLOG (Feb. 10, 2016), <https://legal-tech-blog.de/is-big-law-having-its-kodak-moment>.

⁹⁹ *Id.*

¹⁰⁰ *Id.*

¹⁰¹ *Id.*

¹⁰² *Id.*

¹⁰³ *Id.*

specialized expertise or to handle matters on a discrete project-by-project basis.¹⁰⁴

Law firms have responded to these changed market conditions in largely passive and reactive ways. In the face of client insistence, most firms have taken steps to improve their budgeting capacities for client matters, adopted financial systems to facilitate alternative fee arrangements, accommodated the outsourcing of certain functions (like document review and e-discovery), and implemented some processes for project management.¹⁰⁵ To date, however, very few firms have been willing to engage *proactively* in the consideration or implementation of the kinds of operational changes that would be required to respond effectively to the changed expectations of their clients.¹⁰⁶

Firms and industry leaders are aware of the coming change and the expectations of clients.¹⁰⁷ Even though the warning signs are there, the decision seems to be to not make changes for immediate impact.¹⁰⁸ Instead, firms and industry leaders believe that the current model of business and operational procedures is still the best way to move forward.¹⁰⁹ However, this mindset is one that will not produce any beneficial gain because clients want more efficient results at lower costs.

III. PROPOSAL

Legal research has been an important aspect of legal work for centuries, but can be a tedious and time-consuming task.¹¹⁰ In addition, the vast increase in the amount of information in the digital age has made it increasingly hard for humans to be comprehensive.¹¹¹ But the advancements in AI technologies, particularly in machine learning and NLP, have created a new class of tools that streamline legal research.¹¹² Earliest versions of such services were provided by LexisNexis and Westlaw, which applied NLP techniques to improve legal research, and the levels of accuracy in such searches have dramatically increased with the implementation of data on a larger scale.¹¹³ For example, ROSS Intelligence provides an NLP-powered AI platform that

¹⁰⁴ 2018 *Report on the State of the Legal Market*, THOMSON REUTERS (2018), <http://www.legalexecutiveinstitute.com/wp-content/uploads/2018/01/2018-Report-on-the-State-of-the-Legal-Market.pdf>.

¹⁰⁵ *Id.*

¹⁰⁶ *Id.*

¹⁰⁷ *Id.*

¹⁰⁸ *Id.*

¹⁰⁹ *Id.*

¹¹⁰ See 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, 3048 (2014).

¹¹¹ *Id.*

¹¹² *Id.*

¹¹³ *Id.*

receives search inquiries in plain language — as opposed to complex search strings — and generates search results based on its understanding of those inquiries.¹¹⁴ Technology similar to this will allow attorneys to find more accurate results in less time, which will translate into higher quality services to clients at lower costs.¹¹⁵

Legal automation has been around for some time. For example, LegalZoom generates “form-like” documents based on the information submitted by users, having first started with simple forms over a decade ago, and now automating more complex documents.¹¹⁶ LawDepot also generates a wide variety of legal forms, ranging from wills, eviction notices, LLC operating agreements, and promissory notes, among others.¹¹⁷ HotDocs provides a similar service, but with a particular focus on transactional legal documents and forms.¹¹⁸ Contract Express provides a platform for effective contract automation, which uses form precedents and other similar documents to generate a simple questionnaire — which gets populated by a user — and generates a first draft of the user’s required contract.¹¹⁹ And the accuracy of such documents has improved dramatically over time, and will continue to progress as AI becomes better at relating the legal documents to their pertinent information with the help of increased computing power and interconnectedness of data.¹²⁰ Eventually, AI will be able to automate even more intricate legal documents that have traditionally required human ingenuity, such as memos and briefs.

Effective automation of legal documents, whether as starting templates for attorneys or as near-perfect work products, will save time and costs for clients, and free up attorneys’ time to work on more complex tasks.¹²¹ The goal is to use technology for high-level low-complexity work so the lawyer can not only focus on more complex issues, but also on building better client relationships.

The next aspect of change that is needed in embracing technology is for leaders within firms and legal departments to be open to the change. As evident from the finance and healthcare sector,¹²² change can be implemented and explored when all parties are coming together to understand what the best

¹¹⁴ *Id.*

¹¹⁵ *Id.*

¹¹⁶ See *Meet Specifio the AI Start-Up Automating Patent Drafting*, ARTIFICIAL LAWYER (July 28, 2017), <https://www.artificiallawyer.com/2017/07/28/meet-specifio-the-ai-start-up-automating-patent-drafting> (Showing also that at present the focus is only on software-related patent applications. So perhaps this focus on Human’s being replaced may not be too accurate.).

¹¹⁷ See McGinnis, *supra* note 109.

¹¹⁸ *Id.*

¹¹⁹ *Id.*

¹²⁰ *Id.*

¹²¹ *Id.*

¹²² *Infra* pg. 10.

course of action is. Leaders need to be open to a new model of business and work to create that new model of business. Companies are already exploring AI and its intersection with law. The question is if current profession leaders want to be part of the conversation of the new trend or be a fading memory once a new standard is set by the digital disruption.

A. Creation of an Entity: Emerging Technology and the Intersection of Law

On March 9, 2018 the European Commission set up an Artificial panel whose purpose was to create a group that would come together and discuss the use of AI in numerous professional fields.¹²³ The Commission began setting up a group on artificial intelligence to gather expert input and rally a broad alliance of diverse stakeholders.¹²⁴ Having been in practice for only a few months, the group's purpose is to further discussion on the implementation of AI.¹²⁵ The expert group began drafting guidelines on AI ethics as well to ensure that adoption will be less of an issue for an industry.¹²⁶

The Mission statement of this group further states:

From better healthcare to safer transport and more sustainable farming, artificial intelligence (AI) can bring major benefits to society and the economy. And yet, questions related to the impact of AI on the future of work and existing legislation are raised. This calls for a wide, open and inclusive discussion on how to use and develop artificial intelligence both successfully and ethically sound.¹²⁷

Commission Vice-President for the Digital Single Market Andrus Ansip said:

Step by step, we are setting up the right environment for Europe to make the most of what artificial intelligence can offer. Data, supercomputers and bold investment are essential for developing artificial intelligence, along with a broad public discussion combined with the respect of ethical principles for its take-up. As always with the use of technologies, trust is a must.¹²⁸

Carlos Moedas, Commissioner in charge of Research, Science and Innovation, added:

Artificial intelligence has developed rapidly from a digital

¹²³ *Artificial intelligence: Commission kicks off work on marrying cutting-edge technology and ethical standards*, EUROPEAN COMMISSION (2018), http://europa.eu/rapid/press-release_IP-18-1381_en.htm.

¹²⁴ *Id.*

¹²⁵ *Id.*

¹²⁶ *Id.*

¹²⁷ *Id.*

¹²⁸ *Id.*

technology for insiders to a very dynamic key enabling technology with market creating potential. And yet, how do we back these technological changes with a firm ethical position? It bears down to the question, what society we want to live in. Today's statement lays the groundwork for our reply.¹²⁹

The US is in need of a similar body. Europe has been at the forefront of tackling change. An example of this is the GDPR policy that is internationally considered to be a gold standard for privacy rules. Now with the creation of this AI body, there is cohesion. No longer is it the case that every industry is left to decide on the implementation of technology. Rather, there is a body that studies the potential benefits and then works to create a program from which an appropriate implementation method can be established. If a similar body were established in the US, it would be a great benefit. The U.S. would then have a body able to further the advancement of AI in the professional industries as well as be able to regulate the speed at which it is implemented.

This is a potential solution that would appease the older generation of leaders who are reluctant to change. With this body, they could be at the forefront of the discussions on advancement. In addition, this body would allow the legal industry to be able to use technology for the betterment of their clients without worrying about potential repercussions that may come as a result of an error on the part of the AI system used.

B. Reformed Rules of Professional Conduct

The ABA Model Rules of Professional Conduct ("Model Rules") require that lawyers be competent and that they keep up with new technology.¹³⁰ As Comment 8 of Rule 1.1 states: “[t]o maintain the requisite knowledge and skill, a lawyer should keep abreast of changes in the law and its practice, *including the benefits and risks associated with relevant technology* ...”¹³¹

At least 27 states have adopted some form of this Model Rule.¹³² In January of 2017, Florida became the first state to require technology training as part of its continuing legal education requirement.¹³³ Other states seem

¹²⁹ *Artificial intelligence: Commission kicks off work on marrying cutting-edge technology and ethical standards*, EUROPEAN COMMISSION (2018), http://europa.eu/rapid/press-release_IP-18-1381_en.htm.

¹³⁰ Lauri Donahue, *A Primer on Using Artificial Intelligence in the Legal Profession - Harvard Journal of Law & Technology*, JOLT DIGEST (2018), <https://jolt.law.harvard.edu/digest/a-primer-on-using-artificial-intelligence-in-the-legal-profession>.

¹³¹ *Rule 1.1 Competence - Comment*, AM. BAR ASS'N (2019), https://www.americanbar.org/groups/professional_responsibility/publications/model_rules_of_professional_conduct/rule_1_1_competence/comment_on_rule_1_1/ (emphasis added).

¹³² See Donahue, *supra* note 127.

¹³³ *Id.*

likely to follow suit.¹³⁴ Indeed, failing to use commonly available technology, like email and e-discovery software, can be grounds for a malpractice claim or suspension by the bar.¹³⁵

Of course, AI-powered legal automation is not yet common.¹³⁶ Spending on AI is expected to grow rapidly – from \$8 billion in 2016 to \$47 billion in 2020 – because AI is seen as reducing costs and increasing efficiency.¹³⁷

There is some ambiguity surrounding what are the grounds for dismissal under such a rule. The rules need to be reformed in a way that they not only encourage lawyers to be open to change and technology, but also provide protection in the event an attorney makes a mistake while using an AI platform. If we were to take an E-Discovery program and such program were to miss a critical detail for a case. Who is liable? Would it be the attorney or the company that created the software? These types of questions are still ambiguous and need more clarity. If we are to progress as a profession, we need cooperation from all sides and an updated rule of conduct would allow lawyers to uphold their high standards while also being able to improve through technological changes.

As discussed above, different industries are incorporating changes to their workflow and understandings of how to get a task done. The legal profession needs to get to a level where there is no longer a resistance to the change that is already here to stay. An evident roadblock when incorporating AI is the individuals who see it as a tool that will replace them entirely. Society still thinks of the film Terminator and the computer system known as Skynet when they hear the words artificial intelligence.

To illustrate what AI is from my viewpoint, the real estate market is a good example. The current model requires a user to manually search for homes to fit a specific criterion.¹³⁸ That search is either done through filters or a realtor goes into houses that are on the market and inspects them to see if they meet that set of criteria.¹³⁹ A model that requires a large amount of effort not only takes up time, but also slows down the deal making process.¹⁴⁰ One visionary in the market changed the game (Wall Street Journal Article below):

"To help Wall Street buy tens of thousands of houses, Martin Kay and his colleagues taught a computer to spot a sunny kitchen. Ever since last decade's foreclosure crisis, institutional investors have been gobbling up single-family houses and becoming landlords.

¹³⁴ *Id.*

¹³⁵ *Id.*

¹³⁶ *Id.*

¹³⁷ *Id.*

¹³⁸ See Ryan Dezember, *How to Buy a House the Wall Street Way*, WALL ST. J. (Jan. 28, 2019), <https://www.wsj.com/articles/how-to-buy-a-house-the-wall-street-way-1537102800>.

¹³⁹ *Id.*

¹⁴⁰ *Id.*

They have criteria just like individual buyers: three or more bedrooms, two baths, a garage, good schools, low crime, high rental yields—and bright, sunlit kitchens.

Unlike them, investors buy in volume and don't have time to go to thousands of showings. Kay built data platforms for the US Energy Department and ConocoPhillips, and he started buying rental properties in Texas in 2010 at the depths of the housing crash. He used machine learning to mine mountains of home listings for those that might attract the type of tenants he wanted."¹⁴¹

For Kay and like-minded investors, that typically meant families seeking suburban lifestyles. "Going from 40,000 houses to 12 is a *machine problem*,"¹⁴² he said. "Going from 12 to one is a *human problem*."¹⁴³ Once an investor chooses a house, humans take over: "Entera [Kay's company] dispatches a representative to double-check the property's condition and complete the sale."¹⁴⁴

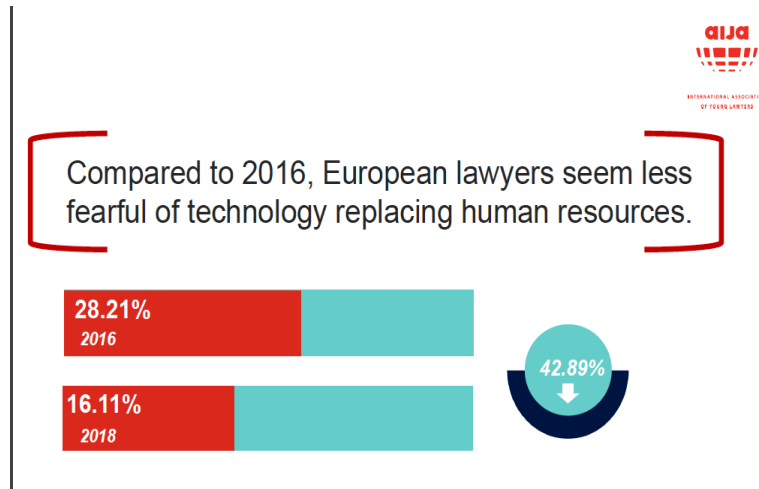
The key importance from this analogy is the fact that the purpose of technology is not replace the human element, but to help human beings perform tasks in an increasingly efficient manner. This is the same type of change that is trying to be introduced into the legal profession. Yet, there is an abundance of pushback against tools that are only there to enhance the abilities of our professionals. The tools are not here to replace, but to help legal professionals focus on working more closely with their clients so that they may form stronger relationships. A majority of examples on how to improve the legal profession have already been proposed and discussed. However, there is one change that has not yet been discussed or has received significantly low amounts of discussion.

¹⁴¹ *Id.*

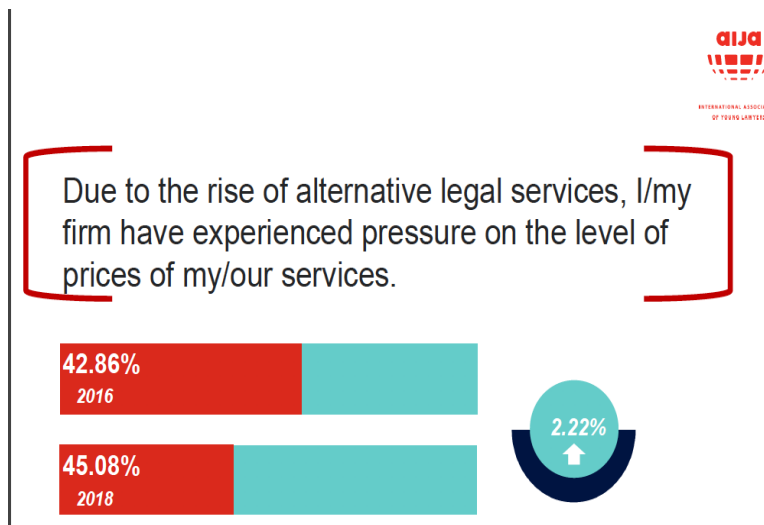
¹⁴² *Id.*

¹⁴³ See Ryan Dezember, *How to Buy a House the Wall Street Way*, WALL ST. J. (Jan. 28, 2019), <https://www.wsj.com/articles/how-to-buy-a-house-the-wall-street-way-1537102800>.

¹⁴⁴ *Id.*



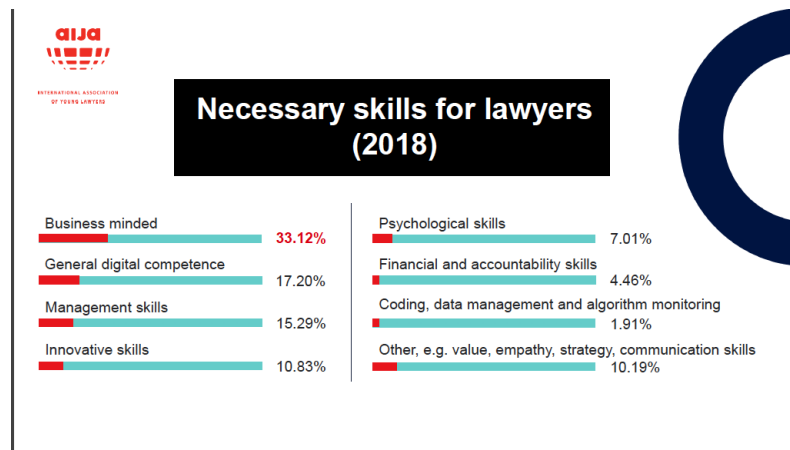
*Figure 1*¹⁴⁵



*Figure 2*¹⁴⁶

¹⁴⁵ *The future of the legal profession survey*, COUNCIL OF BARS AND LAW SOCIETIES IN EUROPE (Jan. 28, 2019), https://www.aija.org/images/uploads/AIJA-CCBE%20Future%20of%20the%20Legal%20Profession%20survey_2018_summary.pdf.

¹⁴⁶ *Id.*



*Figure 3*¹⁴⁷

As figure 1 shows, lawyers in Europe have slowly adapted to this type of change. This progress is because of the unified body (discussed above) and the willingness of leaders to foster a conversation on dynamic change. However, as the last graphic shows, there is still one more fundamental change that needs to be made to the legal profession – education.

The last graph highlights skills valued in practice, but what is surprising about this graph is how necessary lawyers in the industry believe coding is at this point in time. Technology is changing at such a rapid rate that the basic education and training of lawyers implemented now is not enough.

C. Education and Personal Development

Listed below are the actions and changes that could propel the legal profession in to embracing a continuously changing environment:

1. Legal education in the U.S. needs to prepare future lawyers for the dynamism that comes with AI. This means our schools need to consider the possibility of teaching a mixture of doctrinal law courses along with coding, subjects that will increase technological fluency. This change would be highly beneficial because this would allow lawyers to be at the forefront of technology. If a lawyer is able to code and understand different coding languages, not only will they be able to work with a team to produce a better platform that can help them with their tasks, but they will also be able to produce a platform that aligns more closely to how lawyers think. When JP Morgan created its AI software, it did so in-house with a collaborative effort between coders and financial investors. By blending the two, they

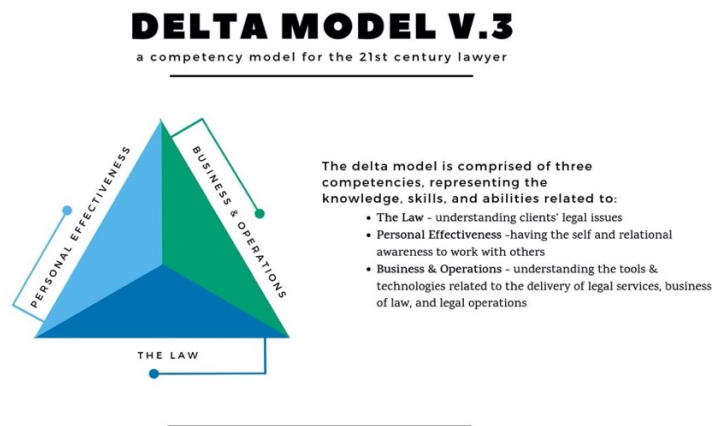
¹⁴⁷ *Id.*

were able to create a product that helped them improve efficiency. The same can be incorporated into the legal profession if we train our future generations how to communicate not just in English, but also in another language (Machine Code) that is at the heart of change.

2. To be able to code, we must, functionally, be able to speak another language. Not only would this allow for lawyers to be more skilled in their trade, but it would also improve their communication skills with other groups in the industry. One of the primary criticisms of lawyers is their inability to communicate with other departments. For example, for an In-House Counsel, coding would allow lawyers to be able to communicate with engineers in a more efficient manner. This would improve the work environment and allow for a more collaborative approach to improving the return of investment for a company.
3. For the professionals currently in practice, the ABA and industry leaders must come together to retrain our professionals. Model rules require lawyers to adapt to changes in technology, but if there is no push from the industry itself, lawyers will not efficiently adapt to these changes. The industry needs a unified decision to push for reeducation. Lawyers currently must go through constant retraining to be certified in their practice with programs such as CLE. Would it not be possible to create a program that has the same effect? Recall that AI and technology today present us with a dynamic change that is moving at a rapid pace. Unlike the PC, which was a hardware item that had limited capabilities at its introduction, AI is here and will change continue to develop rapidly.
4. Law firms may also look to Europe for guidance on potential structures that would improve a firm's ability to innovate. In Europe, a law firm can also be incorporated as a public company. DWF LLP, as an example, recently went public.¹⁴⁸ While going public is a complicated process, one of the motivations for DWF to go public was to be able to generate more revenue that could fuel growth within the firm. With the added capital, a law firm would be able to invest more in their lawyers by providing the opportunities to take courses or programs that keep them ahead of the competition. I do not suggest a more glamorous version for earning CLE credits, but firms should strive to create additional opportunities for lawyers so their teams can innovate in accordance with their business needs.
5. The legal profession needs to reshape the competencies on which a lawyer is trained and evaluated under. The next generation lawyer needs to demonstrate a mastery of the law, be aware and capable of utilizing emerging technology such as artificial intelligence, and develop the emotional intelligence necessary to navigate the evolving landscape of legal services and provide unique value to clients. A

¹⁴⁸ Jonathan Armstrong, *DWF Goes Public: Anatomy of a Law Firm IPO*, LEADERS LEAGUE (Nov. 23, 2019), <https://www.leadersleague.com/en/news/dwf-goes-public-anatomy-of-a-law-firm-ipo>.

lawyer today is required to research and analyze law as well as be able to integrate with a client's business model in a way that creates a unique solution for them. To integrate in this way, a lawyer needs to have a strong understanding of business and human psychology. I propose that the ABA follow the Delta Model that is currently being researched into by Thomson Reuters.¹⁴⁹ As the figure below shows, the competencies suggested by this model are ones that would account for the current trend in the legal market and allow for a lawyer to have the flexibility and creative structure to innovate as the legal profession evolves.



This Figure illustrates the competency of the Delta model proposed.

*Figure 4*¹⁵⁰

6. The lawyers we see entering the legal profession today face greater challenges than ever before. The profession, especially future lawyers, need to have the mindset of leaders. Leaders are not born, they are developed through learning and experience. Below, I discuss several concepts of leadership that may aid in the development of lawyers:
 - a. GRIT: Angela Duckworth, in her book "Grit" outlines the concept that a person can achieve anything they want, as

¹⁴⁹ Natalie Runyon, *The "Delta" Lawyer Competency Model Discovered through LegalRnD Workshop*, THOMSON REUTERS (Nov. 23, 2019), <http://www.legalexecutiveinstitute.com/delta-lawyer-competency-model/>.

¹⁵⁰ See Alyson Carrel, *Legal Intelligence Through Artificial Intelligence Requires Emotional Intelligence: A New Competency Model for the 21st Century Legal Professional*, 35 GA. ST. U. L. REV. (2019).

long they have the correct mindset.¹⁵¹ In her book, she discusses the notion that it is not talent, but a special blend of passion and persistence, which she calls “grit, that is the key to success for so many high achievers.¹⁵² Duckworth’s research suggests that Expert performers are not born with a talent that allows them to be great at what they do.¹⁵³ While there is some notion that some form of talent can come into play, the overwhelming research suggests that if an individual were to put in the effort, they could become an expert in what they choose to be.¹⁵⁴ This concept is one that has been advocated and yet it still feels as if the message does not get across.¹⁵⁵ If all one needs is to put in the effort to gain expertise, then why is that we see more lack of expertise than expertise.¹⁵⁶ The answer to this question is the concept of growth. Duckworth further discusses that the path is approachable but a person but have the mindset of growth.¹⁵⁷ There are those who blindly accept that they cannot achieve or obtain an object and there are those who believe that the mind is a muscle that can grow if trained for growth.¹⁵⁸ Individuals with the growth mindset believe they can learn and become as smart as they want, the only limitation is themselves.¹⁵⁹ Having a growth mindset goes hand in hand with building a personality of grit. Grit consists of passion and persistence.¹⁶⁰ These are the two pillars for having a grit personality.¹⁶¹ Duckworth explains that a person must have a passion for the goal they want to achieve.¹⁶² If the passion exists, then you have a strong desire to be willing to do whatever it takes to obtain that goal.¹⁶³ With passion comes happiness, satisfaction and the will to keep persisting no matter what obstacles are faced.¹⁶⁴ Through these discussions, what becomes obvious is that by having a gritty personality a person can achieve any long-term goal they set for themselves.¹⁶⁵ Interestingly enough, Duckworth’s research also suggests that by inspiring a grit culture in the workplace, a business has a workforce that

¹⁵¹ ANGELA DUCKWORTH, GRIT (SIMON & SCHUSTER, 2016)

¹⁵² *Id.*

¹⁵³ *Id.*

¹⁵⁴ *Id.*

¹⁵⁵ *Id.*

¹⁵⁶ *Id.*

¹⁵⁷ DUCKWORTH, *supra* note 151.

¹⁵⁸ *Id.*

¹⁵⁹ *Id.*

¹⁶⁰ *Id.*

¹⁶¹ *Id.*

¹⁶² *Id.*

¹⁶³ DUCKWORTH, *supra* note 151.

¹⁶⁴ *Id.*

¹⁶⁵ *Id.*

feels valued and is determined to give the maximum for themselves and the team.¹⁶⁶

- b. VUCA: The acronym VUCA stands for Volatility, Unstable, Complex and Ambiguity. VUCA is a concept that was taught to soldiers in the 90s. The notion was that war consisted of a VUCA environment and to be able to survive a soldier needed to train for those types of challenges. Today, VUCA has subsequently been adopted by strategic business leaders to describe the chaotic, turbulent and rapidly changing business environment that has become the “new normal.” To combat this chaotic environment, research shows that leaders need a mindset that builds on the following concepts:
 - i. Identity: The ability to obtain feedback and learn. To have self-awareness that allows you to understand yourself and others, but also understand that as a leader your goal is to serve others.
 - ii. Mental Agility: A leader must have an agile mind that can adapt to any situation. However, adaptation alone is not enough. Having strong mental agility allows the person to evaluate the environment for information that may affect their organization.
 - iii. Cross-Cultural Savvy & Interpersonal Maturity: A leader must understand the diverse culture they are operating in. It is critical today that a leader understands the different groups of people that can affect their organization. Cultural understanding is a must. Further, a leader must be able to take the information they are observing in other environments and communicate that to their colleagues. Having interpersonal maturity requires a leader to consistently guide their team through change and effectively communicate a shared vision to thrive in that change.

CONCLUSION

In an effort to inspire change in the legal industry, leaders and institutions must agree to collectively propose solutions. By coming together, the profession can inspire conversations and be at the front of this change. History has shown that companies, such as Kodak, Blockbuster, Blackberry, who fail to adapt will either adapt eventually at a loss or, in the case of Blockbuster and Blackberry, cease to be the powerhouse they once were. The profession needs current and future leaders to rise to the occasion and ensure

¹⁶⁶ *Id.*

that the profession moves forward in the appropriate way. The legal profession must accept the current reality and decide how it would like to be remembered when change came knocking.