

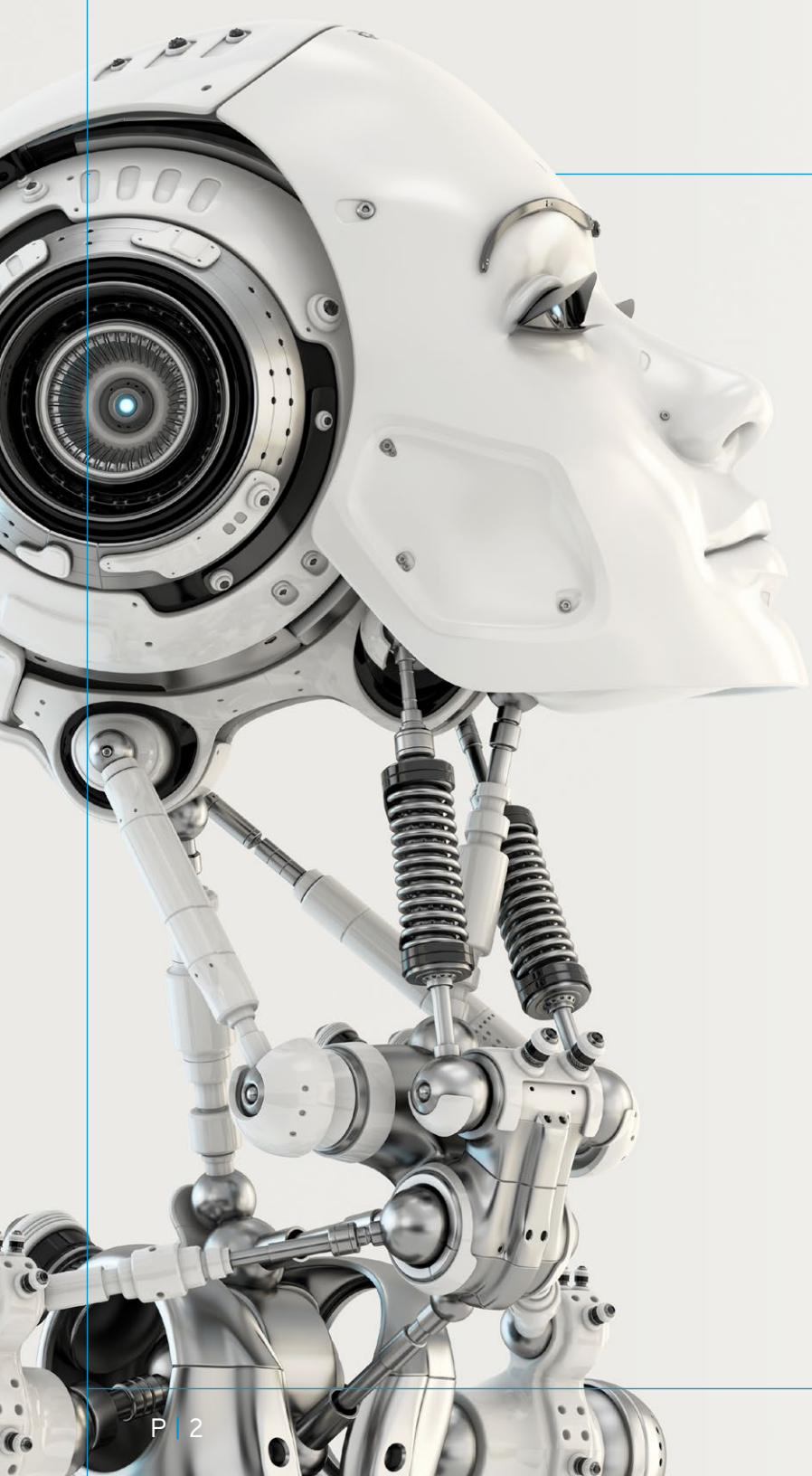
ARTIFICIAL INTELLIGENCE IN LAW



Colin Scarlett* | Executive Vice President | 604 661 0879 | colin.scarlett@colliers.com

Dan Jordan* | Vice President | 604 692 1472 | dan.jordan@colliers.com

Lisa Tweten | Market Intelligence Coordinator | 604 692 1470 | lisa.tweten@colliers.com



The Future of Law: Artificial Intelligence?

There continues to be a huge investment of time and money to disrupt the legal industry. The profession has to adapt quickly to meet the expectations of its clients. Increasing demands for access to justice, efficiency and transparency are supporting the emergence of new technology and pushing the industry to find innovative solutions. One of the technological advancements making headlines is the introduction of Artificial Intelligence (AI) to the legal profession.

What is WATSON?

Watson is IBM's Cognitive Computer, most known for its winning run on Jeopardy in 2011. Watson uses a database of dictionaries, encyclopedias, thesauri, newswire articles, and books, and then analyzes the data input in the form of a question by keywords and sentence fragments to find "statistically related phrases".

The algorithm is not new, but the speed at which Watson computes data and checks potential answers against its database to determine which is most statistically relevant is impressive. With Watson, you can ask a question in natural language and get an answer based on the best potential match from the database. In a recent Ad Week article, IBM claims Watson is different from simple keyword searches done by sites like Google in that it can "understand, reason, and learn".¹ What this means is that users can ask Watson a grammatically correct sentence, for example, and get a statistically relevant response based on the data it can access.

While it may be more accurate to say that Watson is an advanced data-aggregator that interacts with human language, rather than a fully cognitive AI that can replace the complexity of human thought-processes, there is no doubt it is a valuable technological tool with many practical uses, especially in research heavy fields like legal services.

Suggestions that lawyers are resistant to technological changes seem to be overstated; the American Bar Association reported that even for lawyers who have practiced for more than 30 years, only 17% of them turned first to print resources when researching. The overall average is about 10% of research done in print, and the remaining 90% is split between fee-based and free online services, suggesting that the profession is overwhelmingly on board with using technology to speed up the research process.² Integrating AI with a robust data source is the next logical step.

Automation vs Augmentation

What work can artificial intelligence or advanced computerization reasonably replace in legal services? There are two basic categories that technological innovations can fall under: automation and augmentation. The general sense for now seems to be that Watson is best used for augmentation, especially in performing preliminary research and collecting relevant data as new cases are published. A Watson-based AI system named ROSS is currently active in a New York based firm, Baker and Hostetler, primarily focused on their Bankruptcy, Restructuring and Creditors' Rights team. Built on the same platform as Watson, ROSS responds to questions posed in natural language, and will "read" the relevant law, gather data, and return relevant "candidate answers" based on precedent, which the lawyers can then use to direct their own more in-depth research and analysis.

Figuring out what clients need and anticipating their business and legal challenges is still a human function that cannot be replaced by AI, but data collection and sorting for relevance can be handled quite well by existing AI. This function will only get better and more efficient as the profession refines its technological processes.

If the focus for integrating AI into the legal profession is on technological augmentation rather than full automation, what are the consequences for the lawyers? Do the articling jobs and junior lawyer positions disappear? At the recent Queens University panel on AI and the future of the legal profession, Jordan Furlong, a partner at Edge International, mentioned that the advice he gives his students is to:

"...focus on being very entrepreneurial, as flexible as possible, seeking 'agile' work: contract-based, project-based. The skills that are going to be required of future lawyers will be quite different from the ones that served previous generations. A lot of things you have been able to do up to this point won't be as important. What attributes are going to be important? Insight, ingenuity, counsel, judgment, leadership, creativity, and risk assessment – being able to actually assess risks rather than default blocking or negating risks..."³

One point brought up in the Queen's panel was the possibility of better prediction of outcomes. Large clients who deal with legal issues often know that outcomes are not guaranteed, but for smaller clients weighing the option to pursue legal action due to costs, a better prediction of their case outcome could prove invaluable in making that decision.

AI also levels the playing field somewhat – a junior lawyer would have access to the full archive of knowledge that someone who has been practicing for 25 years would know from experience and past cases. At the same panel, Addison Cameron Huff suggested the software should be proactive in collecting data, as no lawyer realistically has time to read all the cases, laws & regulations that come out; Watson could comb data as cases come up and send relevant data directly to lawyers depending on the focus of their practice.

ROSS in Action

ROSS, described as a "natural language legal assistant", was recently hired by Baker and Hostetler in New York to work on their Bankruptcy, Restructuring and Creditors' Rights team. Built on the same platform as Watson, ROSS responds to questions posed in natural language, and will "read" the relevant law, gather data, and return relevant "candidate answers" based on precedent, which the lawyers can then use to direct their own more in-depth research and analysis.

In terms of data gathering, ROSS is set to pull relevant cases as they are published. A recent Tech2 article notes that this type of news feed monitoring "is a cognitive approach and not a keyword based approach", but they fail to substantiate or differentiate the claim. Monitoring news feeds for keywords and phrases is all that is required to collect recently published, relevant cases, and not specific to ROSS or Watson. This is not to dispute the usefulness of AI, but merely ground our expectations in reality. In this case, it may be most accurate to think of the current iteration of ROSS as a junior associate who gathers data extremely quickly and has instant access to new publications.

³ <http://law.queensu.ca/how-will-artificial-intelligence-affect-legal-profession-next-decade>

⁴ <http://tech.firstpost.com/biztech/law-firm-hires-ibm-watson-ai-based-legal-assistant-ross-314697.html>

Access to Justice

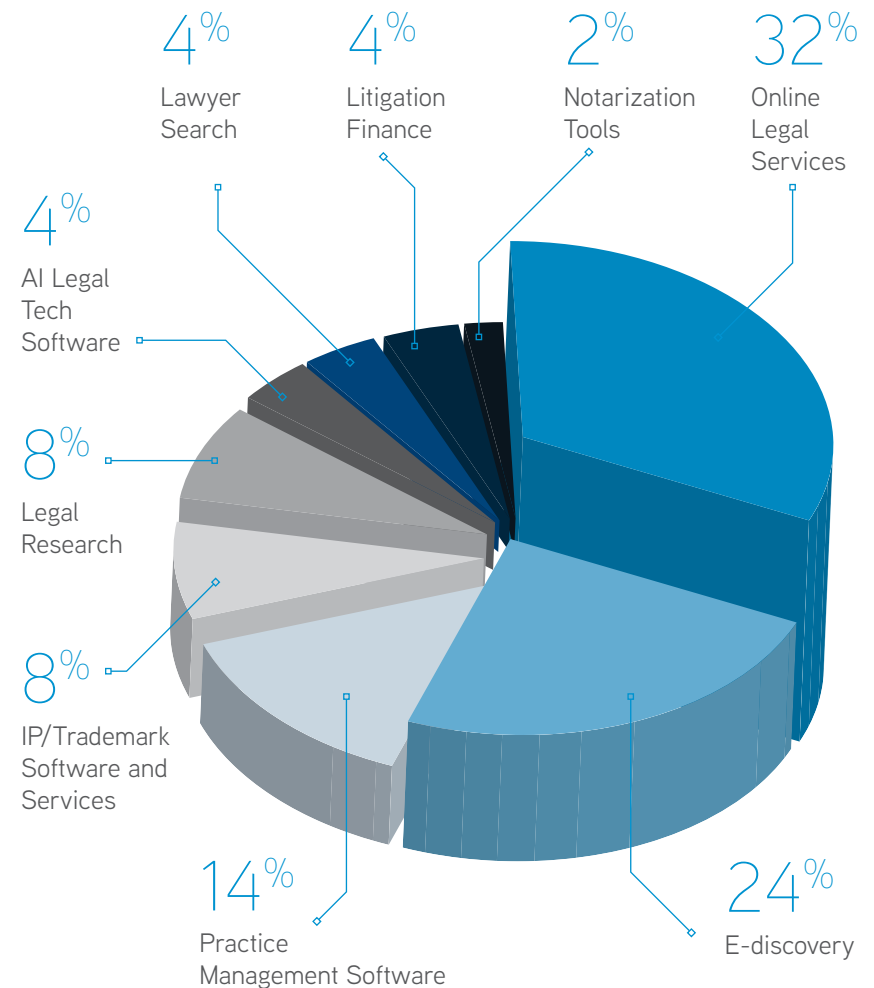
One ongoing concern for the future of the legal profession is access to justice, and lowering the cost of legal fees. With this in mind, there presents a significant advantage to firms integrating AI into their practice, and in fact, many entrepreneurial firms have been quick to accept that AI can automate certain legal processes, as the growing number of online legal services providing direct online access to legal advice, contracts, and dispute resolution attests.

For example, Avvo connects the public with basic legal research, and offers the option of direct access to a lawyer for a flat fee of \$40 for a 15-minute consultation.⁵ A simple, upfront cost to pose a single legal question and receive knowledgeable guidance can prove invaluable for people trying to determine whether they should proceed with legal representation. Other sites, like Wevorce and Legalzoom⁶ allow the user to complete their own divorce and business incorporation documents respectively, for a flat fee. The Civil Resolution Tribunal, or CRT, is the first online service in Canada to handle strata and small claim disputes.⁷ This service is expected to clear up court time and lower administration costs as more small claims are settled through online arbitration rather than in court. Another benefit is that 24/7 online services do not necessitate time off work the way attending in person arbitration or a court hearing would, removing another barrier to access that disproportionately affects those with lower-incomes or less job security.

Simplified fee structures and online 24/7 access are removing some barriers to legal services, but AI also has its uses for civil litigation and criminal law. One of the major costs involved in legal representation is the billable hour, which includes the many hours spent on research. The American Bar Association's 2014 Legal Report found that associates with less than 10 years' experience spent 28% of their working hours on research; this drops to about 15% with a decade or more of legal experience, but still accounts for a significant portion of billable hours.⁸ The practical application for AI is clearly in the initial research phase; the system can return relevant cases much faster than even a team of researchers could, and it frees up the human agent's time to apply their own higher-level thinking to the case, something not even IBM has claimed their AI can replicate.

Legal Tech Services

The chart below shows the nine categories of legal tech services and products, based on a report from CB Insights.⁹ They have defined legal tech as "all tech-enabled companies offering services and products to those in the legal industry. That includes technology catered to individual lawyers, larger corporate law firms, and other key stakeholders in the law industry."



⁵ <https://www.avvo.com/>

⁶ <https://www.wevorce.com/> and <http://www.legalzoom.ca/>

⁷ <https://www.civilresolutionbc.ca/>

⁸ <http://www.americanbar.org/publications/techreport/2014/legal-research.html>

⁹ <https://www.cbinsights.com/blog/legal-tech-market-map-company-list/>

Disrupters

Company	Category	
Avvo	Online Legal Services	The web's largest legal marketplace for consumers and attorneys. In Avvo's Q&A forum, consumers can get free legal advice 24/7 from more than 160,000 participating lawyers
Wevorce	Online Legal Services	A high-tech & high-touch approach to divorce that uses online and offline services to streamline the divorce process so it is more affordable and faster
Clairvortex Knowledge Processes	IP/Trademark software and services	Intellectual property and patent portfolio management for large corporations
Innovation Asset Group	IP/Trademark software and services	Software that simplifies the invention disclosure process and related intellectual property management activities for innovation-driven companies.
TrademarkNow	IP/Trademark software and services	A comprehensive web-based system for intelligent trademark management. At its core is a unique artificial intelligence model of trademark law based on both explicit and intricate domain models of the law.
Logikcull	E-discovery	Cloud-based legal discovery automation software
Nextpoint	E-discovery	Cloud-based platform for electronic discovery and evidence management
Zapproved	E-discovery	Cloud-based software for corporate in-house counsel
Clio	Practice Management Software	Cloud-based practice management technology
Page Vault	Practice Management Software	Enables legal professionals to easily capture and authenticate web content for use as evidence
PracticePanther Legal Software	Practice Management Software	Online automation of back-end admin work
LexShares	Litigation Finance	Online marketplace for investing in litigation
Mighty	Litigation Finance	Platform to invest in personal injury suits
Notarize	Notarization Tools	Online notary publics available 24/7
Casetext	Legal Research	CARA (Case Analysis Research Assistant); upload a brief and CARA will return a list of cases to review
Judicata	Legal Research	Turns unstructured legal text into structured data and provides a smart interface to search the database
Ravel Law	Legal Research	Legal search, analytics and visualization platform
LegalSifter	AI Legal Tech Software	Contract scanning platform that will assign a score based on how favourable the terms are for the user, suggests possible changes.
Premonition	AI Legal Tech Software	Data mining and analysis to determine individual lawyer win rates before judges
LawBooth	Lawyer Search	Online marketplace for legal advice
Lexoo	Lawyer Search	Online marketplace for legal advice

AI integration

the time is now

Chatbot Lawyer Successfully Contests 160,000 Parking Tickets ¹¹

A chatbot designed by a 19 year old Stanford University student successfully appealed 160,000 out of 250,000 parking tickets in London and New York in just 21 months. The chatbot asks the users a series of questions to determine whether an appeal is possible, and if it is, will guide them through the process. As of June 2016, the chatbot had a 64% success rate, which totaled \$4 million in fines. Sign up here: donotpay.co.uk

A recent whitepaper from Blue Hill Research indicates that ROSS-assisted research has a significant impact on both research time and the bottom line. There is an estimated 25% conversion of unbillable to billable time when using ROSS over Boolean \$8 - \$13K annual revenue increase per attorney, as ROSS assisted research allows them to convert 25% of unbillable time to billable time. Artificial Intelligence is the most practical solution to staying on top of an ever-growing database of legal proceedings and precedents. The big question facing law firms and lawyers now is not whether they will integrate AI into their practice, but when.

Reduction in Research Time Using ROSS

- 30.3% over Boolean alone
- 22.3% over Natural Language alone

Information Retrieval Quality

- 42.9% more relevant authorities retrieved
- 30.3% more results constituted relevant authorities
- 86.9% higher Normalized Discounted Cumulative Gain

Estimated Business Impact & ROI

- \$8,466 - \$13,067 annual revenue increase per attorney based on a 25% conversion of unbillable time to billable time
- 176.4% to 544.5% resulting return on investment



40%

of lawyers already have legal
apps on their smartphones
– primarily research
apps.

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Colin Scarlett* | Executive Vice President | 604 661 0879 | colin.scarlett@colliers.com

Dan Jordan* | Vice President | 604 692 1472 | dan.jordan@colliers.com

Lisa Tweten | Market Intelligence Coordinator | 604 692 1470 | lisa.tweten@colliers.com



COLLIERS INTERNATIONAL
200 Granville Street, 19th Floor
Vancouver, BC V6C 2R6
TEL: 604 681 4111 FAX: 604 661 0849

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