



Redefining Artificial Intelligence

How IP practice meets the coming wave

Clarivate™

Foreword

Artificial intelligence appears in the news daily as it continues to transform every sector, from manufacturing to legal services. How comfortable individuals are with adopting and using AI differs depending on their role, and the potential impact on their job.

This is no different for intellectual property professionals. AI-based technology has already shown great potential for enhancing IP management and decision-making, automating laborious manual tasks, and improving productivity and the speed of research. It is already seeing significant adoption among IP practitioners, according to our global study of 575 IP and R&D professionals from corporations and law firms.

R&D professionals are using AI processes today for idea generation and comparative, technical and

market intelligence, and see the potential for it to be used to support the technical elements of the patent drafting process. Going forward, attorneys envisage applying AI to IP admin tasks and trademark research, with executives wanting to use it for intelligence-driven use cases.

But not all IP professionals are comfortable with adopting AI or high-risk tasks that involve professional judgment. Their concerns include liability risk, client confidentiality, reliability, fairness and bias, and lack of transparency and accountability.

We propose pursuing responsible AI as an effective approach to alleviating these concerns. By assessing the legal, ethical, and social implications of AI-based technology, and ensuring fairness and legal compliance are maintained, it is possible to develop trust and confidence in those systems.

At Clarivate, we believe that AI will add value to your IP lifecycle. With appropriate human oversight, AI-based IP technology can enrich your expertise while mitigating unwanted risks. By reframing AI responsibly, IP Professionals can operate at higher levels than ever before using augmented human intelligence.



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Executive summary

Rapid advancements in artificial intelligence will undoubtedly influence intellectual property law and practice. This forces IP practitioners and their technology partners to reevaluate certain assumptions in how IP is created, protected and managed. Likely, change will not come as a revolution but through a series of incremental steps.

In this report, Clarivate™ addresses perceptions of AI and focuses on the benefits, risks and appetite for its integration into the IP lifecycle. By doing so, we make a fundamental assumption: real perspectives and uses of AI should be central to its development. To inform the report, Clarivate checked the pulse of the IP ecosystem by conducting an online survey. 575 IP and research and development (R&D) professionals from law firms and corporations across the globe responded to the online survey between July 17 and August 1, 2023.

Like many sectors, the use of AI to augment IP processes and decision-making covers a wide range of technologies with different levels of sophistication. 43% of surveyed participants reported that AI was not currently being used. Most respondents indicated a negative sentiment towards AI generally and expressed their biggest concern as accuracy (74%). There was a strong appetite for AI to support manual and laborious tasks (67%), with only a small minority

(8%) suggesting they did not want AI to apply to IP processes at all. Taken together, these findings hint at the possibility that AI deployment is highly contextual, depending on the specific problem to be solved and the risk environment. Negative perceptions of AI naturally tend towards high-risk tasks that rely heavily on expertise. In these areas, the emphasis is on creating tools which bring expertise to the forefront.

Human-centered approaches can mitigate some risks associated with incorporating AI into IP workflows, calibrating its development to the needs of practitioners. Without trust and confidence in autonomous systems, the true potential of AI is unlikely to be realized. We position responsible and ethical AI in the context of IP practice, not to suggest that AI development to date has been irresponsible, but to move towards an equitable landscape where AI-based technologies meet the needs of those who use them.

A large, stylized purple graphic of the number '67%' is positioned to the left of the text. The numbers are bold and the percentage sign is slightly larger and more decorative.

of respondents are most excited about adopting AI for automating manual tasks.

Transformative potential

In an age of rapid technological advancement, few developments have captured human curiosity and imagination more than Artificial Intelligence.

Our collective ambition to infuse ‘things’ with intelligence goes back further than the advent of modern computing itself. Even before we had the technical means to develop digital systems, we turned to the sci-fi genre to explore our hopes and fears.

Intellectual property is no exception.

How intellectual property creators, owners and protectors see artificial intelligence is important. These perceptions, for better or worse, continue to shape the development of autonomous systems. Generative AI, which can create content, is now widely available and has pushed AI to the forefront of public consciousness. One example that has entered the mainstream is the uptake of large language models (LLMs) that understand and generate human-readable text. Widespread content aggregation has refreshed concerns about IP infringement and ownership issues, particularly concerning copyright.

Simultaneously, it has shown potential to enhance IP operations and decision-making.

The interplay between IP, AI and the wider legal industry is complex. While AI is well-suited for the legal sector, including IP management, it is also challenging to piece together.

Despite this tension, IP and AI have something in common: intellect. At the most basic level, IP captures and rewards intellect; AI attempts to emulate it.



The guardians of IP practice

There is enormous potential for finding synergies between automation, decision support and the innovation lifecycle. The ambition is that this frees up IP practitioners to do more strategic work, especially in the face of increased workloads and scarcer resources.

As IP practitioners begin adopting these AI-based applications, they also consider the pitfalls of AI models and their less visible consequences for the IP system. There are logical concerns about the unintended consequences of biased algorithms. For example, the lack of transparency in information flows, the impact on talent and employment opportunities within the profession, or the effect on the justice and legal systems. It might not be desirable, legally or ethically, to allow systems to operate with less and less human intervention. Already, two lawyers have been fined for submitting a motion with fake

case citations, generated by an AI chatbot.¹ Understandably, these are the stories that attract media attention.

Generative AI further challenges how we think about and preserve IP rights, from machine-generated inventions to copyrights. These IP-specific issues have already reached the benches of the highest courts, asking IP practitioners to return to the basic tenets of IP law.

Taking in the bigger picture, AI opens the door to fundamental policy questions that cut across the IP system. It often means accepting that some questions will be too premature to answer. These are not dealt with in this report, but they should be acknowledged because they help practitioners consider the less obvious impact of using AI. Should the IP system incentivize AI, or should we clear the path for a new type of IP protection? Will AI inventions or trademarks dilute human ingenuity? Finally, how far should we stretch existing areas of law, like copyright, to accommodate AI?

**Taking in the bigger picture,
AI opens the door to fundamental
policy questions that cut across
the IP system.**

¹ Reuters, 'New York lawyers sanctioned for using fake ChatGPT cases in legal brief' (June 2023) www.reuters.com/legal/new-york-lawyers-sanctioned-using-fake-chatgpt-cases-legal-brief-2023-06-22/

Defining AI

There is no universally adopted definition of AI. Instead, it is often used as an umbrella term to cover applications with varying degrees of technical sophistication. More recently, AI has been treated as synonymous with Generative AI, but this represents a subset of systems that can create content (e.g., text generation, images, videos). A much wider ecosystem and range of capabilities are still in development.

Creators of AI-based technology seek to emulate and model human intelligence. Yet, trying to simulate human reasoning is complex.

Intelligence is highly contextual, and expert knowledge is tacit and difficult to capture. Existing AI capabilities often fall within the category of narrow AI. These systems focus on performing a single task, such as a chatbot answering simple questions.

For professionals considering or using AI, a basic understanding of technical concepts is key to unlocking AI: its power and, more importantly, its limitations. These concepts can aid practitioners in assessing the technological impact on IP systems and the downstream effects on processes and services.

The Organization for Economic Co-operation and Development (OECD) has defined an AI system as:

An AI system is a machine-based system capable of influencing the environment by producing an output (predictions, recommendations or decisions) for a given set of objectives. It uses machine and/or handled data and inputs to (i) perceive real and/or virtual environments, (ii) abstract these perceptions into models through analysis in an automated manner (e.g., with machine learning), or manually; and (iii) use model inference to formulate options for outcomes. AI systems are designed to operate with varying levels of autonomy.²

² The European Union has adopted this definition (with modification) in Article 3(1) of the proposed EU AI Act

Measuring perceptions

To understand more about AI use and deployment, Clarivate checked the pulse of the IP ecosystem by conducting an online survey.

575 IP and R&D professionals from law firms and corporations across the globe responded to the online survey between July 17 and August 1, 2023.

Of those respondents, 38% identified patents as their primary focus area, 23% said trademarks and 30% indicated that they deal with both in their role.³

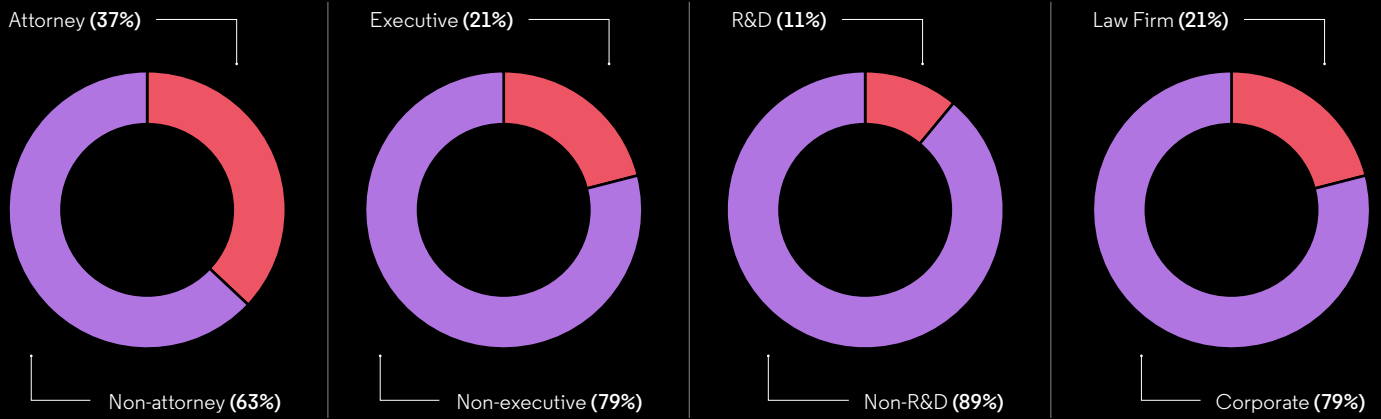
The footprint of participants who worked in a corporation was the most significant (79%) followed by the remaining (21%), which were in law firms. Overall, 37% were attorneys and 21% were executives, but only 11% reported their role as being in R&D. Geographically, there was an almost equal split between North America, Europe and Asia Pacific. However, the Middle East and North Africa (MENA) regions had a smaller representation (8%) in the overall dataset.

Practitioners and professionals were asked to answer 14 questions based on their experience and understanding of AI capabilities. Those questions were narrowly focused on IP, designed to measure critical parameters:

- **Demographic make-up**
- **Comfort**
- **Benefits and risks**
- **Impact**
- **Opportunities**

By design, no exhaustive definition of AI was provided in the survey, leaving room for interpretation. Instead, specific AI use cases were provided to gain deeper insights into how the IP legal space perceives specific real-world applications of AI in creating, protecting, and managing IP.

³ 9% of participants were involved in other intellectual property practice areas, e.g., copyright and trade secrets.



30%

North America

33%

Europe

8%

MENA

29%

Asia Pacific

Primary focus area:



Unlocking sentiment

We used a benchmark to contextualize AI perceptions and understand their relationship with demographic factors. A Net Promoter Score (NPS) is a simple but powerful device for gauging comfortability.

Based on survey results, responses are categorized into three groups: promoters, passives and detractors.

An aggregate score is calculated by subtracting the percentage of detractors from the portion of promoters, yielding a score that ranges from -100 to +100. This new composite score allows us to measure the collective sentiment of the IP ecosystem based on those profiled.

Responses are categorized into three groups: promoters, passives and detractors.

Benefits and barriers

Gauging comfort with AI integration

Perceptions of AI invariably shape how it can be used, as machines are not neutral but reflect the biases of their creators. Unravelling AI sentiment brings us closer to addressing the barriers to AI adoption.

Our survey research uncovered a prevailing discomfort towards adopting AI systems. Overall, most surveyed participants indicated a negative sentiment when asked if they were comfortable with AI adoption in the future. 43% of all survey participants reported that AI was not currently used. A small minority (8%) suggested they did not want AI to apply to IP processes.

Different roles within IP practice and geography significantly

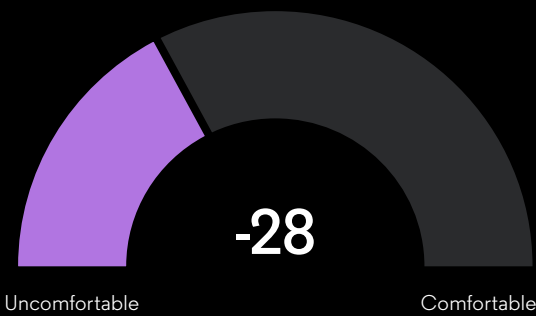
diverged in their attitudes towards AI. Attorneys and law firms were the least comfortable with AI adoption. Non-attorneys, executives, and, most significantly, R&D respondents were more comfortable.

Scores aligned with anticipating the personal impact of AI on job roles. R&D respondents were more convinced that AI would impact their function. Attorneys and law firm respondents, subject to more stringent standards of professional conduct, were less convinced that their role would change due to AI. 64% of attorneys anticipated that their role would minimally change, as did 69% of all law firm participants (these categories were not mutually exclusive). Conversely, 23% of R&D respondents anticipated their role substantially changing due to AI. This suggests that AI receptiveness and uptake are higher in executive and R&D professionals.

"AI is not the goal itself... It should be used to support human tasks or replace them where possible... but the focus is, and should always be, what is my task and how can AI support me."

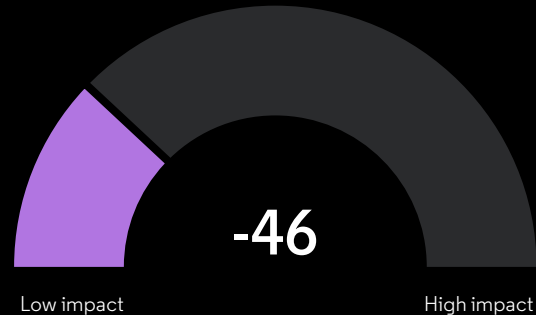
Anonymous, Attorney, Clarivate AI and IP Survey

I personally feel very comfortable about adopting AI now and in the future?



Attorney	-8
Non-attorney	+5
Executive	+7
Non-executive	-2
Non-R&D	-3
R&D	+22
Corporate	+1
Law Firm	-5

How much do you anticipate your role changing as AI continues to advance?



Attorney	-8
Non-attorney	+4
Executive	+5
Non-executive	-1
Non-R&D	-3
R&D	+26
Corporate	+5
Law Firm	-17

"AI has vast potential but the liabilities are pretty big and constitute substantial risks."

Anonymous, R&D Professional, Clarivate AI and IP Survey

Despite the increased attention to AI, it's clear that AI adoption faces significant barriers among in-house legal departments and law firms. Half of attorneys currently incorporate AI into their IP processes, but 80% of R&D respondents reported using AI. For AI adoption to be realized in the legal sector, these adoption barriers

must be removed or mitigated, and the underlying concerns addressed.

Defaulting to unvalidated and non-specific AI solutions is unlikely to add anything to the lawyer's toolkit. Legitimate use cases are needed, grounded in the balance of benefit, feasibility and risk. A precautionary

approach in the legal community is justified and fair, especially where complex matters, client advocacy and professional liability are concerned. Attorneys indicated this concern when polled about the risks of AI, emphasizing liability risk, reliability and client confidentiality as their greatest concerns.

Differences in comfort with AI tended to play out geographically, reflecting the divergence in opinion related to AI. Adoption was received more negatively in Europe and North America but attracted greater comfort in the Asia Pacific and MENA regions.

Multiple regional institutions have published AI guidelines, but there is no standardized regulatory approach to AI. Many jurisdictions are currently assessing the if, when and what of regulatory intervention. These debates contemplate AI generally.

It will take time before the downstream impact is felt in IP law and practice, cascading down to inform policy guidance at patent and trademark offices. Organizations can offset some of these risks through different means, such as appropriate data governance practices, technical and organizational controls, choice of AI model and testing.

In our survey, almost half of the respondents (49%) indicated that lack of regulation was a concern from a set of discrete AI risks and benefits. This was raised mainly by attorneys.

Undoubtedly, it will be difficult to balance the need for greater certainty on regulating AI systems with encouraging their development. The European Union AI Act is widely considered the first set of ‘rules’ governing AI systems; it takes a risk-based approach which invariably plays out in the survey responses.



Embedding AI into IP-related processes and tasks

Advancements in AI are expected to change and improve IP workflows and processes significantly. Generative AI has the potential to assist in a range of IP tasks: from drafting and reviewing patent applications to answering complex technical questions for R&D or improving trademark risk assessments.

While the potential applications for AI are vast, IP professionals are currently focused on incorporating AI into low-risk, automatable tasks that are heavily supervised. Arguably, this sentiment reflects the state of AI-related innovation today.

Most respondents (67%) were most excited about using AI to automate laborious manual tasks. The exception was executives, 68% of whom selected productivity improvement as the benefit they were most looking for. Non-attorneys (65%) and R&D respondents (74%) were looking for increases in the speed of research in their work.

Where the personal liability risk increases, so does the intolerance for AI-related risks. Where automation adds new viewpoints or investigatory avenues, with a remaining human checkpoint prior to implementation such as technology or product development, the risk profile is much more amenable.

For these reasons, embedding AI into the IP lifecycle will likely be incremental, selective and use-case specific. It is less likely to be 'one size fits all'.



We asked respondents about potential IP workflow scenarios, requesting input on four areas: current uses, preferences of AI integration, perceived ease of adoption and finally, those areas that were less compatible for implementation.

Over half of the survey respondents indicated competitive, technical and market intelligence was the area they incorporated AI into their processes.

Analysis suggested there was also demographic variation. The most significant discrepancies emerged among attorneys, executives, and R&D professionals.

R&D respondents emphasized idea generation and identified patent drafting as most apt for AI integration. This viewpoint significantly contrasted with that of attorneys. Attorneys emphasized AI's applicability to IP administrative tasks and trademark

research. Executives exhibited a distinct preference for intelligence-driven use cases. Some use case profiling hinted at a relationship between where AI was used today and its future application. While these intelligence-based cases were currently the most used, they were also the most frequently selected area for AI to be deployed.

There was a notable exception to this rule. While only 16% of respondents used AI for trademark availability research, 46% indicated that this area would benefit from AI integration. Further, it was identified as the most easily adopted, suitable application.

Across the board, there was agreement that the least desired AI use case was IP prosecution and Patent and Trademark Office (PTO) interaction. This was also thought to be less straightforward and suitable. It reflects the finding that liability risk associated with a task can influence adoption rate.

"The opportunities are for greater efficiency and freeing up paralegals to handle more interesting and less automated work; the risks are that AI might not consider all the angles of a matter that an experienced [trademark] Attorney would... AI might not see all possible considerations vis-a-vis portfolio management or strategy."

Anonymous, Attorney, Clarivate AI and IP Survey

Where do you currently incorporate AI into your IP processes today?

	All		Attorney	Executive	R&D	Corporate	Law Firm
Competitive, technical and market intelligence	26%	<div><div></div></div>	-7%	+3%	+17%	+3%	-10%
Identifying licensing opportunities	8%	<div><div></div></div>	-3%	+2%	+7%	+2%	-6%
IP renewals, payments and validation	10%	<div><div></div></div>	+2%	+4%	-1%	-1%	+2%
Patent and trademark prosecution, PTO interaction	8%	<div><div></div></div>	-2%	+2%	+1%	+1%	-3%
Patent drafting and IP application preparation	13%	<div><div></div></div>	-2%	+3%	+9%	+0%	-1%
Patentability, clearance and invalidity research	16%	<div><div></div></div>	-4%	+5%	+4%	+3%	-10%
Research and discovery (R&D), idea generation	25%	<div><div></div></div>	-10%	-0%	+38%	+3%	-10%
Trademark availability research	16%	<div><div></div></div>	+6%	+6%	-6%	-1%	+3%
Nowhere	43%	<div><div></div></div>	+6%	-6%	-21%	-4%	+15%

What IP tasks would you want AI to be applied to?

	All		Attorney	Executive	R&D	Corporate	Law Firm
Competitive, technical and market intelligence	51%	<div><div></div></div>	-5%	+15%	+11%	+3%	-13%
Identifying licensing opportunities	35%	<div><div></div></div>	+2%	+0%	+8%	+2%	-7%
IP renewals, payments and validation	40%	<div><div></div></div>	+10%	-1%	-15%	-3%	+10%
Patent and trademark prosecution, PTO interaction	30%	<div><div></div></div>	+4%	+5%	-2%	-2%	+7%
Patent drafting and IP application preparation	33%	<div><div></div></div>	-2%	+3%	+4%	+0%	-1%
Patentability, clearance and invalidity research	42%	<div><div></div></div>	+2%	+7%	-2%	+1%	-3%
Research and discovery (R&D), idea generation	46%	<div><div></div></div>	-9%	+4%	+25%	+2%	-7%
Trademark availability research	46%	<div><div></div></div>	+12%	+8%	-20%	-4%	+15%
Nowhere	8%	<div><div></div></div>	-2%	-2%	-2%	-1%	+2%

Which IP processes could most easily adopt AI?

	All		Attorney	Executive	R&D	Corporate	Law Firm
Competitive, technical and market intelligence	37%	<div><div></div></div>	-4%	+12%	+3%	+2%	-7%
Identifying licensing opportunities	22%	<div><div></div></div>	-4%	+0%	+7%	+2%	-7%
IP renewals, payments and validation	40%	<div><div></div></div>	+8%	+1%	-18%	-2%	+8%
Patent and trademark prosecution, PTO interaction	19%	<div><div></div></div>	-2%	-1%	+4%	-0%	+2%
Patent drafting and IP application preparation	23%	<div><div></div></div>	-5%	-1%	+20%	+2%	-6%
Patentability, clearance and invalidity research	32%	<div><div></div></div>	-3%	+3%	+2%	+2%	-7%
Research and discovery (R&D), idea generation	32%	<div><div></div></div>	-2%	-3%	+20%	+0%	-1%
Trademark availability research	43%	<div><div></div></div>	+8%	+6%	-14%	-2%	+8%
Nowhere	6%	<div><div></div></div>	+1%	+1%	-6%	-1%	+4%

What IP tasks are least suitable for the application of AI?

	All		Attorney	Executive	R&D	Corporate	Law Firm
Competitive, technical and market intelligence	14%	<div><div></div></div>	-1%	+1%	-0%	-1%	+4%
Identifying licensing opportunities	20%	<div><div></div></div>	+3%	+1%	+1%	-0%	+0%
IP renewals, payments and validation	17%	<div><div></div></div>	-5%	-3%	+1%	+0%	-2%
Patent and trademark prosecution, PTO interaction	38%	<div><div></div></div>	+7%	+1%	-6%	-0%	+1%
Patent drafting and IP application preparation	31%	<div><div></div></div>	+6%	-1%	-3%	-0%	+1%
Patentability, clearance and invalidity research	18%	<div><div></div></div>	+0%	-1%	+1%	-0%	+0%
Research and discovery (R&D), idea generation	26%	<div><div></div></div>	-1%	-2%	-6%	+1%	-3%
Trademark availability research	10%	<div><div></div></div>	+1%	-3%	+1%	-1%	+2%
Nowhere	14%	<div><div></div></div>	-2%	+6%	+3%	-1%	+3%

Responsible AI by design

Embracing AI-based IP technology and services requires a continuous commitment to the management and evaluation of risks.

Regardless of practice area, there are plausible benefits, including: increased efficiency and cost-effectiveness, automation of administrative tasks, improved decision-making and augmentation of research-based tasks.

None of these advantages try to replace expertise, nor could they exist without it. The variable is whether the objectives for adopting or developing an AI-based technology or service are adequately defined in terms of what it should or should not achieve. AI boasts a corresponding set of benefits for almost every disadvantage, including minimizing or correcting human bias, unlocking new revenue pools and providing clients with alternative delivery services.

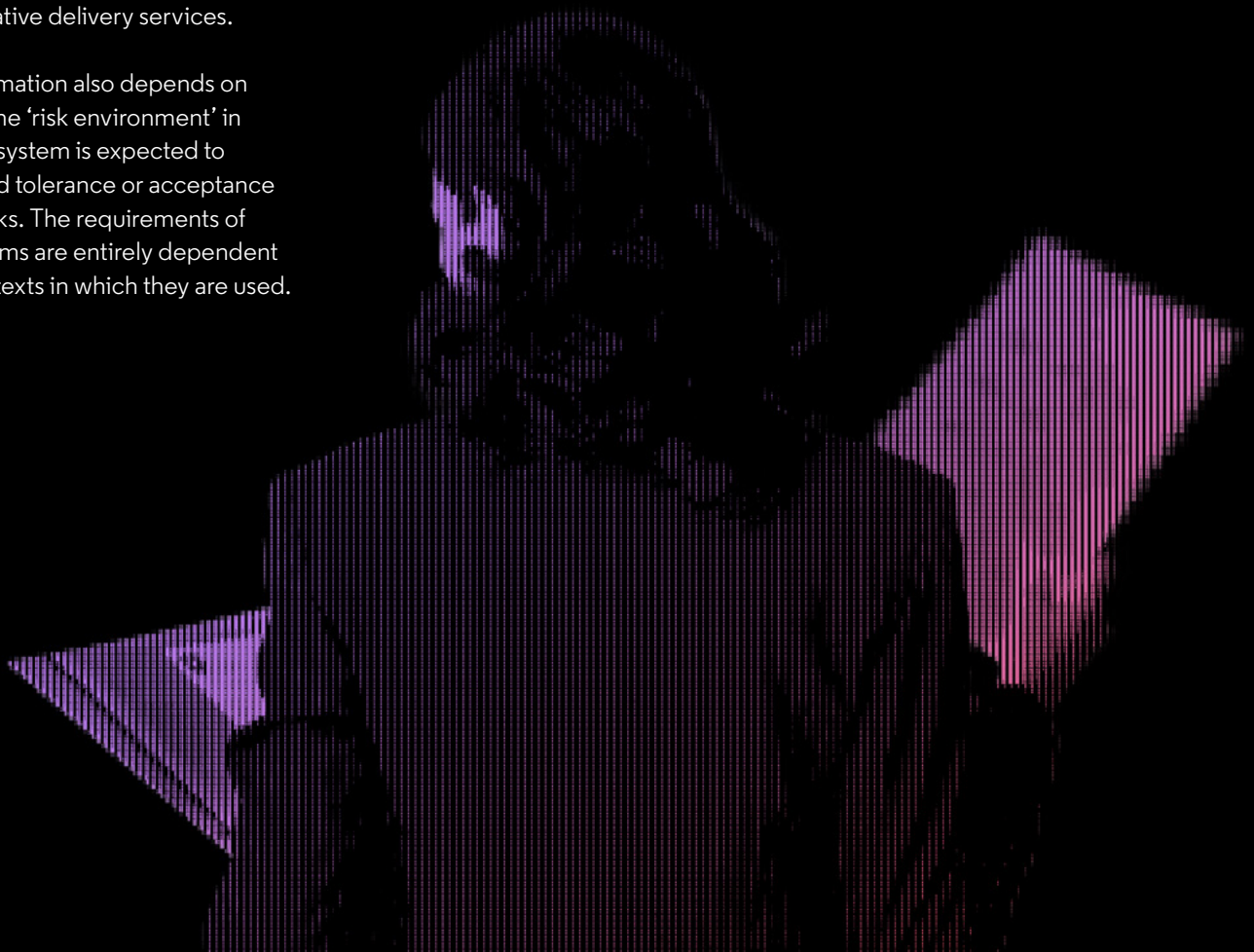
Using automation also depends on assessing the 'risk environment' in which that system is expected to operate and tolerance or acceptance of those risks. The requirements of these systems are entirely dependent on the contexts in which they are used.

R&D respondents overwhelmingly incorporated AI in idea generation today but also hoped it would be applied to this task in the future. At the same time, R&D respondents generally have fewer concerns about accuracy, reliability or liability than their legal counterparts who favored practical applications such as trademark availability research.

Responsible AI is an approach to AI development rooted in assessing the legal, ethical, and social implications. This means ensuring that systems are calibrated to our needs and

values without compromising the integrity of the IP system, fairness and justice. These considerations are instrumental to developing trust in AI systems and, more importantly, AI systems that solve real-world problems.

AI is in the early stages of development. Many practitioners are left to shoulder the burden of uncertainty, often needing guidance in the form of regulation. However, as a regulated profession, the legal sector already has built-in institutional safeguards that might provide fertile ground for developing the ethics of an AI system.



The idea that AI should be ethical ‘by design’ brings together technical and non-technical stakeholders; the impact of AI, whether positive or negative, might not be immediately apparent. AI systems are dynamic, and many of the effects are now unknown. Static risk assessment is unlikely to anticipate future problems. Specific harms are unforeseeable. Others might be difficult to detect, having far-reaching but potentially irreversible implications. Many have acknowledged the possibility of algorithmic bias which can be embedded through the predispositions of its creators or the system, through bad-quality training data or error. Sometimes these can amplify existing biases.

These seem like remote risks only because they are not considered or measured – a problem made worse because algorithms are opaque, living in ‘black boxes’.

The black box issue is a good summary of the fundamental challenge that research and task automation entails. The complexity of the automation is inherent to its value – it can do things at vast scale that would take a person years to accomplish themselves, if at all. Yet that same complexity blurs the line from authoritative source to confidence in a finding.

One central argument of those favoring AI regulation is that the same approach to safety in other sectors, like manufacturing or pharmaceutical testing, should be extended to autonomous systems that shape the world around us.

We asked respondents to select the risks they were most concerned about when adopting AI.

Overall, accuracy of results was the biggest concern (74%), followed closely by the related issue of reliability and trustworthiness (69%). Expectedly, results varied by role. Executives seek productivity gains and better results in search use cases but have far fewer ethical or reliability concerns.

R&D respondents tended to highlight ethical risks by a substantial margin but had significantly fewer accuracy, reliability or liability issues. The legal community expressed different concerns, due to their professional responsibilities.

Those working in law firms were most concerned with maintaining client confidentiality. Attorneys indicated that liability, accountability and lack of regulation were issues.

74%

Cited accuracy as the biggest concern.

69%

Cited reliability and trustworthiness.

What benefits are you most excited about when considering adopting AI?

	All		Attorney	Executive	R&D	Corporate	Law Firm
Automation of manual tasks	67%	<div><div></div></div>	+3%	-2%	-9%	-0%	+0%
Better results from patent/trademark search	48%	<div><div></div></div>	+2%	+10%	+1%	+1%	-2%
Faster research	61%	<div><div></div></div>	-8%	+4%	+13%	+2%	-9%
Greater productivity	56%	<div><div></div></div>	-1%	+12%	-1%	-0%	+1%
More time to focus on high-value tasks	58%	<div><div></div></div>	+3%	+4%	-3%	-0%	+1%

What risks are you most concerned about when considering adopting AI?

	All		Attorney	Executive	R&D	Corporate	Law Firm
Accuracy of results	74%	<div><div></div></div>	+2%	-3%	-16%	+0%	-2%
Client confidentiality	53%	<div><div></div></div>	+4%	-3%	+2%	-2%	+6%
Employment / Job loss	29%	<div><div></div></div>	-1%	-3%	+2%	-0%	+2%
Ethical concerns	45%	<div><div></div></div>	-2%	-7%	+12%	+1%	-4%
Lack of regulation	49%	<div><div></div></div>	+5%	-2%	-1%	+1%	-5%
Liability and accountability	57%	<div><div></div></div>	+8%	-0%	-14%	-0%	+1%
Reliability and trustworthiness of automated decisions	69%	<div><div></div></div>	+6%	-4%	-19%	-0%	+1%
Transparency and explainability	44%	<div><div></div></div>	+4%	-2%	-7%	+0%	-1%

Heading Towards a framework for implementing AI in IP

At a fundamental level, responsible and ethical AI is about implementing technical or organizational measures that control and manage the risks associated with AI systems.

While there are different interpretations, frameworks tend to coalesce around guiding principles based on human-centered values like fairness, transparency, and 'explainability' of automated decisions.

"Practitioners and clients need to lead the change instead of being pulled along by startups and new tech."

Anonymous, Attorney, Clarivate AI and IP Survey



Not all risks will be as serious when applied to IP processes, but it is best practice to consider them. Even at a basic level, AI awareness and understanding will help practitioners determine where AI-based technology can be deployed. This analytical approach can also help them ask technology and service providers smarter questions. Applying this to IP processes might involve consideration of these general factors:

Fairness and bias mitigation: Ensure AI systems used in IP processes are designed to identify and mitigate biases that could impact decisions related to patents, trademarks, copyrights, and other forms of IP. Carefully review data sources to prevent underrepresentation or overrepresentation of certain IP types, industries, or applicants.

Transparency: Understanding how AI algorithms work and explaining how they categorize IP data is a key pillar of building ethical models. Especially in legal research, this might include providing a trail to sources and their credibility to build trust in decision tools. Transparency might not be useful from a technological point of view. A machine-generated ‘explanation’ will be based on computer logic yet may not map clearly to outcomes and is often difficult to interpret. Even with the reasons for an automated decision, it might be unclear how to use it meaningfully. The more targeted question is: why do we need the explanation first, and what for?

Data privacy and security: Safeguard sensitive IP-related data by complying with IP laws, regulations, and data protection standards. Protect proprietary information and client data, especially when AI systems process and analyze confidential IP assets.

Human oversight: While AI can expedite specific IP tasks, human expertise remains essential for nuanced legal interpretations and strategic decision-making. Human professionals should review AI-generated reports and recommendations before finalizing IP-related actions.

Continual monitoring and improvement: An honest and open assessment of the pitfalls and limitations of AI systems is needed, considering the choice of model, statistical measures of quality and built-in assumptions, whether machine-based or otherwise. This might include roles and responsibilities for those involved in testing. Regularly assess the performance of AI tools used in IP services to ensure accuracy and relevance. Regular updates should address changes in IP laws, evolving industry trends, and emerging technologies.

Informed consent: When utilizing AI tools in IP matters, communicate clearly to clients, users and audiences how AI is utilized in their cases and its potential impact on IP-related decisions. Clients should have a comprehensive understanding of AI's role in IP solutions.

Regulatory compliance: Ensure AI-driven IP technology and services adhere to relevant IP laws, regulations, and best practices. This includes upholding the standards of patent and trademark offices, legal requirements for IP protection, and professional codes of conduct.

IP-specific expertise: Design and continuously improve AI tools for IP processes in collaboration with experienced IP professionals. This collaboration ensures that AI systems accurately comprehend the intricacies of IP law and industry practices.

Mitigating IP theft and infringement: Employ AI tools to monitor and detect potential IP theft and infringement across digital platforms. This can help protect clients' IP assets and rights in the digital landscape.

The way ahead: redefinition

AI has shown us the potential for a better future and, paradoxically, raised concerns about trust and confidence in AI-generated decisions, particularly where professional liability might be at stake.

The best way to ride the wave may be to harness the rip tide, putting IP practitioners at the helm. AI applications should serve the needs of participants in the IP ecosystem and not vice versa. With this comes an opportunity for participatory and multidisciplinary approaches to developing new AI-based technologies.

Negative sentiments towards AI adoption are not something to be glossed over.

For many, the principles of jurisprudence and the scientific method hold up the pillars of our working lives. They represent shared professional values and govern how we come to 'know' things. These reservations should be considered if we are to propel AI forward.

Do these perceptions always serve us well? Or do we simply fear the unknown? There are, of course, processes that might not lend themselves to AI enhancement.

However, routine IP processes and operations with low liability risks could be ripe areas for AI incubation. For many practitioners, the power of AI will be in decision support. With oversight and quality monitoring, these are viable but simple tools. A preliminary step is determining where machine learning capabilities belong, carefully assessing their merits and risks.

AI and automation should be carefully distinguished. AI is a much larger ambition, and the enabling technologies and capabilities are still evolving. AI-based technologies and related regulations are still in their infancy. Some of the most transformative applications will arise from automation and decision support for IP processes and operations. The potential to help businesses operate smarter and more effectively is clear. Once we have trust in these applications and technology has moved forward, the remit of AI can be extended to the more complex processes.

Ultimately, we can choose what values are encoded into these systems and to what degree.

"You cannot change the coming of AI. How to adapt our way of working with AI assistant is the key question for any practitioner in the field to answer."

Anonymous, Attorney, Clarivate AI and IP Survey

For Clarivate, the path forward is clear.

IP practitioners are not passive recipients of information. They are the co-architects, pioneers and critical stewards of the future state of the profession.

AI and automation will add value to the IP lifecycle, provided we control the design of these systems. However we should place the focus firmly on how AI enriches the expertise the IP profession already deploys. As we usher in a new era, we look to reframe AI not as intelligence emulated artificially but as Augmented Human Intelligence.

To learn more about our AI solutions for IP, contact our team today or visit clarivate.com/ai



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Arun has a decade of experience in the field of patent analytics and is an expert in innovation intelligence and ethico-legal issues. He has a background in law and in his spare time, is pursuing a Master of Law degree at the University of Edinburgh, covering innovation and technology areas such as space and robotics. Arun has a track record of working with global technology-focused corporations, governments and research institutions to deliver actionable intelligence to transform their patent decision making and strategies.



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