Legal-Technological Unemployment in the Age of Artificial Intelligence

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ABSTRACT

The paper investigates the issue of legal-technological unemployment in the age of artificial intelligence through the economic lens of the data-driven economy. Despite certain proper ethical concerns and debates supporting legal conservatism, the article shows that the transience and swift pace of changes are increasing, leaving the legal profession with the dilemma: pursue further economic prosperity or preserve legal conservatism under the threat of disruption. Historical, statistical and already live evidence give a lesson that favouring technology is cost-effective compared to maintaining legal conservatism, while current continuous practical implementation proves the now classic expression: "[t]he future is already here. It's just not evenly distributed yet."[1]

In the article, I divide human and machine intelligence to suggest a new perspective on defining artificial intelligence, focusing on economic considerations. I show that the future of the legal profession has already arrived and constantly progressed in certain regions, indicating its inevitable expansion on a global scale. I demonstrate the dual role of a legal monopoly on the background of transient technological progress, highlighting its fragility and role as a barrier to new advancements. I delve into the dilemma of cold-blooded machines. I propose a regulatory solution and an

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1 Kennedy, Pagan, "Distrust That Particular Flavor - By William Gibson - Book Review", The New York Times (13 January 2012), online: <https://www.nytimes.com/2012/01/15/books/review/distrust-that-particular-flavor-by-william-gibson-book-review.html> [https://perma.cc/6FXQ-7ZRX] (this quote is often attributed to William Gibson, though no one seems to be able to pin down when or if he actually said it, while its gist has been observed throughout history).

educational response to artificial intelligence that will mitigate adverse economic ramifications and contribute to the legal profession's further prosperity.

Keywords: artificial intelligence; legal monopoly; cold-blooded machines; legal profession; intelligence augmentation; disruptive innovation; technological unemployment.

I. INTRODUCTION

> What do judges know that we cannot tell a computer? — Nothing.
> –Joseph Weizenbaum and John McCarthy debate.[2]

Since the latter half of the twentieth century, artificial intelligence (AI) researchers have been discussing ways to automate the legal field, while Westlaw, Lexis and AI-powered RAND systems have been implementing that automation.[3] Richard Susskind forecasts that legal institutions and lawyers will change radically, focusing on creating systems that will replace rather than automate our old working methods, leaving lawyers with a dilemma: compete with machines or build and use them.[4] Dan Hunter posits that what we currently define as the "practice of law" will no longer be exclusively provided by lawyers; rather, new entities that defy 19th-century conventions will meet society's legal needs.[5] On the flip side, Kristen Thomasen is skeptical that a computer system can genuinely substitute for lawyers: while it can assist in legal tasks, the essence of lawyering involves interpersonal and relational aspects, making it unlikely for a computer system to take over entirely.[6]

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2 Joseph Weizenbaum, *Computer Power and Human Reason: From Judgment to Calculation* (San Francisco: WH Freeman, 1976) at 207.

3 James A Sprowl, "Computer-Assisted Legal Research: Westlaw and Lexis" (1976) 62:3 ABA J 320; Ryan Abbott & Brinson S Elliott, "Putting the Artificial Intelligence in Alternative Dispute Resolution: How AI Rules Will Become ADR Rules" (2023) Amicus Curiae 685.

4 Richard E Susskind, *Tomorrow's Lawyers: An Introduction to Your Future*, 3rd ed (Oxford, United Kingdom: Oxford University Press, 2023).

5 Dan Hunter, "The Death of the Legal Profession and the Future of Law" (2020) 43:4 UNSWLJ 1199.

6 "Will AI revolutionize the legal profession? The jury is still out" (2 May 2023), online: *Peter A Allard School of Law* <allard.ubc.ca/about-us/news-and-announcements/2023/will-ai-revolutionize-legal-profession-jury-still-out> [https://perma.cc/3NEQ-356W].

The global legal industry is more than attractive to investors, as it is worth more than $1 trillion US.[7] The tech sector market capitalization is estimated at $24.9 trillion and could reach $45.73 trillion by 2030.[8] The annual legal tech market profitability is growing from $27.6 billion in 2021 to $35.62 billion by 2027.[9] A Goldman Sachs report estimated that generative AI could automate about 44% of legal tasks, while the Chinese Academy of Engineering's 2022 Strategic Study confirms a similar figure of about a third.[10] The US Labor Department anticipates a reduction of 880,000 administrative support jobs by 2031, while Bill Gates proposes adopting a three-day workweek.[11] Research at Princeton, the University of Pennsylvania, and New York University shows that legal services, lawyers, law professors, administrative law judges, judicial clerks, adjudicators, arbitrators, mediators, and hearing officers are particularly susceptible to AI automation.[12] Meanwhile, the Canadian Bar Association has long been

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7 "Size of the legal services market worldwide from 2015 to 2022 with a forecast for 2027" (27 July 2023), online: *Statista* <statista.com/statistics/605125/size-of-the-global-legal-services-market> [https://perma.cc/HRT9-HQKS].

8 "Legal Technology Market Size, Share & Growth Report, 2030" (2023), online: *Grand View Research* <grandviewresearch.com/industry-analysis/legal-technology-market-report> [https://perma.cc/6UEJ-RWAS].

9 "Legal tech market revenue worldwide 2021 to 2027" (3 July 2023), online: *Statista* <statista.com/statistics/1155852/legal-tech-market-revenue-worldwide> [https://perma.cc/2TQ2-FG53].

10 Joseph Briggs & Devesh Kodnani, "The Potentially Large Effects of Artificial Intelligence on Economic Growth (Briggs/Kodnani)" (26 March 2023), online: *Goldman Sachs Publishing* <gspublishing.com/content/research/en/reports/2023/03/27/d64e052b-0f6e-45d7-967b-d7be35fabd16.html> [https://perma.cc/A48S-X848]; Grenville Cross, "Opinion: Adopting AI: China's judiciary shows the way forward" (27 June 2023), online: <english.dotdotnews.com/a/202306/27/AP649abf86e4b08eeabfe1cad0.html> [https://perma.cc/M3G4-TFQQ].

11 Steve Lohr, "AI Is Coming for Lawyers, Again" (10 April 2023), online: *The New York Times* <nytimes.com/2023/04/10/technology/ai-is-coming-for-lawyers-again.html> [https://web.archive.org/web/20240216111535/nytimes.com/2023/04/10/technology/ai-is-coming-for-lawyers-again.html]; Jordan Hart, "Bill Gates says 3-day work week possible with AI" (22 November 2023), online: *Business Insider* <businessinsider.com/bill-gates-comments-3-day-work-week-possible-ai-2023-11> [https://perma.cc/AL3S-S3Z6].

12 Ed Felten, Manav Raj & Robert Seamans, "How will Language Modelers like ChatGPT Affect Occupations and Industries?" (18 March 2023) online (pdf): *Cornell University Arxiv.org e-Print Archive* <arxiv.org/ftp/arxiv/papers/2303/2303.01157.pdf> [https://perma.cc/4RM4-KHVH].

trying to mitigate the ramifications of lawyers' vulnerability to AI automation.[13]

Past anecdotal experience shows that many lawyers and law firms resist adopting new technologies; however, they eventually capitulate due to increased technological-competitive pressure relative to adopters, demands from consumers to deliver more at less cost, or collapse due to adherence to a traditional vision in a progressing legal landscape.[14] The legal profession's fragility is primarily rooted in reliance on its monopoly, government employment and self-employment, and the fact that partners, rather than investors, primarily control firms.[15] Simultaneously, lawyers report that a "lack of finance[s], skilled expertise, and regulatory factors" are their main barriers to innovation.[16]

These issues are the focus of the paper's comprehensive and pragmatic analysis of AI and its effect on the legal profession.

II. HOW AI AFFECTS LEGAL EMPLOYMENT

A. Issues of AI Automation

1. AI

Developers eagerly promote products by labelling them as AI to increase profit, while consumers may "enjoy" the downsides of the hype: "hallucinations," incorrect statements, and professional embarrassment after improperly relying on an AI tool.[17] Although lawyers don't require an

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13 CBA Legal Futures Initiative Team, "Futures: Transforming the Delivery of Legal Services in Canada" (August 2014) online (pdf): *The Canadian Bar Association* <cba.org/cbamedialibrary/cba_na/pdfs/cba%20legal%20futures%20pdfs/futures-final-eng.pdf> [https://perma.cc/U6CK-CRNN].

14 Bob Ambrogi, "The Decade in Legal Tech: The 10 Most Significant Developments" (1 January 2020), online: *LawSites* <lawnext.com/2020/01/the-decade-in-legal-tech-the-10-most-significant-developments.html> [https://perma.cc/9V4F-SDKG]; Qian Hongdao et al, "Legal Technologies in Action: The Future of the Legal Market in Light of Disruptive Innovations" (2019) 11:4 Sustainability 1015, online: <mdpi.com/2071-1050/11/4/1015> [https://perma.cc/LR4C-3738].

15 John Morley, "Why Law Firms Collapse" (2019) 75:1 Bus Lawyer 1399.

16 Michael Legg & Felicity Bell, *Artificial Intelligence and the Legal Profession* (Oxford, UK: Hart Publishing, Bloomsbury Publishing Plc, 2020) at 7.

17 Illia Roskoshnyi, "Digitalization and Automation of Business and Law: Inherent Dimensions of Artificial Intelligence that Cannot be Missed" (16 November 2022), online: *The Marcel A Desautels Centre for Private Enterprise and the Law* <desautelscentre.ca/2022/11/16/digitalization-and-automation-of-business-and-law-inherent-dimensions-of-artificial-intelligence-that-cannot-be-missed>

in-depth understanding of AI's fundamental principles just to use it, *caveat emptor* necessitates knowing and understanding the basics of AI capabilities to avoid succumbing to marketing ploys while increasing competitiveness through knowledgeable use and development. One can identify two primary trends in the theoretical definitions of AI: AI as a subject and AI as an intelligent system.[18]

i. AI as a Subject

Can machines think? Alan Turing posed this question in 1950, sparking the trend of thinking of AI as a subject, and presenting an imitation test to distinguish AI from non-AI:[19] if you have a conversation with two "participants" using a computer while one of them is a machine, and you cannot tell which participant is the machine, then you have passed the test and the machine can be described as AI.[20] The test does not consider the physical capabilities required to use intelligence (many studies consider this a part of robotics) or that people have different intellectual abilities.

In 1968, Marvin Minsky, pondering how one can make machines understand things, defined AI as the science of making machines do things that would require intelligence if done by men.[21] In 2022, I suggested differentiating human and animal intelligence, and classifying AI as hardware (of any form: biological, mechanical, or some other) with software that can autonomously use its intelligence in a synonymous manner to all the manifestations of inherent human intelligence, and even surpass humans.[22]

[https://perma.cc/2LDJ-KCYQ].

18 *Weizenbaum*, *supra* note 2 at 9 (e.g., Weizenbaum, developer of the *symbol-based* generative AI chatbot ELIZA, argued that a line dividing human and machine intelligence must be drawn).

19 Alan Turing, "I — Computing Machinery and Intelligence" (1 October 1950) LIX:236 Mind 433, online: *Oxford Academic* <academic.oup.com/mind/article/LIX/236/433/986238#164226500> [https://perma.cc/QVL7-PJAQ].

20 Chris Rourk, "The Turing Test is so Last Century: Introducing the Barista Test for Artificial General Intelligence," (29 May 2023), online: *Medium* <medium.com/predict/the-turing-test-is-so-last-century-the-barista-test-for-artificial-general-intelligence-faf91034fa8c> [https://perma.cc/4ND6-29RF].

21 Marvin Minsky, *Semantic Information Processing*, (Massacusetts: MIT Press, 1968) at Preface (theoretically, this definition falls under both trends).

22 Illia Roskoshnyi, *supra* note 17 (from my perspective, Narrow AI has different levels of capabilities and refers to any intelligence below General; General AI is the variable benchmark dividing AI as an intelligent system and Super AI as a subject, as well as equals to the evolving intelligence of all humans, while Super AI surpasses General).

AI as a subject implies two dimensions with different levels of capabilities: intelligent thinking on the one level, and the physical capabilities required to enact that thought on the other, neither of which exists in complete form today.[23]

ii. AI as an Intelligent System

Concurrent with the above trend, and in line with the now-prevailing view, AI was also defined as a manual and/or learning system that appears or gives the impression of being intelligent and is designed to aid in the execution or automation of intellectual tasks.[24] A 1955 Dartmouth Summer Research Project on AI described the "AI problem" as that of making a machine behave in ways that would be called intelligent if a human were so behaving.[25] In 1976, Joseph Weizenbaum concluded that AI can be defined as the efforts to emulate and bolster human reasoning processes as programs in computers.[26] In 2005, Nils J. Nilsson asserted that achieving real human-level AI would necessarily imply that most of the tasks humans perform for pay could be automated.[27] This type of AI can be differentiated by generations with variable levels of capabilities, including calculating machines, traffic lights, search engines, T9 predictive text, translators, computer games featuring bots, certain smartphone and computer software, all the way to self-driving cars, etc. Some people refuse to acknowledge AI in some of these systems once they are integrated into their daily lives. Pamela McCorduck called it an "odd paradox" that effectively devalues the colossal efforts of AI scientists and leaves them to deal only with the

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23 "Sophia" (September 2020), online: *Hanson Robotics* <hansonrobotics.com/sophia> [https://perma.cc/RWQ9-V2MH] (robot Sophia is a good example of these two dimensions while its chronological examination shows different levels of capabilities).

24 Susan Fourtané, "The Three Types of Artificial Intelligence: Understanding AI" (25 August 2019), online: *Interest Engineering* <interestingengineering.com/innovation/the-three-types-of-artificial-intelligence-understanding-ai> [perma.cc/79DT-KH7S] (alternatively, some call it Narrow or Weak AI, while others differentiate its capabilities into Narrow, General and Super).

25 J McCarthy et al,"A Proposal for the Dartmouth Summer Research Project on Artificial Intelligence," (31 August 1955) online (pdf): *Professor John McCarthy* <jmc.stanford.edu/articles/dartmouth/dartmouth.pdf> [https://perma.cc/H94E-TH84].

26 Joshua Lederberg, "Review of 'Computer Power and Human Reason' by Joseph Weizenbaum" (November 1976), online: *National Library of Medicine Digital Collections* <resource.nlm.nih.gov/101584906X12446> [https://perma.cc/AQ24-TDLX].

27 Nils Nilsson, "Human-Level Artificial Intelligence? Be Serious!" (December 2005), online (pdf): *Stanford Artificial Intelligence* <ai.stanford.edu/~nilsson/OnlinePubs-Nils/General%20Essays/AIMag26-04-HLAI.pdf> [https://perma.cc/KHM6-MAHW].

"failures,"[28] while Marshal McLuhan concluded that technology is becoming an extension of people's physical bodies, and, consequently, their intelligence.[29] The extension contributes to the refusal, resistance, and adoption of certain technologies.

Although these systems cannot yet think like humans,[30] they can analyze information much more swiftly, efficiently and widely, and have demonstrated superior output in narrowly focused intellectual tasks compared to people.[31] Notable examples include a machine triumphing over a human in chess or the recent success of AI over humans in real-life drone racing, while in the legal field AI passed the bar exam and the Brazilian local assembly adopted an AI-drafted ordinance.

While these technologies existed long before now, their quality has reached another breakthrough level thanks to the progression of computer capabilities, the proliferation of the information society, and advancements in different types of machine learning.

Machine learning describes computational statistical methods/predictive analytics used to classify patterns based on processing large amounts of sample data through "neural networks"[32] with differing architecture across layers.[33] Deep learning is an advanced type of machine learning, and only two layers are required to classify networks as "deep,"

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28 Pamela McCorduck, *Machines Who Think: A Personal Inquiry into the History and Prospects of Artificial Intelligence*, 2nd ed by Cli Cfe (New York: CRC Press, 2004) at 423.

29 Marshall McLuhan, *Understanding Media: The Extensions of Man*, 1st ed (McGraw-Hill, 1965) (McLuhan described technology as rational knowledge applied in specific ways that enables people to accomplish tasks more effectively).

30 In my view, when we create an AI system or a system of systems that can think like humans, it will be distinct; *logic-based* reasoning will complement *pattern-based* reasoning, and it will inherently exceed our capabilities (it will be a Super AI system of our human thinking capabilities rather than a General AI system). Our current biological intelligence was created for other purposes, has pros and cons, and inherently cannot be equal to the technological AI system capable of thinking like humans unless we limit this system. E.g., the technological AI system is almost immortal and omnipotent, transferable and integrable, immediately mature and can be influenced through manual settings, while our current biological intelligence is still mortal and untransferable; non-integrable, needs to be educated and, as a rule, *narrowly* focused; affected by our human and/or physical environments, reduces or increases its capabilities depending on age, time, physical state, limited to the cerebral cortex and biological body, etc.

31 Benjamin Alarie, Anthony Niblett & Albert H Yoon, "How Artificial Intelligence Will Affect the Practice of Law" (2018) 68:1 UTLJ 106.

32 Alternatively, neural networks can be called "nodal" or unit networks.

33 *Hunter*, *supra* note 5.

though modern systems are far deeper than just two layers.[34] The word "learning" is a misleading metaphor that falsely implies replicating cognitive human learning. Rather, these machines are capable of changing their "behavior"[35] to enhance, or worsen, their performance during "training"/operation by obtaining more data.[36]

The neural networks are constructed with input "nodes"[37] (task) connected to output nodes (result) via a series of "hidden" nodes arranged in differing architecture across layers.[38] Manual settings initially determine the system architecture (mostly layers and nodes), while subsequent "processing/absorbing"[39] of various patterns of sample and/or new data supplements its architecture (largely paraments) to determine the best statistical activation levels so that a neuron/node will "fire" if the nodes connected to it add up to a certain activation level or higher, while some advanced systems can simultaneously raise/lower activation levels in other related nodes.[40] The input and output nodes can represent any data.[41]

The likelihood of using the correct nodes increases when the question and answer are more statistically repeatable, predictive or straightforward, while when they are subjective, abstract, or relative, the chances that incorrect neurons "fire" are higher. Nevertheless, even when the question and answer are straightforward, but relevant data is insufficient, system settings, the sample and/or new data contain statistically repeatable biases,[42]

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34 Jerry Kaplan, "Artificial Intelligence: What Everyone Needs to Know" (New York, NY: Oxford University Press, 2016) at 34 (excluding input and output).

35 Alternatively, behavior can be called a statistical activation level.

36 Harry Surden, "Machine Learning and Law" (2014) 89:1 Wash L Rev 87.

37 Alternatively, nodes can be called "neurons" or units, while their groups within their settings are algorithms or, more simply, programmed manual, statistical and/or predictive sets of settings for solving input tasks.

38 Maximilian Schreiner, "GPT-4 architecture, datasets, costs and more leaked" (11 July 2023), online: <the-decoder.com/gpt-4-architecture-datasets-costs-and-more-leaked> [https://perma.cc/U32X-76VM] (e.g., some estimates state that the GPT-4 platform might consist of around 1.8 trillion parameters distributed over about 120 layers).

39 Some call this calculation training or learning. Functionally, they can be differentiated: during training, the system calculates the best statistical activation levels based on concrete goals set by developers in the developing and/or updating stages, whereas, during learning, the system can change weights at predetermined activation levels by obtaining new data while operating. Not all systems have the latter function.

40 *Hunter*, *supra* note 5 (nodes in the system can be improved using manual settings).

41 *Ibid* (as data moves within the system, it can be fragmented and/or transformed to and from binary or other data formats as well as supplemented with additional parameters).

42 John Zerilli et al, *A Citizen's Guide to Artificial Intelligence* (Cambridge, MA: The MIT Press, 2020) (technologically, not all biases are futile in balancing systems' fairness and

mistakes, and/or are untuned to concrete goals, the system is more likely to produce incorrect outputs.[43] Hence, the quality of legal data and system settings are essential for these systems' proper operation, while quantity can only improve their performance when it is of high quality.[44]

Developing an effective system requires vast quantities of relevant and suitable data, sufficient computer capabilities for training and operation, robust system settings, and, preferably, a narrowly focused application with concrete goals, while its user and system operational experience is crucial for the advancement of the system.[45] Today's AI systems can be classified into custom-built and general-purpose. To mitigate errors and serve concrete goals of specific political and economic domains, current general-purpose systems require customization and/or harmonization. Due to the inherent complexity of programming numerous system settings, processing huge amounts of diverse data through that system, and humans applying that system with different mindsets and intentions, it is still challenging to comprehend how some machine learning systems process inputs to produce outputs; operational experience and further developments and improvements in bias detection and correction, explanatory tools, and/or layers are required.[46]

Drawing from these two trends, one can assert that the current AI breakthrough is rooted in AI as an intelligent system while AI as a subject is still only a prospect. AI's capacity for intelligent thinking is currently more advanced than its physical capability to convincingly apply such thinking in the practice of law. These capabilities are largely what the legal profession

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accuracy).

43 Some give human senses to some technological errors by giving the title "hallucinations," while others argue that some systems reduce errors if you ask them to "think" step-by-step, while in reality, they do so not by thinking but by transforming a complex input task into smaller tasks that can often yield greater predictability or statistical repeatability than tackling the input task as a whole. Alternatively, some systems are programmed to apologize for errors and provide subsequent statistically repeatable or predictable outputs from the same or other circulating, differently-tuned, nodes that may/may not impress their user.

44 *Zerilli*, *supra* note 42 (considering various indirect dynamic data, such as changing human habits, public perception, lifestyles, etc., to ensure the system's ongoing efficiency is also essential for the quality of legal data).

45 Infrastructure is also a factor in certain instances.

46 *Zerilli*, *supra* note 42 (some explanations may not be clear to those without specialized expertise, while others may be protected by trade secrets or be too complicated to understand).

needs to augment and/or automate its skills and what most people demand in order to increase their access to justice.

2. Legal Monopoly

Lawyers have always assumed that legal language is arcane, knowledge is hard to come by, reasoning is a rare and specialised skill, and legal problems require an expensively trained specialist with licensing.[47] This vision of the profession is inherently interested in keeping the law opaque and obscure to maintain a lawful monopoly,[48] while AI automation requires transparent, well-defined statutes and case law, and aims to demonopolize legal practice. However, in spite of this perception of lawyers and the aims of AI automation, the legislature continues to pass legislation, the executive and the judiciary render decisions, and a lawful monopoly is maintained by governments. Lawyers primarily rely on the "arcane" rules supplied by governmental branches, are familiar with them, and are arguably essential to their proper interpretation.

If you were to present major legal issues to students studying, say, biology or chemistry, it's highly improbable that they would find the correct solution. Now, picture these students in a courtroom. First, they might be shy and not express the essential grounds needed to win the case, potentially resulting in a needless loss, while incorrectly blaming the administration of justice. Second, they could inadvertently prolong court proceedings. Moreover, lawyers don't always secure victories *thanks to* convoluted legislation or case law, but *in spite of* the challenging position such legislation or case law puts them in. Hence, well-defined statutes and case law *are* in lawyers' interests, by helping them demystify and de-monopolize the practice of law. Meanwhile, governments regulate the legal monopoly and wield significant influence over its practice, with lawyers depending on their will; policymakers are likely to continue reappraising the relevance and utility of the traditional role of the legal profession under evolving conditions.[49]

On the other hand, in nations where there hasn't been a "de jure" legal monopoly in certain fields, consumers largely seek legal counsel on major issues from qualified lawyers while resolving minor issues themselves using the Internet, templates or avoidance resources. The demand for qualified lawyers on major issues suggests that there are tasks beyond AI's current capabilities to automate and therefore liberalize, even in the absence of a legal monopoly, while certain specialized tasks once within the lawyer's

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47 *Hunter*, *supra* note 5.

48 *Hongdao*, *supra* note 14.

49 *Initiative Team*, *supra* note 13.

domain have now been liberalized and can be performed by consumers on their own.

Consider LegalZoom's experience in legal automation and liberalization as an example of a condition under which the professional role was appropriately reassessed. The company was founded in 1999 and offered legal services to small businesses and individual consumers through online interactive legal documents, subscription legal plans, and registered-agent services. In 2003, the State Bar of North Carolina first looked into LegalZoom but brought no action.[50] In 2008, LegalZoom faced lawsuits in eight US states seeking to shut it down for violating state laws barring the unauthorized practice of law; the company managed to fend off almost all of the lawsuits, with a notable victory in South Carolina.[51] In 2015, LegalZoom filed a $10.5 million antitrust suit against the North Carolina State Bar.[52] A year later, the US Federal Trade Commission and the US Department of Justice advised the North Carolina General Assembly "to exclude from the statutory definition of the practice of law the operation of interactive websites that generate legal documents based on a consumer's answers to questions presented by the software."[53] Eventually, through the bargaining table, the parties developed a consent agreement to amend the practice of law definition and introduce licensing.[54]

In 2023, LegalZoom's revenue was $660.7 million, up 7% from the year before.[55] This financial result would place the company among the top 90 global law firms by revenue.[56] Deborah L. Rhode, commenting on the

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50 Caroline Shipman, "Unauthorized Practice of Law Claims against LegalZoom–Who Do These Lawsuits Protect, and Is the Rule Outdated?" (2019) 32:4 Geo J Leg Ethics 939.

51 Robert Ambrogi, "Latest legal victory has LegalZoom poised for growth" (August 2014), online: *ABA Journal* <abajournal.com/magazine/article/latest_legal_victory_has_legalzoom_poised_for_growth> [https://perma.cc/799M-9FR9].

52 Daniel Fisher, "LegalZoom Sees Supreme Court Ruling as Tool to Challenge NC Bar" (6 June 2015), online: *Forbes* <forbes.com/sites/danielfisher/2015/06/06/legalzoom-sees-supreme-court-ruling-as-tool-to-challenge-n-c-bar/?sh=394240375f5f> [https://perma.cc/7UXE-PDNR].

53 Federal Trade Commission & Antitrust Division of the US Department of Justice, "Comment Letter on North Carolina HB 436" (10 June 2016), online: *US Department of Justice* <justice.gov/atr/file/866666/download> [https://perma.cc/RYP2-B2CE].

54 *Shipman*, *supra* note 50.

55 "LegalZoom Reports Fourth Quarter and Full Year 2023 Financial Results | LegalZoom.com, Inc." (22 February 2024), online: *LegalZoom*, <investors.legalzoom.com/news-releases/news-release-details/legalzoom-reports-fourth-quarter-and-full-year-2023-financial> [https://perma.cc/4GJD-N97F].

56 "The 2023 Global 200 Ranked by Revenue" (19 September 2023), online:

LegalZoom experience, noted: "[t]he train has left the station. They've got a couple million satisfied customers, and it's going to be really hard for anyone to shut them down."[57]

Similar waves of liberalization through automation took place in New Zealand, Canada, Australia, and the UK, while in other regions where the lawyer's monopoly is historically less strict it has been easier to trial and advance AI.[58] Notably, the American "Harvey AI" is being tested in Singapore's courts, and is being used by about 3,500 lawyers at Allen & Overy, which had revenue of about £2.08 billion in 2023.[59]

Although lawyers try to protect their interests, some scholars argue that laws against unauthorized practice will rarely apply successfully to AI products that can provide quality legal services at lower cost.[60] Further, technology companies often try to succeed by changing the rules rather than playing within the existing ones, while legal professionals' inaction and reliance on their legal monopoly puts them at risk of disruption in the long run.[61]

3. Cold-Blooded Machines

Some scholars argue that people need to trust that lawyers understand their problems and will try their best to solve them in order to be satisfied with their legal services; if true, this trust dynamic could be seriously undermined by robo-lawyers or overreliance on AI tools. If a technology like ChatGPT were used to provide preliminary legal advice, it would not fully "understand" the client's issues. It may also fail to offer the same level of empathy, human connection, and/or legal creativity that human lawyers can.[62]

ALM | Law.com International <law.com/international-edition/2023/09/19/the-2023-global-200-ranked-by-revenue> [https://perma.cc/RQ9J-QSTJ].

57 *Ambrogi*, *supra* note 51.

58 *Susskind*, *supra* note 4.

59 Lydia Lam, "Generative AI being tested for use in Singapore Courts, starting with small claims tribunal" (27 September 2023), online: *CNA* <channelnewsasia.com/singapore/artificial-intelligence-court-small-claims-singapore-chatgpt-3801756> [https://perma.cc/AV2L-MGF6]; David Wakeling, "A&O announces exclusive launch partnership with Harvey" (15 February 2023), online: *A&O Shearman* <aoshearman.com/en/news/ao-announces-exclusive-launch-partnership-with-harvey> [https://perma.cc/3BLU-WTBH]; "Allen & Overy LLP annual revenue 2023" (August 2023), online: *Statista* <statista.com/statistics/1320194/allenandovery-annual-revenue> [https://perma.cc/NUC9-75QA].

60 *Alarie*, *supra* note 31.

61 Tim O'Reilly, "Government as a Platform" (2011) 6:1 Innovations 13.

62 Giulia Gentile, "LawGPT? How AI is Reshaping the Legal Profession" (8 June 2023),

Other scholars contend that there is no need for the semblance of emotions or feelings in providing legal services, as people just need their legal problems solved.[63] Moreover, there are systems capable of scanning human smiles and determining whether they are fake or genuine more accurately than humans. These systems could enable approximations of human emotion while providing AI legal services.[64] Like all other systems, these are constantly improving.[65]

While emotions, feelings, and compassion are crucial aspects of human life, these same emotions contribute to corruption, war, disasters, arbitrariness, oppression, and many other societal issues. The real problem is not perceived cold-bloodedness, but whether humans program, operate and employ AI systems in good faith.

In spite of the need to move past this bias against "cold-blooded" machines, two perspectives should be acknowledged: in certain situations, human involvement is essential, while in others, a decision enhanced by a cold-blooded machine may better uphold social values than engaging in emotional games.[66]

Furthermore, consider smartphones and their AI software: lawyers and laypeople often rely on them, and smartphones and their AI software cannot fully convey feelings and emotions or understand people while serving them. Yet, they found common ground in such a way that it is hard to imagine modern life without reliance on smartphones and their AI

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online: *LSE Impact Blog* <blogs.lse.ac.uk/impactofsocialsciences/2023/06/08/lawgpt-how-ai-is-reshaping-the-legal-profession> [https://perma.cc/2JL9-8GKG].

63 *Zerilli*, *supra* note 42 (on the contrary, some propaganda techniques and human environments, emotions and feelings, like fear, wishful thinking and one-sided perception, make people prone to prejudice, while AI systems may minimize it).

64 "Humanizing Technology with Emotion AI" (16 January 2024), online: *Affectiva* <affectiva.com> [https://perma.cc/2U47-E82C] (this is one example of such an AI system).

65 *Susskind*, *supra* note 4.

66 Kai-Fu Lee, *AI Superpowers: China, Silicon Valley, and the New World Order* (Boston, MA: Houghton Mifflin Harcourt, 2018); Richard A Posner, "How Judges Think" (Cambridge, MA: Harvard University Press, 2021) at Introduction (AI can be involved in decision-making in various ways. E.g., Kai-Fu Lee suggested that AI may do the analytical thinking, while humans may wrap it in emotional and psychological intelligence (warmth, compassion, mental health, etc.) abstracted from bias and preconceptions by AI, creating humane restorative justice, or as Richard Posner noted regarding AI, courts may apply more than clear rules of law created by legislators, administrative agencies, the framers of constitutions, and other extrajudicial sources (including commercial custom), while judges and/or juries may determine facts without bias or preconceptions).

software. Similarly, AI-powered traffic systems, with complete, real-time data about the operating area, manage traffic lights and traffic flows with a precision beyond human capabilities, while operators and emergency services retain discretionary power over them. It is difficult to find evidence of the negative impact on society due to "overreliance" on these systems and the partial automation of human tasks and jobs in this field; rather, they improved and equalized their communities' driving and pedestrian experience, augmenting their skills and nudged them to tackle other, more sophisticated issues.

B. Implementation

Per recent figures, AI significantly impacts the practice of law by private and public entities, as well as law schools. Economically, AI is just another advance in automation, tending to redraw and simplify the boundaries of traditional job duties.[67] Practically, it replaces skills, not jobs, and it follows that what employers need is not workers, but the results obtained by applying skills.[68] Automating and augmenting the application of some skills may reduce the need for a larger workforce, eliminating jobs in the area in question. To understand whether AI will put someone "out of a job," it's necessary to understand: what skills, in aggregate, that worker utilizes; whether those skills are separable from the rest of the work; and how susceptible those skills are to AI automation.[69] Lawyers' tasks, that is, where lawyers apply their skills, can be grouped into at least sixteen categories.[70] The effectiveness of results obtained by applying these skills can be measured through utilization,[71] realization,[72] and collection[73] rates. Alone, they show the state of the industry while, as a group, they show the industry's health and dynamics at play.[74] Given AI's current capabilities it

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67 *Kaplan*, *supra* note 34 at 116; *Zerilli*, *supra* note 42.

68 *Kaplan*, *supra* note 34 at 114 (it is essential to note that employers also need consumers; without them, the economy simply won't function).

69 *Ibid* at 115 (it is also worth considering what new skills an employee can master instead of automated or augmented ones).

70 *Legg*, *supra* note 16 at 46 (the categories are: Advising Clients; Other Communications/Interactions; Case Administration and Management; Court Appearances; Document Drafting; Document Management; Document Review; Due Diligence; Fact Investigation; Legal Analysis and Strategy; Legal Research; Legal Writing; Arbitration; Negotiation; Facilitation, and Mediation).

71 Percent of an eight-hour day put towards billable work.

72 Percent of billable work that gets invoiced to clients.

73 Percent of invoiced work that gets paid.

74 Legal Trends Report (2023), online (pdf): *Clio* <clio.com/wp-

has the potential to either automate or augment the execution of narrowly focused tasks or skills, while its effectiveness depends on the state and health of the industry, the dynamics at play, as well as a firms' rates.

Legal professionals' salaries at public entities are generally fixed by law and do not depend on the state of the industry; nonetheless, the industry's state and level of increased productivity through AI dictate quantitative requirements for legal professionals, resulting in layoffs and budget savings through cutbacks for communities. The effectiveness of results obtained by applying lawyers' skills in public entities through AI depends on community and/or representative assessments.

1. Intelligence Augmentation of the Legal Profession

AI can augment the legal profession in at least eight practical ways. First, lawyers can get more done in the same amount of time. Second, smaller firms can compete effectively with larger traditional firms; AI's document translation and legal research capabilities may even open the door to localized firms' engagement in transnational activities in specific areas of the law. Third, lawyers can broaden their areas of specialization.[75] Fourth, junior lawyers can become experienced sooner. Fifth, lawyers can enhance the quality of services by more precisely predicting case outcomes or client actions, while some civil, criminal, and administrative cases may be resolved at the pre-trial stage by parties or through Alternative Dispute Resolution (ADR). Sixth, some traditional legal professions may no longer require a law degree.[76] Seventh, the legal profession will shift gradually from physical space to Online Dispute Resolution (ODR). Eighth, AI will take law and its practice to a new qualitative and quantitative level.[77]

i. ODR–Online Dispute Resolution

ODR is one of the basic prerequisites for augmenting legal practice with AI. ODR typically has three steps: first, issue identification and provision of information; second, facilitating ADR; and third, relying on traditional court proceedings.[78]

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content/uploads/2023/08/2023-LegalTrends-Report.pdf> [https://perma.cc/R5ER-NJPY].

75 *Alarie*, *supra* note 31.

76 *Lam*, *supra* note 59.

77 Michael Genesereth, "What is Computational Law?" (10 March 2021), online: *Stanford Law School Blogs* <law.stanford.edu/2021/03/10/what-is-computational-law> [https://perma.cc/HLC2-7Y23].

78 *Legg*, *supra* note 16 at 138-139.

ODR improves access to justice and lawyers' competitiveness, while round-the-clock operation provides greater flexibility.[79] Advances in video and audio communications streamline interactions between parties and the court, eliminating the need for physical presence. Electronic signatures, designated email boxes, and mobile apps remove the need for parties and courts to send documents physically, keep litigants better informed about their rights, remedies, and the ongoing status of disputes, and thereby speed up dispute resolution processes.[80] Offering templates and manuals for compiling pleadings or applications makes it easier for parties to self-represent and enables some parties to bypass the need for lawyers. Storing case materials online removes the requirement for parties to physically exchange them or visit the court for familiarization, thereby expediting the procedural stages of court proceedings. While this progress doesn't incorporate advanced AI systems but rather automates existing processes, it augments the legal profession and its productivity, creates a digital culture, and lays the groundwork for the introduction of another generation of AI systems in the courtroom.[81]

British Columbia, Singapore, China, the Netherlands, England and Wales, and the USA were some of the first jurisdictions to see advanced AI in court and legal interactions.[82] Courts in Michigan, Ohio, California, Wisconsin and Utah have implemented algorithm-based ODR, primarily for small claims, traffic violations, outstanding warrant cases, and low-conflict family court cases.[83] The startup Harvey AI, built on a version of Open.AI's GPT-4 platform, is testing its technology in the courts of Singapore as of August 2023 and will continue the trial for two years.[84] Unlike ChatGPT, Harvey AI was trained on general and legal data and can

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79 Bryan P Schwartz, Mikal Sokolowski & Laura Balagus, "Online Dispute Resolution (ODR): New Approaches to Enhance Initiatives of Civil Dispute Resolution" (2023) 46:3 Man LJ.

80 *Ibid.*

81 *Legg*, *supra* note 16 at 132; Changqing Shi, Tania Sourdin & Bin Li, "The Smart Court - A New Pathway to Justice in China?" (2021) 12:1 Intl J Court Administration 1 (e.g., the President of Hangzhou Internet Court noted in 2019 that within its two years of operation, the court had delivered around 20,000 judgements and the average hearing time for each case had been saved by 65% compared to face-to-face).

82 *Legg*, *supra* note 16 at 132.

83 Robin Dodokin, Sarah McEachern & Les Honywill, "Artificial Intelligence and Arbitration: A Perfect Fit?" (2 March 2023), online: *ADR Institute of Canada* <adric.ca/artificial-intelligence-and-arbitration-a-perfect-fit/#ftn3> [https://perma.cc/99SE-B4Q8].

84 "Harvey" (2023), online: *Harvey* <harvey.ai> [https://perma.cc/7A88-UK3X]; *Lam*, *supra* note 59.

learn while operating. Harvey AI exemplifies the customization of general-purpose systems and aids in contract analysis, due diligence, litigation, regulatory compliance, generating insights and recommendations, document management, scheduling, replies by email, and predictions based on data, among other functionalities.[85] While Singapore has been using certain ODR elements since 2000, the introduction of Harvey AI aims to assist self-represented litigants in small claims, which involves answering questions using pre-loaded data to generate or assess claims using an advanced AI system for the first time.[86]

ii. Legal Prediction

As Oliver Holmes concluded while pondering what constitutes "the law": "[t]he prophecies of what the courts will do in fact, and nothing more pretentious, are what I mean by the law."[87] On this view, knowing "the law" necessitates using legal predictions. Technologically, current AI systems may best excel in this field; however, as Benjamin Cardozo expressed:

> We may think the law is the same if we refuse to change the formulas. The identity is verbal only. The formula has no longer the same correspondence with reality. Translated into conduct, it means something other than it did. Law defines a relation not always between fixed points, but often, indeed oftenest, between points of varying positions. The acts and situations to be regulated have a motion of their own. There is change whether we will it or not.[88]

This uncertainty between a static legal formula and the ever-changing dynamics of the real world may impede legal prediction progress. In practice, US Supreme Court decisions were correctly predicted more than 70% of the time;[89] the European Court of Human Rights judgments were predicted with 79% accuracy;[90] the best result in legal judgment prediction

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85 Kate Rattray, "Harvey AI: What We Know So Far" (13 March 2023), online: *Clio* <clio.com/blog/harvey-ai-legal> [https://perma.cc/256A-DMBA].

86 Young Hwan Chung, "E-Litigation in Korea and Problems to Be Solved - Pondering upon Changes in the Legal Market" (2014) 14:0 Asian Bus Lawyer 125; *Lam, supra* note 59.

87 Oliver Wendell Holmes Jr, *The Path of the Law* (Auckland, NZ: The Floating Press, 2009) at 9.

88 Wai Chee Dimock, "Rules of Law, Laws of Science" (2001) 13:1 Yale JL & Humanities 203.

89 Daniel Martin Katz et al, "A general approach for predicting the behavior of the Supreme Court of the United States" (2017) PloS ONE 12:4.

90 "AI predicts outcomes of human rights trials" (23 October 2016), online: *UCL News* <ucl.ac.uk/news/2016/oct/ai-predicts-outcomes-human-rights-trials> [https://perma.cc/FJ47-XU7Y].

concerned Canadian appeal cases, with an accuracy rate of 93.46%;[91] meanwhile, Lex Machina[92] claims that it can predict judgments more accurately than litigators in US patent litigation.[93]

If legal prediction becomes a widespread practice, lawyers would largely convince statistical nodes rather than judges. Achieving stable legal prediction results of up to 100% would likely disrupt the legal profession. It could also theoretically provide greater legal certainty and a more consistent administration of justice, leading to higher levels of equality and resolving many cases at the pre-trial stage.

In contract law, parties can employ AI predictions to simulate the outcomes of certain actions or inactions before entering into, and throughout the execution of, a contract.[94]

Predictive policing combined with AI facial recognition can augment law enforcement activities.[95] Advanced AI systems can predict crime, including where crime is likely to occur in the future, who may be a criminal or a victim of crime, and how criminal networks and criminal careers might develop.[96] AI facial recognition can be deployed temporarily in identified crime zones, while AI-controlled drones could be stationed there permanently and respond to crimes faster than the police. A 2022 Pew Research Study revealed that 46% of US adults say widespread use of facial recognition technology by police would be a good idea for society, while 27% believe it would be a bad idea.[97] People's sentiments and technological advancement require re-evaluating the importance of certain human and

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91 Intisar Almuslim & Diana Inkpen, "Legal Judgment Prediction for Canadian Appeal Cases" (23 March 2022), online: *IEEE Xplore* <ieeexplore.ieee.org/document/9736341/authors#authors> [https://perma.cc/XQW2-VFRP].

92 "Legal Analytics by Lex Machina" (19 October 2023), online: *Lex Machina* <lexmachina.com> [https://perma.cc/8L66-5AA6].

93 *Susskind*, *supra* note 4.

94 Charlotte Johnstone, "Macfarlanes Showed Us How it's Using Harvey AI. Here's What We Learnt" (9 October 2023), online: *Law.com International* <law.com/international-edition/2023/10/09/macfarlanes-showed-us-how-its-using-harvey-ai-heres-what-we-learnt> [https://perma.cc/2HAA-DPAB].

95 Pew Research Center, "Public more likely to see facial recognition use by police as good, rather than bad for society" (17 March 2022), online: <pewresearch.org/internet/2022/03/17/public-more-likely-to-see-facial-recognition-use-by-police-as-good-rather-than-bad-for-society> [https://perma.cc/78LJ-3Y5M].

96 Kaitlynd Hiller, "Predictive Policing and the Charter" (2021) 44:6 Man LJ 224; Bart Custers & Eduard Fosch-Villaronga, eds, *Law and Artificial Intelligence Regulating AI and Applying AI in Legal Practice*, 1st ed (The Hague: TMC Asser Press, 2022) at 213.

97 *Pew*, *supra* note 95.

Charter rights against the value of saving people from crime, to find an appropriate balance. Further, computers and smartphones have long been accessing people's data stored on them, and they do not invade people's privacy because they are not sentient beings. Therefore, only human interactions with AI systems should raise privacy concerns.[98]

iii. Document or Claim Research

Most lawyers' jobs involve routine and repetitive analysis, reading, comparison, and determining strategic steps. Junior lawyers, paralegals or outsourced employees typically carry out the first part of the job, while experienced attorneys do the second, strategic part. Consumers don't mind paying significant rates for experienced attorneys, but they do object to high hourly rates for relatively junior lawyers to undertake what they perceive as routine and repetitive work.[99]

Systems like CoCounsel have the potential to alter this paradigm of perception by acting as experienced mentors for young lawyers, accelerating their transformation into experienced ones.[100] Established in 2013 as part of Casetext, it has served over 10,000 law firms and corporate legal departments.[101] The current system, built on the GPT-4 platform, is tailored to assist legal professionals in efficiently managing document reviews, conducting legal research, and analyzing contracts, among other functionalities.[102] Valdemar L. Washington, a US lawyer, tested CoCounsel in a suit against the City of Flint, alleging that residents were overcharged on water and sewer rates and service fees. He loaded the program with more than 400 pages of documents and the software quickly reviewed them, writing a summary that pointed him to an important gap in the defense's case; the program did in a few minutes what would have taken him several

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98 Richard A Posner, "Privacy, Surveillance, and Law" (2008) 75:1 U Chicago L Rev 245 (privacy concerns involve both programming and operational stages).

99 *Susskind*, *supra* note 4.

100 "Casetext - CoCounsel" (9 December 2022), online: *Casetext - CoCounsel* <casetext.com> [https://perma.cc/SBY2-WX5Z].

101 PRNewswire, "Thomson Reuters Corporation Signs Definitive Agreement to Acquire Casetext" (26 June 2023), online: *Thomson Reuters* <ir.thomsonreuters.com/news-releases/news-release-details/thomson-reuters-corporation-signs-definitive-agreement-acquire-0> [https://perma.cc/D2YB-EC6X].

102 "Thomson Reuters unveils generative AI strategy designed to transform the future of professionals" (1 November 2023), online: *Thomson Reuters* <thomsonreuters.com/en/press-releases/2023/november/thomson-reuters-unveils-generative-ai-strategy-designed-to-transform-the-future-of-professionals.html> [https://perma.cc/F922-K335].

hours.[103] Similarly, AI systems may aid young lawyers in grasping potential errors, molding experience more quickly and enabling experienced lawyers to concentrate on more sophisticated tasks.

iv. Document Automation

Litigators agree that writing, reviewing, and analyzing briefs is their most time-consuming task and requires speeding up.[104] Contract Express, for example, enables fast and accurate document drafting after straightforward interactive consultations with users.[105] Juro has similar functionalities and makes the process of drafting, reviewing, and tracking contracts more efficient.[106] Spellbook asserts that its system enhances lawyers' efficiency in contract drafting tenfold and operates seamlessly within Microsoft Word; the system has been trained on a massive dataset of 42 terabytes of text from the Internet, contracts, books and Wikipedia.[107] Luminance asserts that, beyond other functionalities, its system can independently negotiate contract terms through an Autopilot system, while Ironclad has manual negotiation options.[108] PatentPal improves the patent drafting experience by generating diagrams and descriptions from claims.[109] More and more similar systems are becoming available online for lawyers and lay users alike.[110]

AI analysis and legal research tools are also used for more complex tasks. For instance, when drafting lawsuits, statements or motions, a user can

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103 *Lohr*, *supra* note 11.

104 "Write a Better Legal Brief in Less Time | Bloomberg Law" (21 November 2023), online: *Bloomberg Law* <pro.bloomberglaw.com/brief/how-to-write-a-legal-brief/#three> [https://perma.cc/AK5Q-UG46].

105 "Contract Express Law Firm Product Overview" (17 October 2023), online: *Thomson Reuters* <thomsonreuters.ca/en/contract-express.html.html> [https://perma.cc/XPD4-GNUV]; Richard E Susskind & Daniel Susskind, *The Future of the Professions: How Technology Will Transform the Work of Human Experts,* 1st ed. (Oxford, United Kingdom: Oxford University Press, 2015) at 69.

106 "What is contract AI? A guide to AI contract tools in 2024" (17 October 2023), online: *Juro* <juro.com/learn/contract-ai> [https://perma.cc/J39W-C2JE].

107 "Spellbook Reviews" (27 October 2023), online: *Spellbooklegal* <spellbook.legal/reviews> [https://perma.cc/JY9K-TQJP].

108 "Luminance" (17 October 2023), online: *Luminance* <luminance.com>; Ryan Browne, "An AI just negotiated a contract for the first time ever — and no human was involved" (7 November 2023), online: *CNBC* <cnbc.com/2023/11/07/ai-negotiates-legal-contract-without-humans-involved-for-first-time.html> [https://perma.cc/6HS4-FEFM]; "Ironclad" (27 October 2023), online: *Ironclad* <ironcladapp.com> [https://perma.cc/GS8J-89X8].

109 "PatentPal" (27 October 2023), online: *PatentPal* <patentpal.com> [https://perma.cc/Z4BH-EHR4].

110 *Susskind 2*, *supra* note 105.

employ the Conversational Search by Lexis+, Harvey AI, CaseMine or CoCounsel's legal research capabilities to draft a document.[111] Once the paper is drafted, the user can use an analysis system—such as LawDroid or the legal research systems named above—to identify counterarguments and strengthen their own argument's grounds in potential response.[112] If documents are received from the opposing party, or a court, an AI system can analyze them and generate counterarguments. In both cases, users can verify the reliability of the generated arguments and manually edit the final draft.

v. ADR–Alternative Dispute Resolution

One of the first generations of AI-ADR systems from the early 1970s modelled human litigators' and insurance adjusters' decision-making processes for a series of hypothetical disputes; the next generation could include ADRs like eBay and PayPal's systems from the early 2000s, while the 2009 Dutch "e-Court" is an example of an advanced online arbitration system.[113] AI-powered ADRs include stages of negotiation, facilitation, mediation, and arbitration.

British Columbia's Civil Resolution Tribunal (CRT), an AI expert system, independently performs case intake, management and communications while providing disputants with a negotiation forum and a facilitation service.[114] The negotiation stage is voluntary and confidential; it starts after the respondents reply to the claim and usually lasts a few weeks. If an agreement is reached, CRT helps to turn it into a written document or a formal order that's enforceable in court and refunds the application fee.

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111 "Lexis+ AI" (17 October 2023), online: *LexisNexis* <lexisnexis.com/en-us/products/lexis-plus-ai.page?int-camp=lexisplus-sign-on> [https://perma.cc/A2NK-32FH]; "CaseMine" (17 October 2023), online: CaseMine <casemine.com> [https://perma.cc/8LP2-E7HT].

112 "LawDroid" (9 June 2022), online: *LawDroid* <lawdroid.com> [https://perma.cc/H2E7-HSNH].

113 *Abbott*, *supra* note 3; Willemien Netjes & Arno R Lodder, "e-Court – Dutch Alternative Online Resolution of Debt Collection Claims: A Violation of the Law or Blessing in Disguise?" (2019) 6:1 Intl J Online Dispute Resolution 96.

114 *Abbott*, *supra* note 3; *Zerilli*, *supra* note 42 (AI expert systems are a product of the last century, designed to statistically replicate or logically predict the way of thinking of experts in specific domains as programs in computers. They are mostly programmed manually, that is, relying on a strictly definable set of settings (algorithms) to solve input tasks).

If the parties do not reach an agreement, CRT moves them to the facilitation stage.[115] This stage is mandatory and can be done by phone, email, or both. The facilitator, though neutral and unable to give legal advice, can clarify issues in the claim, provide a non-binding opinion, and discuss the importance of evidence and participants' involvement to assist the parties in reaching an agreement. If they reach an agreement, they receive a consent dismissal and resolution order to enforce it; if not, the CRT tribunal decides.[116] CRT claims that about 40% of all claims are settled by agreement or withdrawn.[117] Although few AI capabilities are currently used in this system, parties can independently apply AI document automation, legal research, or prediction to enhance their argument's grounds, while CRT may explore integrating advanced AI into its system.

Smartsettle shows another facet of ADR, with its out-of-court AI negotiation, facilitation, and mediation tools, which can independently arrive at a compromise between disputants and recommend a settlement to a neutral human party.[118] The parties have to move flags on a screen to indicate a possible space for compromise. Then, the application uses bidding tactics to nudge the stakeholders into a settlement without revealing their secret bids.[119] In 2019, its "robot mediator"[120] resolved a three-month dispute over unpaid fees in less than an hour.[121] Alternatively, Myer Sankary, a US mediator, used ChatGPT to determine a possible mediation proposal that facilitated a settlement.[122] Although incorporating general-purpose AI systems into professional activities may pose a higher risk of

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115 "What is negotiation?" (18 April 2023), online: *BC Civil Resolution Tribunal* <civilresolutionbc.ca/help/what-is-negotiation> [https://perma.cc/PES2-Y345].

116 "What is facilitation?" (21 February 2023), online: *BC Civil Resolution Tribunal* <civilresolutionbc.ca/help/what-is-facilitation> [https://perma.cc/ZDQ5-CM3K].

117 *What is negotiation*, *supra* note 115.

118 "iCan Systems Inc / Smartsettle" (2016), online: *Smartsettle* <smartsettle.com> [https://perma.cc/GK2B-GUH9]; *Abbott*, *supra* note 3.

119 Alena Zhabina, "How China's AI is automating the legal system" (20 January 2023), online: dwcom <dw.com/en/how-chinas-ai-is-automating-the-legal-system/a-64465988> [https://perma.cc/4VZ2-UHSR].

120 Nick Hilborne, "Robot mediator settles first-ever court case" (19 February 2019), online: *Legal Futures* <legalfutures.co.uk/latest-news/robot-mediator-settles-first-ever-court-case> [https://perma.cc/8SYS-V5NJ].

121 *Zhabina*, *supra* note 119.

122 Christoph Salger, "Artificial Intelligence (AI) in Mediation — ChatGPT as Mediator 4.0" (21 June 2023), online: *Mediate* <mediate.com/artificial-intelligence-ai-in-mediation-chatgpt-as-mediator-4-0> [https://perma.cc/P4UJ-RXCK].

error, it reflects a demand for professional systems and shows that, on occasion, general may be beneficial. [123]

Large corporations employ AI negotiations in their interactions with counterparts to avoid future disputes and boost their number of business processes. Maersk uses Pactum AI chatbots to more quickly search for transportation rates within existing agreements and automatically secure a quote if none is available.[124] Walmart, which has over 100,000 suppliers, uses Pactum AI to negotiate with people at "tail-end" suppliers—those that account for 20% or so of Walmart's expenditures on low-value items.[125]

Arbitration may be a prospective area for AI-powered justice, but the reliance on data to train an AI system, often known only to the involved parties, may impede progress. Nevertheless, lawyers and parties can use systems such as Lex Machina, Arbilex, Arbitrator Research Tool, Lit-gate and Arbitrator Intelligence to conduct legal research, select arbitrators, counsel, or experts, and decide on the best panel or best expert for their legal issue.[126] Arbitrators at Guangzhou Arbitration have already used AI to augment the execution of their tasks.[127]

Given the substantial expenses linked to some forms of arbitration and court proceedings for some parties, the emergence of AI systems that can enhance access to arbitration and, over time, gradually introduce AI-powered justice to solve some domestic and/or international issues, is promising. A notable example is the Dutch "e-Court," established in 2009 as a comprehensive online arbitration platform with government backing.[128] The e-Court's default judgments were rendered entirely by a computer, while some other interactions were human-led. Initially resolving a range of cases, from debt collection to labour disputes and small claims (up to

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123 Kathryn Armstrong, "ChatGPT: US lawyer admits using AI for case research" (27 May 2023), online: *BBC* <bbc.com/news/world-us-canada-65735769> [https://perma.cc/YVN6-DVUJ].

124 "Pactum" (21 September 2023), online: *Pactum* <pactum.com> [https://perma.cc/R63Z-79VT].

125 Remko Van Hoek and Mary Lacity, "How Global Companies Use AI to Prevent Supply Chain Disruptions" (21 November 2023), online: *Harvard Business Review* <hbr.org/2023/11/how-global-companies-use-ai-to-prevent-supply-chain-disruptions> [https://perma.cc/6DYC-D76C].

126 *Dodokin*, *supra* 83.

127 Qiu Quanlin, "AI arbitration used for disputes in Guangzhou" (1 September 2023), online: *China Daily* <chinadaily.com.cn/a/202309/01/WS64f13406a310d2dce4bb34ad.html> [https://perma.cc/J6NB-E5EP].

128 "e-Court" (2018), online: *e-Court* [web.archive.org/web/20230702021306/e-court.nl].

€100,000), it exclusively focused on debt collection cases following 2014. The production cost for one judgment was €12 (significantly less than the state court fee, between €119-476). During the proceeding, despite an arbitration clause, the defendant had one month from the e-Court's notification to opt for a state court. After delivering a decision, the arbitrator, on behalf of the applicant, submitted a petition for exequatur to the relevant District Court, which expeditiously reviewed and granted the exequatur. In 2017, the e-Court resolved approximately 20,000 cases, about 0.5% of all undisputed debt collection cases.[129] China has been discussing the introduction of smart arbitration after its successful implementation of "smart courts."[130]

vi. Public Entities' Professional Augmentation

Since 2014, China has been discussing and implementing smart court initiatives.[131] Initially, they served simply as a database, a kind of systemization of existing processes; however, with time, smart courts have come to be powered by AI, including non-human "judges."[132] Today's smart courts offer virtual courtrooms where cases and legal help are delivered with automated processes for announcing court procedures, recording testimony with voice recognition, analyzing case materials, verifying information from databases, calculating legal costs, registering cases, generating legal documents, and suggesting penalties, among other services.[133] AI analyzed nearly 100,000 cases every day across China and was able to monitor cases' progress for possible malpractice or corruption.[134] Judges must consult the AI on every case to improve China's court system by recommending laws, drafting documents and alerting its users to perceived human errors in

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129 *Netjes*, *supra* note 113.

130 Haitao Hu et al "'Artificial Intelligence + Arbitration': Research on the Implementation Path of Driven Intelligent Arbitration" in *Proceedings of the 2022 3rd International Conference on Management Science and Engineering Management*, 12th vol (The Netherlands: Atlantis Press (Zeger Karssen), 2023).

131 *Shi*, *supra* note 81.

132 *Cross*, *supra* note 10; Tara Vasdani, "Robot justice: China's use of Internet courts By Tara Vasdani | Lexisnexis Canada" (December 2019), online: *LexisNexis* <lexisnexis.ca/en-ca/ihc/2020-02/robot-justice-chinas-use-of-internet-courts.page.> [https://perma.cc/ESQ8-EK9Q].

133 Chris Pleasance, "Chinese courts allow AI to make rulings, charge people and carry out punishments" (13 July 2022), online: *Daily Mail Online* <dailymail.co.uk/news/article-11010077/Chinese-courts-allow-AI-make-rulings-charge-people-carry-punishments.html> [https://perma.cc/D3WS-FBTF]; *Zhabina*, *supra* note 119.

134 *Cross*, *supra* note 10.

rulings, while higher courts can still determine leave to appeal.[135] If a court rejects the AI's recommendation on a case, the judge is expected to provide reasons for the record.[136]

AI capabilities also help with judgment enforcement by locating and seizing the property of a convicted person and then putting it up for sale in an online auction. Smart courts can ban a person from using a high-speed train or flying on an aircraft, or even booking into a hotel, for failing to pay a debt.[137] The 2022 Chinese Academy of Social Sciences report revealed that more than 90% of cases in the country's three smart courts have been filed, heard and solved online, with litigation services supplied through smartphone applications and WeChat programs, meaning legal services can be accessed at any place and any time.[138] Per the Chinese Academy of Engineering's Strategic Study, smart courts cut judges' average workload by over a third and saved citizens 1.7 billion working hours from 2019 to 2021, which equals $41.8 billion—about half of the total lawyers' fees in China in 2021.[139]

Since 2016, Chinese prosecutors have been using AI for image recognition and digital forensics, while AI system 206 covers every aspect of a criminal investigation, including case filing, investigation, review and prosecution, trial verdict, sentence execution, commutation, parole, and release of prisoners.[140] One sentencing model in the system, theft, was trained on about 300,000 cases throughout China.[141] Recently, China introduced the Shanghai AI prosecutor, trained by using over 17,000 cases from 2015 to 2020. It bases its charges on 1,000 "traits" derived from the case description text it has been given. It can now determine the charges in Shanghai's eight most common offenses, including credit card fraud, dangerous driving, and illegal gambling operations.[142] In the Shanghai Pudong People's Procuratorate, the AI prosecutor can charge suspects in

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135 *Pleasance*, *supra* note 133; *Cross*, *supra* note 10.

136 *Cross*, *supra* note 10.

137 *Ibid.*

138 "Report issued on judicial digital advancement" (25 May 2023), online: *China Daily* <https://regional.chinadaily.com.cn/wic/2023-06/01/c_891628.htm> [https://perma.cc/5RVA-FL59].

139 *Cross*, *supra* note 10.

140 Changshan Ma, "The Reshaping Effects and Limitations of the Judicial AI" (2022) 17:1 Frontiers L China 42.

141 *Ibid.*

142 *Cross*, *supra* note 10.

straightforward cases with over 97% accuracy, enabling human prosecutors to concentrate on more complex cases.[143]

2. Disruptive Innovation in Intelligent Systems

> Change, before you have to.
>
> –Jack Welch, Former CEO of General Electric.[144]

Disruptive innovation is a term "coined" by Clayton Christensen that seeks to explain how innovation can drive the creation of new markets, or enlarge existing ones, and why some incumbent businesses fail though they are highly profitable, well-managed and cater assiduously to their clients' needs.[145] The AI-powered systems mentioned above, aimed at augmenting lawyers, have been impacting the legal profession in various ways since the 1970s, enlarging it and changing the market rules. In 2011, John Markoff highlighted an example of this in action: Blackstone Discovery[146] helped analyze 1.5 million documents for less than $100,000, compared to lawyers and paralegals who, in 1978, took much of $2.2 million in legal fees to examine 6 million documents.[147] The financial results of LegalZoom demonstrate and contribute to further market enlargement, redirecting profits elsewhere that were once within the lawyers' domain. With each passing year, an increasing demographic of people grows up with digital customs and values for whom today's, or, for certain regions, already yesterday's, legal conservatism will be alien, thereby naturally raising AI systems' utilization.

Providing turnkey services directly to lay users through lay individuals, lawyers, or tech companies is another trend driving the creation of a new market, disrupting the current one. [148] A good example is the experience of

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143 *Ibid.*

144 Richard Susskind, "A Guide to Strategy for Lawyers" (June 2015) at 3 online (pdf): *Canadian Bar Association* <cba.org/CBAMediaLibrary/cba_na/PDFs/CBA%20Legal%20Futures%20PDFS/A_Guide_To_Strategy_For_Lawyers.pdf> [https://perma.cc/7Z9J-HXZM].

145 Vicki Waye, Martie-Louise Verreynne & Jane Knowler, "Innovation in the Australian Legal Profession" (2018) 25:2 Intl J Legal Profession 213.

146 "Legal Data Analytics & Management Solution by UnitedLex" (24 November 2023), online: *UnitedLex* <unitedlex.com> [https://perma.cc/63HF-HRRL].

147 John Markoff, "Armies of Expensive Lawyers, Replaced by Cheaper Software (4 March 2011)" *The New York Times*, online: <nytimes.com/2011/03/05/science/05legal.html> [https://perma.cc/H5C4-LG5B].

148 Marshall McLuhan and Nevitt Barrington, *Take Today: The Executive as Dropout*, (QC: Longman Canada Ltd, 1972); Alvin Toffler, *The Third Wave* (USA: William Morrow, 1980) (McLuhan, Barrington, and Toffler anticipated and explained the "Prosumer" tactic).

computer student Joshua Browder: when he became aware of the similarities in the letters used to dispute parking infringement notices, he created an app, DoNotPay, to automatically draft/generate them after a user answered a series of simple questions.[149] The app successfully contested 160,000 tickets for free across London and New York in its first year of operation.[150] DoNotPay then broadened its scope of services and, in 2023, planned to help a defendant fight a traffic ticket with its "world's first robot lawyer."[151] This robot lawyer would consist of AI-powered smart glasses and a small speaker that records court proceedings and dictates responses into the defendant's ear.[152] Legal Robot set its sights on a similarly ambitious goal—to help anyone, anywhere understand legalese, aiding in both business and access to justice issues.[153] Alternatively, North Carolina Courtroom 5 employs AI to assess patterns in past cases and recommend next steps for self-represented litigants, including filing documents, making a counterclaim or challenging the case entirely, while Canada is considering introducing a similar system.[154]

"Notarize" offers its services to individuals, notaries, businesses, and for real estate closings, among other users and purposes.[155] This tool currently

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149 *Legg*, *supra* note 16 at 37.

150 Samuel Gibbs, "Chatbot lawyer overturns 160,000 parking tickets in London and New York" (28 June 2016), online: *The Guardian* <theguardian.com/technology/2016/jun/28/chatbot-ai-lawyer-donotpay-parking-tickets-london-new-york> [https://perma.cc/7TT6-THFM].

151 "Save Time and Money with DoNotPay!" (2023), online: *DoNotPay* <donotpay.com> [https://perma.cc/2YWQ-4A4P]; Sara Merken, "Lawsuit pits class action firm against 'robot lawyer' DoNotPay" (9 March 2023), online: *Reuters* <reuters.com/legal/lawsuit-pits-class-action-firm-against-robot-lawyer-donotpay-2023-03-09> [https://perma.cc/LNA3-HLWB].

152 Bobby Allyn, "A robot was scheduled to argue in court, then came the jail threats" (25 January 2023), online: *NPR* <npr.org/2023/01/25/1151435033/a-robot-was-scheduled-to-argue-in-court-then-came-the-jail-threats> [https://perma.cc/5PAJ-NZB2].

153 "Legal Robot" (1 November 2023), online: *Legal Robot* <legalrobot.com> [https://perma.cc/6ZT3-6HHS]; Rodoljub Rakić, "Artificial Intelligence (AI) is changing our reality. More tools are helping us in our daily life." (27 January 2023), online: *Medium* <medium.com/@eSamurai/artificial-intelligence-ai-is-changing-our-reality-d985e0a856c7> [https://perma.cc/MY62-KADL].

154 "Be Your Own Lawyer" (14 October 2023), online: *Courtroom5* <courtroom5.com> [https://perma.cc/52L6-GZ7U]; Irene Galea, "AI might soon help people who represent themselves in court, despite ethical concerns" (7 August 2023), online: *The Globe and Mail* <theglobeandmail.com/business/article-ai-could-help-people-represent-themselves-in-court-experts-warn-of> [https://perma.cc/Y8KR-TNLH].

155 "Notarize" (27 October 2023), online: *Notarize* <notarize.com>

improves access to notarization.[156] A document notarized online is as legally valid as a traditional paper-based notarization.[157] While this system doesn't use advanced AI systems, if it used them, it has the potential to independently notarize simple, repetitive forms, thereby disrupting the field.

Notably, the California Senate passed Bill 696 respecting online notarization, largely as a result of Notarize's efforts over the past five years in collaboration with legislative leaders and industry stakeholders.[158] This trend may trigger a chain reaction in other states to also allow for further automation of notarization.

The last in this article, though not the final product in the global experience, is Snapdragon AI; it creates bespoke brand protection packages to defend brands from intellectual property infringement across the web, for any copyright holder.[159] It employs AI and humans to enhance effectiveness and, where required, can handle takedowns and removal notices to protect holder's copyrights.[160] In the case of legal proceedings, the system gathers evidence to support copyright grounds.[161]

The current issue of legal-technological unemployment doesn't revolve around whether AI systems will replace humans in decision-making, but rather, to what extent AI systems and tech companies will dominate the market and legal profession. Lawyers incorporating AI systems into their operations enhance their productivity first, potentially making it harder for others to catch up, whereas if public entities fail to keep pace with trends, they will fall behind their private counterparts, resulting in a decline in the quality of public services broadly.[162] Economically, if any legal domain is

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[https://perma.cc/L3L8-JJSK].

156 "Proof Puts Notaries at the Heart of the Digital Economy" (27 October 2023), online: *Notarize* <notarize.com/blog/how-proof-benefits-notaries> [https://perma.cc/7YAF-Y4LR].

157 "Notarize," *supra* note 155.

158 "California Senate Bill 696" (2023), online: *LegiScan* <legiscan.com/CA/text/SB696/id/2797537> [https://perma.cc/8MEN-Z72L]; "Official: California signs online notarization into law" (2023), online: Proofcom <proof.com/blog/california-legalizes-online-notarization> [https://perma.cc/2X4A-M5DY].

159 "SnapDragon IP" (30 December 2021), online: *Snapdragon IP* <snapdragon-ip.com> [https://perma.cc/N4HG-RV3M].

160 "Brand protection solutions for professional services" (August 2022), online: *Snapdragon IP* <snapdragon-ip.com/brand-protection-solutions-for-professional-services> [https://perma.cc/6PTR-ZK6T].

161 *SnapDragon*, *supra* note 159.

162 Niels Martin Brochner, "Council Post: Will AI Replace Lawyers?" (5 October 2023),

fully or even partially automated, displaced lawyers may choose to compete within their practice area or transition to another. This enlarges the market and may create an oversaturation of practice areas and lead, in the best case, to a decline in the price of services, and in the worst case to bankruptcy and monopolization.

Historically, the increased wealth resulting from technological improvements created new jobs, but this effect was rarely immediate.[163] David H. Autor stated that while new jobs are coming at the bottom of the economic pyramid, employment in the middle is being lost to automation, and job growth at the top is slowing because of automation. "Over the long run, we find things for people to do. The harder question is, does changing technology always lead to better jobs? The answer is no."[164] AI is accelerating the substitution of technology and capital for labour, and so those with technology and capital will benefit at the expense of those whose primary asset is their ability to work. Income inequality is already a pressing societal issue, and it's likely to get worse.[165] The latest UBS and Credit Suisse report shows that the middle class is shrinking while the concentration of capital is increasing.[166] Given the current legal market cap and the prospect that more legal tasks can be further automated in the long term, it is foreseeable that the number of law firms and lawyers needed to serve a given population will be reduced—administrative workers and tasks are most vulnerable to full automation.[167]

Karl Marx described the processes we are observing: "[t]he accumulation of capital, though originally appearing as its quantitative extension only, is affected, as we have seen, under a progressive qualitative change in its

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online: *Forbes* <forbes.com/sites/forbestechcouncil/2023/05/25/will-ai-replace-lawyers/?sh=475edcea3124> [https://perma.cc/92T8-9HQB].

163 *Kaplan*, *supra* note 34 at 113.

164 *Markoff*, *supra* note 147 (while changing technology may not result in better jobs for some, it does contribute to a better life for the majority, as history shows; it more equalizes people and improves the quality of life, rather than creating inequality or worsening work conditions).

165 *Kaplan*, *supra* note 34 at 126.

166 "Global Wealth Report 2023" (25 September 2023), online (pdf): *UBS Global* <ubs.com/global/en/family-office-uhnw/reports/global-wealth-report-2023/_jcr_content/pagehead/link2.1078302825.file/PS9jb250ZW50L2RhbS9hc3NldHMvd20vZ2xvYmFsL2ltZy9nbG9iYWwtZmFtaWx5LW9mZmljZS9kb2NzL2d3ci0yMDIzLWVuLTIucGRm/gwr-2023-en-2.pdf> [https://perma.cc/393J-DAFK].

167 "CosmoLex" (18 December 2019), online: *CosmoLex* <cosmolex.com> [https://perma.cc/5Q25-VCBG] (CosmoLex, in particular, actively automates administrative tasks).

composition, under a constant increase of its constant, at the expense of its variable constituent."[168] Recent figures confirm Marx's words: from 1979 to 2021, net human productivity increased by 64.6%, while factory automation replaced some jobs with machines.[169]

The introduction of the above AI systems enabled quantitative and qualitative augmentation of the legal profession, while economic crises accelerated this transformation.[170] Many in-house department leads and general counsel face the challenge of reducing their team's lawyers, legal budgets, and/or external law firms' spending while dealing with an increasing workload in legal and compliance tasks.[171] Law firms, in turn, are starting to explore flat fees or collars as alternatives to the billable hour, or outsourcing to remain competitive.[172]

As legal information became more accessible, simplified, and systematized, multidisciplinary experts, inside or outside businesses, started to compete with lawyers, while some other formerly "legal" positions and tasks were automated.[173] Clio's 2023 report shows this transformation in action by indicating that from 2016 to 2023, billable US lawyer productivity increased from 28% to 37% of an 8-hour day—an improvement of only 32%— while today's legal professionals work heavier caseloads and earn over two and a half times more for their firms than in years past.[174] Legal professionals are transforming from self-sufficient subjects to integral components of business operations, assessed through key performance indicators.[175]

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168 Karl Marx et al *Capital: a critique of political economy*, (New York, New York: The Modern Library, 1906) at 689-690.

169 "The Productivity-Pay Gap" (October 2022), online: *Economic Policy Institute* <epi.org/productivity-pay-gap> [https://perma.cc/8ZPA-UTTW].

170 *Alarie*, *supra* note 31.

171 *Susskind*, *supra* note 4.

172 Catherine Ho, "Law firms look for alternatives to the billable hour" (16 April 2012), online: *Washington Post* <washingtonpost.com/business/economy/law-firms-look-for-alternatives-to-the-billable-hour/2012/04/15/gIQAeyW9JT_story.html> [https://perma.cc/9N2Q-F8GU]; *Hunter*, *supra* note 5.

173 Mark A Cohen, "'New Law?': You Ain't Seen Nothin' Yet" (1 June 2022), online: *Forbes* <forbes.com/sites/markcohen1/2022/05/31/new-law-you-aint-seen-nothin-yet/?sh=43255544104e> [https://perma.cc/DY55-H9R3].

174 "Clio Legal Trends Report" (2023) online: *Clio* <www.clio.com/wp-content/uploads/2023/08/2023-LegalTrends-Report.pdf> [https://perma.cc/A3L4-ES5M].

175 "10 predictions: the legal function in 2025" (21 December 2020), online: *KPMG Global* <kpmg.com/xx/en/home/insights/2020/12/future-of-legal-article-series.html> [https://perma.cc/6MZQ-W9DH].

C. Regulatory Solution

> The purpose of the law is not to keep lawyers employed. Rather, lawyers should survive in this changing environment because they bring value that no one else can—not because other providers are regulated out of the market.
>
> —Canadian Bar Association, 2014.[176]

Disruptive technologies in the legal profession are already here. Ignoring this issue, and the macroeconomic, competitive pace it sets, would put Manitoba's economy and legal profession at a disadvantage in the long term. The use of general-purpose AI systems in the legal profession already shows the demand for such technologies, the lack of legal-profession-oriented alternatives, and, in some cases, the lack of either honest or proper marketing.[177]

While certain countries outright prohibit AI advancement in specific legal practices, others provide justifications for avoiding some AI development.[178] Some benefits might come to a province that applies creative economic thinking to augment today's legal profession with AI, shift it to ODR and sell those technologies and experiences to others, thereby avoiding legal-technological unemployment and elevating its economy to a new qualitative and quantitative level. The legal industry is sitting on a gold mine of data that can enhance its internal performance and positively impact its legal practice and customers.[179] Leveraging this data alongside expertise in mathematics, law, statistics, business, and programming can transform data into profitable localized assets of the legal profession. At the same time, allowing third-party AI systems to leverage law firms and legal data, while improving overall lawyer performance, will be more of an asset to the third parties in the long run, given the threat of legal-technological unemployment.[180]

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176 *Initiative Team*, *supra* note 13.

177 Paige Parsons, "Alberta courts issue warning about the use of artificial intelligence in courtrooms" (12 October 2023), online: *CBC* <cbc.ca/news/canada/edmonton/alberta-courts-warn-lawyers-about-ai-use-in-courtroom-1.6994204> [https://perma.cc/BA48-6ZAR].

178 *Zhabina*, *supra* note 119; Maria-Elisa Tuulik, "Estonia does not develop AI Judge" (16 February 2022), online: *Justiitsministeerium* <just.ee/en/news/estonia-does-not-develop-ai-judge> [https://perma.cc/7SE5-KHMX].

179 *Cohen*, *supra* note 173.

180 Scott Nover, "AI May Not Get a Chance to Kill Us if This Kills It First" (17 October 2023), online: *Slate Magazine* <slate.com/technology/2023/10/artificial-intelligence-copyright-thomson-reuters-ross-intelligence-westlaw-lawsuit.html> [https://perma.cc/WT5B-GZU5] (though some lawyers and law firms may share their data freely with tech companies, some of them are actively impeding AI legal startups

Tomorrow's legal profession should combine labour- and asset-based models by actively engaging in AI's progress to become its shareholder rather than only user, thereby avoiding turmoil and lifting it to new qualitative and quantitative heights.[181] Implementing this approach will enhance legal employment and accessibility of services to the communities, enlarge the legal market size, bolster the legal profession's sustainability and self-sufficiency, and create a digital economy. Per projected figures, Manitoba stands to save up to 44% by augmenting legal professionals' performance, with additional benefits coming from transforming legal data into assets and creating a digital economy.[182]

When elaborating on AI automation, we should focus on potential tasks that systems can automate or augment, rather than jobs. When assessing whether an AI system is intelligent enough to augment a certain task or operate autonomously in a certain field, the question should not be whether we recognize its reasoning processes as inherently intelligent, but whether the output of those processes provides what we need or can sell.[183] In certain instances, it is better to adjust current laws and practices toward compatibility with AI automation[184] rather than trying to tailor AI automation to current laws and practices, which were originally intended to be carried out by people, not machines. It is also better to attract existing startups and customize and/or harmonize them rather than developing systems from scratch or using open-source codes. For certain tasks, different types of application programming interfaces can also be useful.

A significant concern surrounding AI automation is the fear that machines might generate biased, discriminatory outputs. Addressing this, it would be prudent to design systems that exclusively augment the legal

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by restricting access to their data).

181 *Kaplan*, *supra* note 34 at 132.

182 *Briggs*, *supra* note 10; *Cross*, *supra* note 10; Financial Results, *supra* note 55.

183 Eugene Volokh, "Chief Justice Robots" (2019), online: *Duke Law Scholarship Repository* <scholarship.law.duke.edu/cgi/viewcontent.cgi?article=3973&context=dlj> [https://perma.cc/F2LG-QKYC].

184 In the age of artificial intelligence, laws and their practices may evolve from traditional reading formats to interactive applications and/or specialized chatbots that may provide temporary, personalized, binding interpretations, taking into account distinct facts and the contexts of the past, present, and future. Initially, interpretations should be moderated. These interpretations should be publicly accessible, allowing any stakeholder to challenge them. Additionally, individuals who acted in accordance with an interpretation should not be held liable if there are no adverse ramifications. Further, AI systems can allow us to communicate with legal practitioners through chatbots/avatars, as opposed to the current communication that is only done through books/articles.

profession's tasks under human oversight, with increased efficiency serving as the foundation for considering their further evolution. The training data and deliberations for implementing these systems should align with the principles of diversity, equality, and inclusion, to both increase the systems' quality and expedite community acceptance. Regular audits and bias testing would be crucial to identify and address any biases or discrimination within AI systems. Soliciting ongoing feedback from legal professionals and people would provide further opportunities to enhance AI systems' accuracy and effectiveness.[185]

Drawing from the experiences of other nations, establishing a development strategy and a "transformation commission"—focused on the legal profession's digital transformation over the next five years, encompassing government, experts in mathematics, law, statistics, business, and programming, as well as an advisory board of stakeholders and diverse segments of the population ensuring fair representation—would provide a robust foundation for AI's initial advancement. This commission could handle the profession's transformation under joint strategic goals; raise awareness about AI automation, its benefits and inherent temporary risks; consider specific interests and needs of stakeholders and resolve regulatory and incorporation issues; tailor data regulation for AI automation; anticipate and mitigate the potential negative impact of certain AI systems and social stressors of upcoming changes; conduct "smart investments" in the most promising projects;[186] track existing startups, legal-AI automation best practices and individuals with expertise in legal-AI automation interested in immigrating from other regions and facilitating their relocation; as well as reporting annually to the community on AI advancements, among other duties. This would create transparency and an opportunity for the development of domestic and international assets.

D. Educational Response

> Tomorrow's illiterate will not be the man who can't read; he will be the man who has not learned how to learn.
>
> —Alvin Toffler, Author.[187]

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185 Arvin Faustino, "Harvey AI: Everything You Need to Know" (2 June 2023), online: *CapForge Bookkeeping & Tax* <capforge.com/harvey-ai-everything-you-need-to-know> [https://perma.cc/HM79-U4VR].

186 Given the lessons learned from the dot-com and other economic bubbles, assessing the systems' quality and competitiveness in the long run is crucial during "smart investment."

187 Alvin Toffler, Future Shock, (New York: Random House, 1970) at 413 (Alvin Toffler

Universities are places where the experts required to advance AI can be found and created, but the issue, to some extent, is that they are not united to engage in the legal-AI progress to become shareholders in it. Creating the above-mentioned transformation commission would connect them, enhance transformation, and reshape the education paradigm, research methods, and the nature of teaching.[188] We need to change the fields in which we educate people because if we educate them in fields in which AI does well and is likely to dominate, we're just preparing them to lose to AI, whereas if we structure education around what AI can't do, then we've got IA (Intelligence Augmentation).[189] Consequently, it becomes crucial to focus on IA (skills that AI cannot perform) and proficiency in using AI, such as delivering information effectively, creating interpersonal and relational client connections, improving social skills, comprehending psychological, emotional and cognitive mindsets, a comprehensive and dialectical understanding of AI-generated outputs, and the ability to function without reliance on AI products, etc.

Education in the age of artificial intelligence must teach the individual how to classify and reclassify any information, how to evaluate its veracity, how to change categories, how and when to replace old ideas, how to move from the concrete to the abstract and back, how to look at problems from a new direction effectively–how to teach himself. In this same vein, educators must not try to impose a rigid set of values, especially personal ones, on students, but must help them define, explicate, test and reconcile their values, whatever they are.[190] If the objective is to possess knowledge, student evaluation should take place with a prohibition on AI systems' usage; in Herbert Gerjuoy and Alvin Toffler's perspectives, such evaluation should be designed to instruct students to learn how to learn. Conversely, AI usage should be permitted during evaluation if the goal is to foster the skill of information retrieval, processing, and creation of the final product.

We need to avoid repeating the error of the 1970s when students had to leave their calculators at the front of the class before they took a quiz.[191]

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quotes psychologist Herbert Gerjuoy).

188 *Lam*, *supra* note 59 (in Singapore, a tri-agency committee is looking at revamping legal education involving the Chief Justice, Minister for Law, and Minister for Education).

189 Jill Anderson "Educating in a World of Artificial Intelligence" (9 February 2023), online: *Harvard Graduate School of Education* <gse.harvard.edu/ideas/edcast/23/02/educating-world-artificial-intelligence> [https://perma.cc/3A9V-EM7A].

190 *Toffler*, *supra* note 187.

191 Liz Katynski, "Generative AI may be the biggest thing since the internet for teaching and learning" (22 November 2023), online: *University of Manitoba–UM Today*

The future employer is less concerned about whether the employee resolves the issue "traditionally" or uses advanced methods, and more about the speed and quality of the result. Math, among other subjects, provides insight into the evolution of skills and education within its realm, helping to imagine how legal skills and education might evolve in the coming decades.

New legal disciplines should be created to reflect the aims of legal education in the age of artificial intelligence, such as: introduction to legal technology; machine learning and the law; legal-data science; legal statistics, predictions and patterns; assessment and alignment of dynamic legal data; legal-machine-learning development; legal knowledge and prompts engineering; legal-machine-learning analytics and decoding processes; legal-AI systems operation and their crisis management; economic, social, political, regional, cultural, domain, customization and/or harmonization of legal-AI systems; interaction and integration of AI systems; AI-systems cybersecurity; AI-systems audit and quality assessment; encoding law and its operation; and the future of law, etc.

Among other practical activities, we should focus on students' hands-on experience with advanced, customized legal-AI systems during the educational processes, showcase the absence of an existential threat in them, and organize mock competitions followed by debriefing reviews where students can engage and understand AI systems' detailed operations and their outputs. This approach will facilitate finding and understanding user and system errors, helping them evolve and creating behavioral economics incentivizing AI. Additionally, the number of professionals capable of developing, maintaining, and enhancing such systems domestically and internationally can be boosted by establishing joint-degree programs to create interdisciplinary experts, creating vocational retraining or advanced training courses for AI automation requirements, exchanging students internationally, providing online education for international legal students, attracting lawyers from other countries, and designing a specialized curriculum for legal engineering.

III. Conclusion

i.AI

While noting the advances that AI scientists have made in the field of AI and brought to society, I would argue that economically, users and investors are less concerned about the number of capabilities a specific AI

<news.umanitoba.ca/generative-ai-may-be-the-biggest-thing-since-the-internet-for-teaching-and-learning> [https://perma.cc/98T6-EPEM].

system offers and more about the quality, accuracy and reliability of task(s) execution by that system; the systems' operational stability, adaptability, flexibility, portability, integrability, interoperability, susceptibility to external influences; and an option to withdraw shared data, among other metrics.[192] To mitigate the adverse socioeconomic effects of AI systems on communities, behavioral and domain economics, I suggest:

(1) Establishing "General AI as a subject" as a variable benchmark dividing AI as an intelligent system and Super AI as a subject;
(2) Supplementing the current distinction of AI as an intelligent system into Narrow, General, and Super AI systems with three variable levels of computational intelligence: two different levels of Narrow AI systems with a General AI system for the task(s) with low to medium risks of adverse ramification(s) in case of failure(s) and a Super AI system at the top to certify the quality of task(s) execution:
   - First Level— Super AI system: 100% quality related to humans' capabilities and 100% superiority over humans' intellectual capabilities when performing the stated task(s) without external influences on output and operation in real-world performance;
   - Second Level—General/Narrow AI system: 80-99% compliance with humans' intellectual capabilities when performing the stated task(s) with 0-30% quality deficiency. This system can be certified as a General AI system for the task(s) with low to medium risks of adverse ramification(s) in case of failure(s);
   - Third Level— Narrow AI system: at least 60% compliance with humans' intellectual capabilities when performing the stated task(s);
(3) Once a system, or a system of systems, reaches the first level of execution of the stated task(s), it is worth certifying the quality of its declared function(s) for the corresponding generation using a similar three-level approach;
(4) System certification should be voluntary and carried out periodically by several competing independent organizations. The certificate should be supplemented with technical characteristics and a report, valid for a specified period under certain conditions, with recommendations for stakeholders and users.

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192 Quality metrics vary depending on the specific task(s).

ii. Legal-Technological Unemployment

There is no question that people will continue to be engaged in the legal profession in the long run; the key issue is the quantity and conditions in which they will do so. Emerging legal technologies challenge traditional legal practices and destroy imagined long-standing comfort zones, evoking a spectrum of responses ranging from conservatism to progressivism. Psychologically, the most straightforward approach involves maintaining the current status quo in the absence of a well-thought-out strategy for the future, thereby largely upholding conservatism. Throughout the history of the legal profession and across its various domains, both conservatism and progressivism have found acceptance and are likely to do so in the future. However, we are currently far off from the discovery of these technologies, and in today's tech-savvy world, embracing solely legal conservatism and just maintaining employment is not economically viable due to the vast potential of these systems to disrupt the legal profession.[193] We must sacrifice a part of our current comfort zone and prioritize long-term benefits over immediate self-interests in order to reach a new, much better comfort zone. Our current salary, income, legal market's size and social status will not disappear, while redrawing and simplifying our tasks and labour efforts will contribute to the legal profession's further prosperity, both economically and spiritually. AI systems can do boring, repetitive, and routine tasks while we can focus on more sophisticated ones, much like mathematicians do today compared to the 1970s.

The primary objective of the legal profession is to prevent possible adverse ramifications by combining labour- and asset-based models, emphasizing the latter. This transformation should primarily emanate from regulatory bodies and be driven by universities and legal startups collaborating with legal professionals and stakeholders to enlarge the legal market. Given the swift pace of societal development and globalization, we don't have centuries, as during the Industrial Revolution, to align with our present progress, but decades.[194] Nations, regions and legal professionals developing and incorporating AI into their operations will advance economically faster than those who hold more conservative views, leaving them behind.[195] Technologically, current AI is like a child: you need to

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193 *Lee*, *supra* note 66.

194 *Kaplan*, *supra* note 34 at 129.

195 It's not AI systems themselves that cause technological unemployment and/or economic disruption, but rather the people who utilize them in the free market, while tech companies employ various strategies to enter it; trying to resist progress creates long-term adverse political and economic ramifications.

educate and look after it, and then you won't even notice how much it has matured. Practically, there is no domain of human thought or action over which machines cannot excel.[196]

[196] *Weizenbaum*, *supra* note 2 at 207.