The real impact of using artificial intelligence in legal research

A study conducted by the attorneys of the
National Legal Research Group, Inc.

Executive Summary

- This study explores the effect that using artificial intelligence (A.I.)-powered legal research platforms has on the efficiency and quality of research results.

- The study compared attorneys using a traditional legal research platform, LexisNexis®, and Casetext CARA A.I. to complete actual legal research exercises.

- The study was conducted by 20 lawyers from the National Legal Research Group, the country's premier provider of legal research and writing services for law firms and attorneys. The attorney participants from the National Legal Research Group focus almost exclusively on legal research. These attorneys had an average of 25 years in practice.

- Attorneys using Casetext CARA A.I. search finished research projects on average 24.5% faster than attorneys using traditional legal research. For the average attorney, switching to Casetext and using CARA A.I. would save them 132-210 hours of legal research per year.

- Attorneys using Casetext CARA A.I. to search also found that their results were on average 21% more relevant than those found doing traditional legal research. Indeed, results found on Casetext were on average better in every dimension of relevance judged in the study, including legal relevance, factual relevance, similar parties, jurisdiction, and procedural posture.

- Nearly half (45%) of the attorneys believed they would have missed important or critical precedents if they had only done traditional legal research instead of also using Casetext CARA A.I. to find cases.

- Three quarters (75%) of the attorneys preferred their research experience on Casetext over LexisNexis®, even though it was only their first experience researching with Casetext.

- Every attorney in the study (100%) believed that, if they were to use another research system as their primary research tool, having access to Casetext as well would be helpful.

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Introduction

Conducting legal research online is a central and important task to most attorneys' everyday lives. The average lawyer spends somewhere between 16% to 35% of his or her time at work doing legal research.[1]

However, online legal research has changed little since its appearance more than two and a half decades ago. Today, as then, attorneys search for relevant case law and other authorities using keyword-driven search, whether through "natural language" searches or by using "terms and connectors" that add more specificity to one's searching. Moreover, while legal research platforms vary in some specifics of their algorithms, they all rely on some form of "wisdom of the crowd" to "boost" popular cases — those that have been cited to or downloaded the most. The limitations with this type of search are well known to the countless attorneys who have spent hours crafting long boolean strings in an attempt to find cases that, while less popular, are most relevant to the specific litigation at hand.

With the emergence of artificial intelligence (A.I.) technologies, including natural language processing and machine learning, it is now possible to search for and rank information in dramatically different ways. Instead of using only keywords to find results, computer systems can now read entire documents from a litigation record (like the complaint or a brief), and take into account the information therein to create a more targeted search. The results of such searches are also not ranked by "wisdom of the crowd," but instead by the "wisdom of your matter" — information extracted from a complaint or brief is used to rank search results

by similarity to the facts, legal issues, and jurisdiction of the specific matter an attorney is working on.

This is precisely how Casetext CARA A.I., a matter-based legal research system, works. A researcher uploads a legal document to CARA A.I. and then enters a simple search query. CARA A.I. uses the information in the document to provide tailored search results, ranked by their relevance to the specific matter addressed in the document.

This study by the attorneys of the National Legal Research Group, Inc., tests whether and to what extent this new form of legal research makes a difference. In short, the answer is "yes": attorneys who used Casetext CARA A.I. performed their research tasks 24.5% faster and rated the relevance of their results 20.8% higher than their research on a traditional, keyword-driven legal research system (LexisNexis®). These results imply that, by using "wisdom of your matter" search technology instead of traditional "wisdom of the crowd," most attorneys will spend somewhere between 132 to 210 hours less a year on legal research, while also finding more relevant cases and providing better outcomes for clients.

Methodology

The study was conducted by 20 attorneys from the National Legal Research Group (NLRG), the nation's leading provider of legal research and writing services to law firms big and small. The majority of the attorneys were very experienced, having on average 25.3 years in the legal profession. Because these attorneys focus exclusively on legal research in their roles at NLRG, they are specifically skilled at that task. The methodology for this study was originally designed by Casetext in consultation with NLRG.

Each attorney performed three diverse research exercises, covering a copyright dispute, an employment law issue, and an insurance coverage question. With each research exercise, the attorneys were given litigation materials from a real litigation (complaints or briefs), and were asked to review those materials to familiarize themselves with the litigation. They were then given a research task, such as "find ten cases that help address the application of the efficient proximate cause rule discussed in the memorandum in support of the motion for summary judgment."

Participants using CARA A.I. were able to upload the litigation materials they were given to CARA A.I. as part of their matter-based search. Some participants using Casetext CARA A.I. were given sample search terms (specifically, "copyright" for the copyright case, "employee independent contractor" for the employment case, and "proximate cause" for the insurance case), but most participants formulated their own search terms.

The attorneys involved were given a brief, 20-minute live or pre-recorded training, which provided instructions for conducting the study as well as how to use Casetext CARA A.I. for legal research. A brief introduction to LexisNexis® was provided; a basic familiarity with LexisNexis® was presumed although the participants had different levels of actual experience using that platform.

The attorneys completed each of the three research exercises, doing one or two using Casetext and the remaining one or two in LexisNexis®. The assignments were randomly distributed, so roughly the same number of research assignments of each type were completed using each tool. As a result, 60 distinct research assignments were completed

over the course of this study, approximately thirty using Casetext and thirty using LexisNexis®.

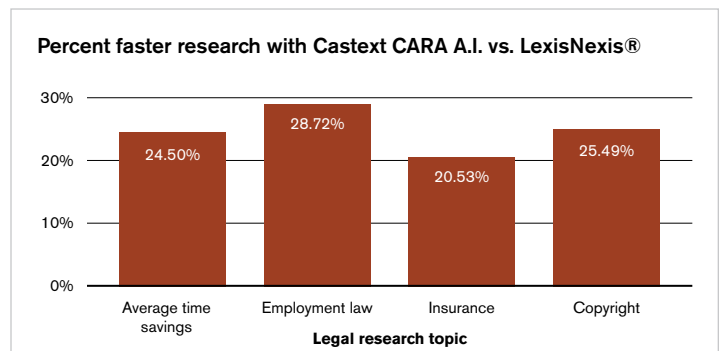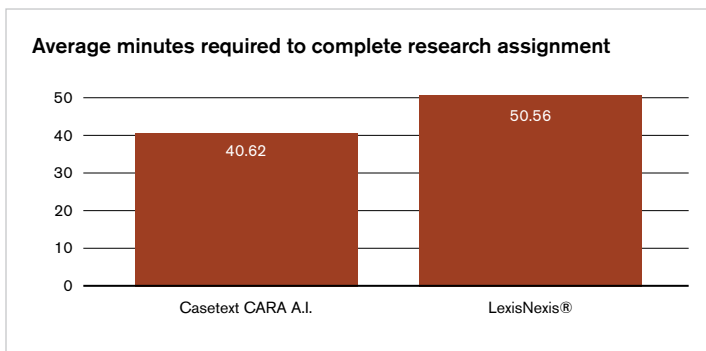During the research task, each attorney was asked to

- keep time of how long it took to complete each research task,

- record how relevant they believed each case result they found to be, both based on the case result's overall relevance and specifically on the result's relevance on the legal issues, factual issues, the similarities of the party to the dispute, the jurisdiction, and the procedural posture, and

- download their research histories from each platform.

Additionally, the participants were asked survey questions about their overall impressions of their research experiences on each tool immediately after they completed their research tasks. After all the responses were collected, Castext compiled the data and prepared this report.
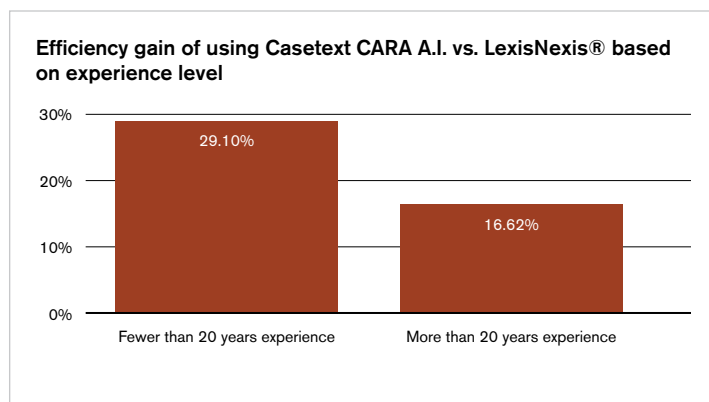
Results

1. Attorneys complete their research 24.5% faster using Casetext CARA A.I. compared to LexisNexis®

Across all three research exercises, researchers using Casetext CARA A.I. completed their research tasks on average 24.5% faster than on LexisNexis®. Although there was some slight variation between research projects, this result was consistent across research projects (the insurance topic was 20.5% faster on Casetext, while the employment topic was 28.7% faster on Casetext).

Average minutes required to complete research assignment

Casetext CARA A.I. — 40.62
LexisNexis® — 50.56

Percent faster research with Castext CARA A.I. vs. LexisNexis®

Average time savings — 24.50%
Employment law — 28.72%
Insurance — 20.53%
Copyright — 25.49%

Legal research topic

A. Attorneys with fewer years of experience showed even greater efficiency gains by using Casetext CARA A.I. compared to those with 20+ years in practice

The attorneys participating in the study had an overall average of 25.3 years of experience. Researchers with fewer years in practice tended to have a larger efficiency gain (researching 29.1% faster using Casetext CARA A.I. than on LexisNexis®) compared to those with more than twenty years legal experience (16.62%).

Average minutes required to complete research assignment

Legend: Casetext CARA A.I. | LexisNexis®

Efficiency gain of using Casetext CARA A.I. vs. LexisNexis® based on experience level
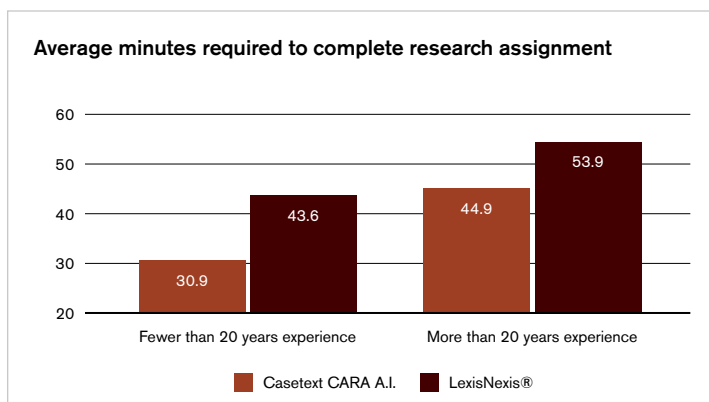
B. Attorneys who use CARA A.I. will save between 132 to 210 hours a year on legal research

The impact of researching 24.5% faster is substantial for most attorneys. According to the American Bar Association's 2017 Legal Technology Survey, attorneys spend an average of 16.3% of their working hours conducting legal research; solo attorneys, 18.1%; younger attorneys, with 10 or fewer years of experience, 26%. According to a separate study, young associates (with less than two years of practice) at bigger firms spend 35% of their time conducting legal research.[2] Given that the average lawyer works for 66 hours a week for 50 weeks a year, attorneys switching to Casetext CARA A.I. could expect to save between 132 to 210 hours every year in legal research time.

Number of hours saved per year, depending on percent of time doing legal research and average hours worked per year

|	Average hours worked each week over 50-week year (billable and non-billable)				
	30 hours a week (1500 a year)	40 hours a week (2000 a year)	50 hours a week (2500 a year)	60 hours a week (3000 a year)	70 hours a week (3500 a year)
10%	37	49	61	73	86
15%	55	73	92	110	129
20%	73	98	122	147	171
25%	92	122	153	184	214
30%	110	147	184	220	257
35%	129	171	214	257	300
40%	147	196	245	294	343
45%	165	220	276	331	386

% time legal researching

[2] American Bar Association, 2017 Legal Technology Survey Report, Vol. V: Online Research.
[3] Steven A. Lastres, Rebooting Legal Research in a Digital Age (2013), http://www.lxisnexis.com/documents/pdf/20130806061418_large.pdf
[4] See, e.g. Career Igniter, How Many Hours A Week Does A Lawyer Work? (2018) (citing to survey of New York attorneys), https://www.careerigniter.com/questions/how-many-hours-a-week-does-a-lawyer-work/

2. Attorneys using Casetext CARA A.I. ran 4.4x fewer searches

To complete the research task of finding ten relevant cases, attorneys using LexisNexis® needed to run an average of 6.55 searches. By contrast, attorneys using Casetext CARA A.I. needed only an average of 1.5 searches to complete their research task. Attorneys using LexisNexis® thus required 337% more searches (or 4.4 times more searches) than attorneys using Casetext CARA A.I.

Average number of searches to complete a research assignment

|	
LexisNexis®	6.55
Casetext	1.5
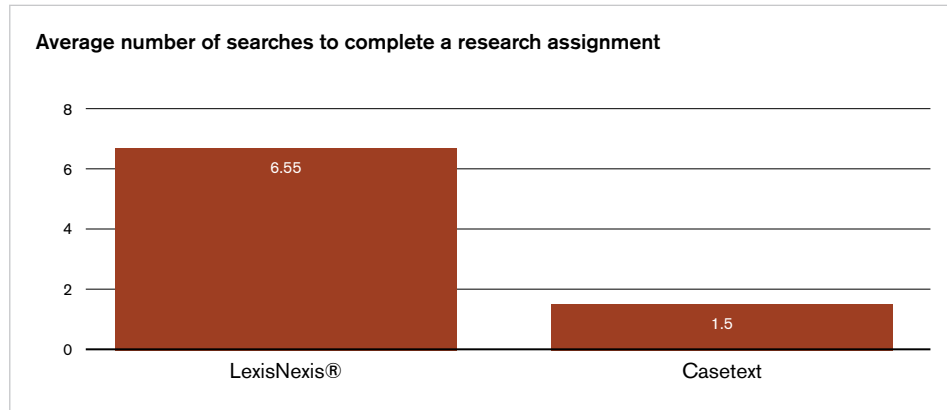
Comparing the search histories of the research assignments using Casetext CARA A.I. and LexisNexis® sheds light on why researchers using LexisNexis® needed to run more searches on LexisNexis®. Researchers using Casetext started by uploading the relevant legal document to CARA A.I. and adding simple searches (like "efficient proximate cause"), and usually found everything they needed with their first search. By contrast, attorneys using LexisNexis® ran increasingly complex searches throughout their research sessions in an attempt to find relevant results. Examples of these searches include:

- "efficient proximate cause" "chain of causation" /10 weather /10 wind or wind-driven /10 rain and Construction /5 defect defective

- copyright w/5 infringe or infringement or infringing w/20 song w/ 7 lyrics w/30 theme or syntax unique or phraseology or original

## 3. Attorneys using Casetext CARA A.I. rated search results 20.8% more relevant than those on LexisNexis®

The attorneys in the study rated the relevance of each of the cases they discovered through traditional searching on LexisNexis® and through searching with Casetext CARA A.I. The attorneys assigned an overall relevance score between 1 (not very relevant) to 5 (extremely relevant), as well as rating specific attributes of relevance (factual background, legal issues, similar parties, jurisdiction, and procedural posture) each on a scale of 1 to 5.

Overall, the attorney participants rated their Casetext CARA A.I. results on average 20.8% better than the ones obtained through searching on LexisNexis®. The attorneys also preferred the Casetext CARA A.I. results across every dimension of relevance.

Average relevance rating of results using Casetext CARA A.I. vs. LexisNexis®
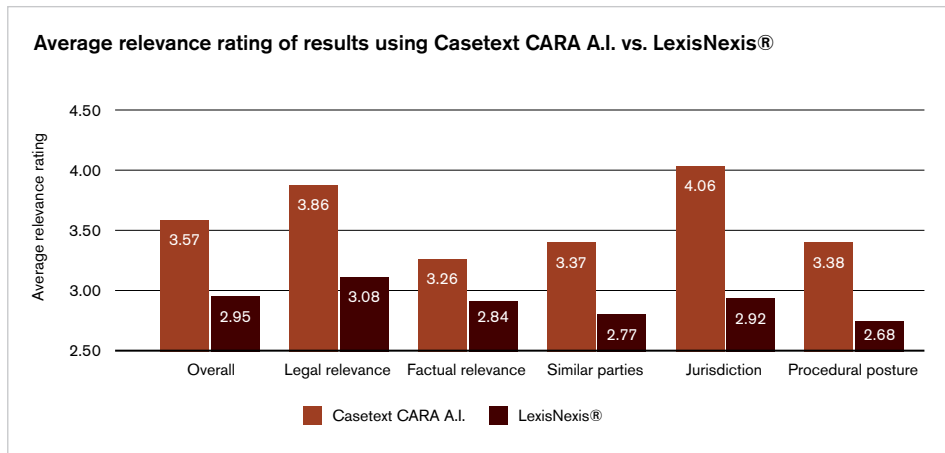
4. Nearly half of the attorneys (45%) believed they would miss important cases if they didn't use Casetext CARA A.I.

The attorneys were surveyed afterwards about whether they would have "missed important cases had [they] only researched with LexisNexis®." Nine of the 20 survey participants chose "yes."

Would you have missed important cases if you only researched on LexisNexis®?
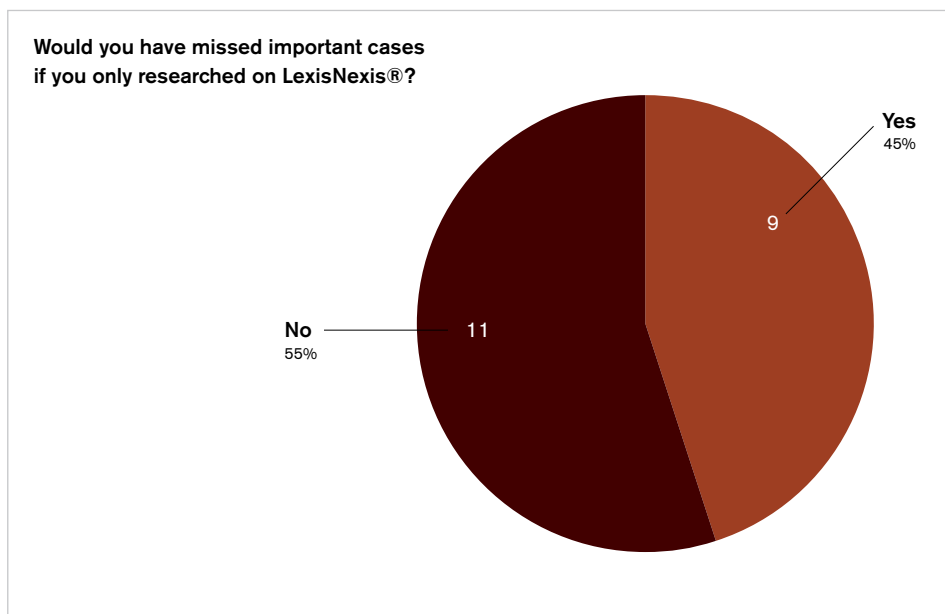

Some attorneys added comments that give color as to why they believe they might have missed cases without using CARA A.I.'s functionality. Most of the comments focused on the inefficiencies and other challenges with traditional Boolean searching. One attorney noted that "the A.I. function helped me to zero in on 10 relevant cases more quickly that when I just did straight Boolean searches for cases." Similarly, another participant noted that "Casetext places the researcher with a closer starting point to find relevant material because it allows instant entry into the authority on point, so that locating relevant decisions is not delayed by inefficient or non-optimal search strings."

That said, the majority of attorneys (11/20, or 55%) felt that they would not have missed important cases on LexisNexis®. One attorney explained that "[s]everal of my results with Lexis were certainly different than what came up with Casetext, but the most relevant cases appeared in both searches."

5. Overall, most attorneys preferred their experience researching with Casetext CARA A.I. over LexisNexis®

After completing their research exercises, the attorney participants were asked which research experience they preferred overall. Three quarters (75%) of the attorneys surveyed responded that they preferred the Casetext CARA A.I. experience.

Which research experience did you prefer overall?

- 25%
- 75%

■ Casetext CARA A.I.
■ LexisNexis®
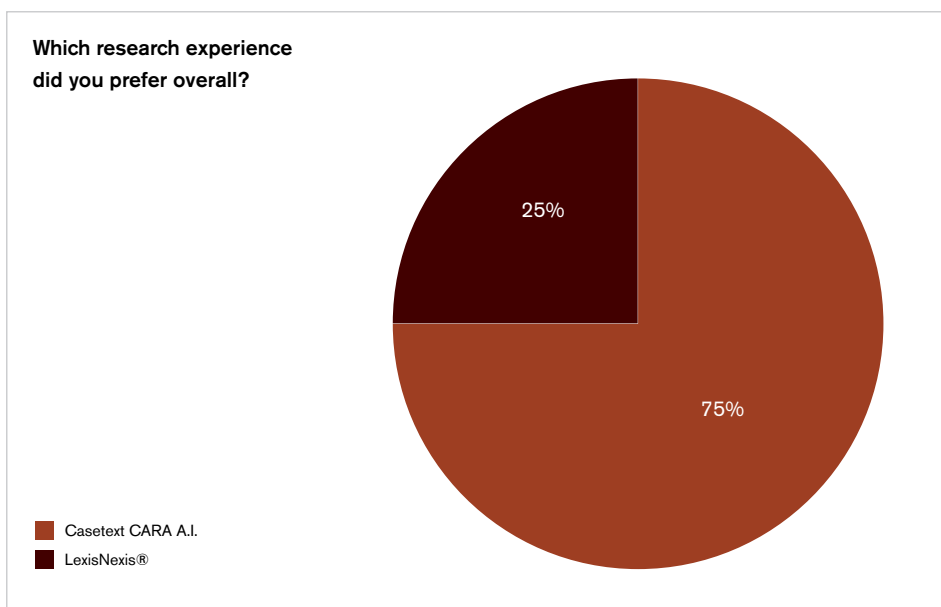
Among the factors listed for why researchers preferred Casetext CARA A.I., there were a few consistent themes:

- **Ease of use and simplicity**
  "The search query was much more simple given the AI component"
  "It was easier to use and listed relevant cases"

- **Quality of search results**
  "The A.I. function on Casetext produced better lists of ranked relevant cases, thereby lessening the time it took to carry out [the research assignment]"
  "[Casetext] was much better. I was impressed with the cases that Casetext turned up."

- **Speed to finding relevant results**
  "Casetext required less search terms, less time, and less filtering than LexisNexis®. The material was comprehensible and well-formatted. It also took half the time to find relevant cases that were extremely relevant."
  "Nothing is more frustrating than expending a lot of time trying to find the relevant law"
  "Casetext was faster"

For those attorneys who chose LexisNexis®, the reasons listed were:

- "Familiarity with site; easier to toggle from case back to the search result list"
- "Easier to use and to know where I was"
- "Easier to go to the part of the case I was interested in"

6. Attorneys who already use LexisNexis® or Westlaw would want to have access to Casetext CARA A.I. as well

The attorneys at NLRG all use Westlaw primarily and LexisNexis® sometimes as their primary research tools. When asked whether they believed "that having access to Casetext as well as your primary research tool would be helpful," every attorney participant (100%) responded "yes."

One of the attorneys noted that he would want more than one tool for "cross-referencing"; "Casetext can help me find relevant cases more quickly, and CARA A.I. also helps me develop better search filters quickly to find the results I need if necessary." Other attorneys had similar comments, noting that Casetext CARA A.I. "seems to better focus the research," "does a really great job of finding relevant cases," would be "very useful for finding factually similar cases," is "a great tool to use to quickly zero in on the most relevant cases," and "was faster than Lexis and thus saved time and provided interesting additional information."

At least some attorneys are not ready to give up their current primary research tool entirely. One attorney noted that although Casetext CARA A.I. "would be helpful to have," he "know[s] Westlaw and it would be my primary tool at this point."

Conclusion

Artificial intelligence, and specifically the ability to harness the information in the litigation record and tailor the search experience accordingly, substantially improves the efficacy and efficiency of legal research. Currently, Casetext CARA A.I. is the only legal research technology with that ability. In this study, lawyers leveraging A.I. technology were able to complete their research tasks 24.5% faster, receive results they believed to be 21% more accurate, and do so with 4.4 times fewer searches. These researchers were also able to do so with just twenty minutes of training and no previous research experience with Casetext CARA A.I. This demonstrates the substantial impact that leveraging advanced (but easy-to-use) artificial intelligence technology will have on attorney research quality.