

The '101 Patent Eligibility Eras Tour: 11 Years Of Post-Alice Tumult

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Following the June 19 anniversary, it's now been 11 years since the [U.S. Supreme Court](#)'s decision in Alice Corp. v. [CLS Bank International](#) — a case that declared a new test for when claims are ineligible for being directed to abstract ideas.



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Alice extended to abstract ideas the standard for natural phenomena established by the Supreme Court two years earlier in Mayo Collaborative Services v. [Prometheus Laboratories Inc.](#) Step 1 of the Mayo/Alice test involves determining whether a claim is directed to an abstract idea. If so, Step 2 involves determining whether the claim recites an inventive concept so that the claim is not a monopoly on the abstract idea itself.

This two-step framework has led to confusion, frustration and uncertainty because Alice declined to say what abstract ideas are or when claims directed to abstract ideas might nevertheless recite inventive concepts to establish eligibility.

And despite many subsequent questions that have been raised, the Supreme Court has so far answered none of them, denying every petition to provide further clarification about patent eligibility.

The [U.S. Court of Appeals for the Federal Circuit](#) has thus been the primary driver of the standards of patent eligibility, while at times seeming to plead for clarification.

Unlike other major Supreme Court cases on patent law, Alice introduced an entirely new doctrine for which no one had any experience. After each new Federal Circuit case, patent applicants and litigants grasped on to whatever new language or fact patterns might be useful for their causes. Similarly, the [U.S. Patent and Trademark Office](#) has continually tried to adapt office policy to match these shifting standards.

This article will briefly summarize how and when the standards of patent eligibility have shifted in the 11 years since Alice — through several, sometimes-overlapping, eras. It will also briefly illustrate how these standards have begun to diverge in fundamental ways between the Federal Circuit and the USPTO. The standards of the USPTO will be examined both through its issued examination policies as well as decisions by its internal appellate body, the [Patent Trial and Appeal Board](#).

1. The Era of Confusion: Alice to Ultramercial

In the first few months after Alice was decided, patent applicants and litigants struggled with the strange duality of what an "abstract idea" could be. Not only could this mean an idea that is not well enough defined, but it was also being applied to certain types of activities no matter how perfectly they were described or claimed. In other words, "abstract idea" became an overloaded term that now also covered multiple broad categories of subject matter.

An early post-Alice case that surprised many in the intellectual property community was the Federal Circuit decision in *Ultramercial Inc. v. Hulu LLC* in November 2014. This case involved an 11-step claim that the Federal Circuit had previously held to be patent eligible because of its detailed specificity and real-world applicability. The prior decision reasoned that something so specific could not be described as merely an abstract idea.

But Alice changed the inquiry to a question of what a claim was "directed to." And because all 11 steps of the claim were directed to effectuating an abstract idea using conventional technology, the court found the claim ineligible.

Ultramercial thus became a stark example of the unforgiving nature of the evolving Alice test because some processes and technologies — no matter how well defined, useful or novel — were still going to be directed to abstract ideas.

Other cases in this era, such as *Internet Patents Corp. v. Active Networks Inc.* in 2015, reinforced the other incarnation of "abstract ideas," which were claims that were too result-oriented or not well-defined enough. In *Internet Patents*, a claim about web browser functionality implicated none of the usual abstract idea categories yet nevertheless was held to be directed to an ineligible idea.

During this time, the USPTO tried to distill the trickle of case law into a manageable test that nonlawyer office personnel could easily understand and apply. At the outset, the USPTO came up with a fairly concise formula. At Alice Step 1, claims were eligible if they recited a technological advantage, and at Alice Step 2, claims were eligible if they recited an unconventional feature.

This approach seemed to work for a time. Yet, each new Federal Circuit case that announced — or rejected — a new abstract idea category steadily eroded this simplicity.

2. The Era of Strained Analogies: Ultramercial to Berkheimer

The lesson from Ultramercial and other cases in that era was that there was grave danger to patent claims if they were not found eligible at Alice Step 1. Thus began an era in which applicants and litigants tried to make analogies, often strained ones, between the claims they were defending or attacking and new abstract ideas or non-abstract ideas announced by the Federal Circuit.

An example that epitomizes this era is Affinity Labs of Texas LLC v. [DirecTV LLC](#) in September 2016, in which the plaintiff made comparisons between cellular phone technology and the self-referential computer database found to be eligible in the May 2016 decision in Enfish LLC v. [Microsoft Corp.](#) These technologies have little in common, but Enfish was still the closest case the Federal Circuit had decided thus far — but the court was not persuaded.

Similar analogies were being made to assert inventive concepts under Alice Step 2. The first big breakthrough for patent owners and applicants was the Step 2 case of DDR Holdings LLC v. [Hotels.com LP](#) in November 2014. The invention in DDR addressed "the problem of retaining website visitors" by serving hybrid webpages that merge content associated with a third-party merchant with content of a host website. The claims were found eligible because the solution was "necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer networks."

What happened afterward is that patent owners and applicants vigorously applied this language to their own cases while massaging the reasoning to match their facts. Thus, any software invention at all was described as being "rooted in computer technology." And even if the invention did not arise in the realm of computer networks, advocates would simply

change the last two words to match their technological environment — e.g., "arising in the realm of [computerized stock trading]."

Meanwhile, the USPTO struggled to keep up with the cadence of new cases. Every few months, the office would publish an update to a master list of Federal Circuit cases so that examiners could make their own analogies to the applications they were examining.

A memorandum issued in May 2016 actually required examiners to identify a similar Federal Circuit case in order to maintain an eligibility rejection at the office. However, this exercise quickly became unwieldy. By January 2018, the USPTO's list of court cases and fact patterns had ballooned to nearly 100 cases.

3. The Rise and Fall of Berkheimer: Berkheimer to American Axle

Shortly thereafter, in February 2018, the world seemed to change when the Federal Circuit decided *Berkheimer v. [HP Inc.](#)* In an opinion by Judge Kimberly Moore, the court reversed a grant of summary judgment by holding that Alice's Step 2 inquiry can depend on underlying questions of fact.

This seemed big at the time because the Alice inquiry had been almost exclusively a question of law that could be decided on a motion to dismiss or for summary judgment and reviewed de novo by the Federal Circuit.

But Berkheimer seemed to hand patent owners a silver bullet to defeat those motions by merely alleging facts about inventive concepts recited by the claims.

The USPTO quickly reinforced the impact of this decision when it issued the Berkheimer memo, which introduced a new requirement that examiners perform rigorous fact-finding to support rejections under Alice Step 2. In other words, an examiner could no longer simply read the claims and declare that all its elements were conventional. Instead, examiners were now required to spend time finding factual support for such allegations.

As a result, patent applicants flooded the office with arguments that their examiners had not adhered to the fact-finding requirements of the Berkheimer memo and that, therefore, the claims should be allowed. Berkheimer reversals at the PTAB surged.

Meanwhile, the USPTO decided that the ever-expanding list of cases required to support Alice rejections had become untenable.

Thus, in late 2018, the USPTO issued new eligibility guidance that removed the analogy-making requirement and instead directed examiners to focus on three core categories of abstract ideas: methods of organizing human activity, mathematical concepts, and mental processes.

And for the first time, examiners were directed to ask a different question: whether a claimed invention falling into one of the enumerated categories of abstract ideas nevertheless amounted to a "practical application" of the abstract idea — a standard that does not exist in the case law. After the new eligibility guidance, Alice reversals at the PTAB soared to unprecedented levels, in some cases nearing 25% instead of the usual reversal rate that had traditionally hovered below 10%.

However, despite the initial hype about Berkheimer, arguments based on it seemed to fare poorly. In only one case — *Cellspin Soft Inc. v. [Fitbit Inc.](#)* in June 2019 — did the Federal Circuit approvingly cite Berkheimer as a reason to reverse a grant of summary judgment or a motion to dismiss despite nearly all patent owners making those arguments.

Then *American Axle Manufacturing Inc. v. [Neapco Holdings LLC](#)* came along, which splintered the Federal Circuit like few other cases have before, and which seemed to vastly erode Berkheimer considerations of fact questions at Alice Step 2.

In *American Axle*, the patent holder claimed a method of manufacturing driveline propeller shafts with liners that attenuate multiple types of vibrations. A majority of the three-judge Federal Circuit panel agreed with the district court that the claims were directed to a natural phenomenon and contained no inventive concept.

But in a fiery dissent, Judge Moore, the author of Berkheimer, pointed to more than a dozen elements of alleged factual evidence that might establish inventive concepts — fact questions that must be resolved before a decision on eligibility could be rendered.

The tension was on full display when the Federal Circuit entertained a petition to rehear the case en banc. But the 2020 vote deadlocked 6-6.

What's notable is that the en banc petition resulted in five different opinions about the way the case should turn out and how factual evidence under Alice Step 2 should be considered or disregarded.

Many thought that the splintered court would prompt the Supreme Court to step in and clarify the case law, as well as the importance of fact questions under Alice Step 2.

But that petition for certiorari was also denied, in 2022.

4. The Post-Berkheimer Era: American Axle to Present

After American Axle, it was clear that courts were going to construe the requirements of Berkheimer narrowly. Since Cellspin Soft in 2019, only one other Federal Circuit case has approvingly cited Berkheimer to reverse a decision on eligibility — Cooperative Entertainment Inc. v. Kollektive Technology Inc. in 2022. Thus, the primary battle remains whether claims are directed to an abstract idea at Alice Step 1.

The USPTO, now seemingly weary of the onslaught of Berkheimer arguments, made similar internal changes that dramatically muted the initial directives of the Berkheimer memo. In particular, examiners and the PTAB started making widespread use of the "additional elements" test that allowed bifurcating claims such that their version of Alice Step 2 simply asked whether generic computers are conventional. Thus, the once-mighty Berkheimer memo became little more than an exercise in circular reasoning and foregone conclusions.

As a result, around the first half of 2021, the USPTO essentially stopped reversing cases under Berkheimer except in the most egregious situations where the examiner forgot to mention it. But if the examiner at least wrote something about Berkheimer, the examiner was almost certain to be affirmed.

As a consequence, the USPTO's eligibility analysis began to focus almost exclusively on the "practical application" standard and stopped finding inventive concepts under Alice Step 2. This was notable because it was something the PTAB had been doing for nearly seven years before that. The Manual of Patent Examining Procedure still devotes nearly 20,000 words to "the search for an inventive concept," but since November 2020, the PTAB has found only one other inventive concept over the course of nearly 2,500 Section 101 appeals, a remarkably dismal statistic for one of the cornerstones of the original Alice

decision.

In addition, the "practical application" standard, now untethered from the questions being asked by the federal courts, began to evolve to take on a noticeably physical character. In other words, the practical application standard started to resemble a physical results test that asked whether the claims recited some observable impact on the real world.

That development has created a noticeable tension in the current artificial intelligence revolution, where many of the most groundbreaking architectures and techniques do not have observable physical results — a tension that brings us to the current era.

5. The AI Era

Currently, AI and large language models have quickly become the most revolutionary technology in a generation. But what are the contours of eligibility for such cases? After all, an LLM that takes in text and generates more text has little observable impact on the physical world.

Many hoped that these questions would be addressed by a much-anticipated July 2024 update on patent eligibility issued by the USPTO. However, this document avoided the hard questions about the eligibility of AI inventions, such as, "Under what circumstances are new model architectures eligible?" In addition, despite the ongoing LLM revolution and explosion in LLM patent filings, the July 2024 guidance didn't even mention LLMs.

As a result, that guidance had almost no impact on examination practices or PTAB decisions. In nearly 1,000 PTAB decisions in the year following the July 2024 update, only a handful even mention it.

As for the Federal Circuit, it recently had occasion to issue its first-ever decision about modern machine learning technology — in *Recentive Analytics Inc. v. [Fox Corp.](#)* in April. In that case, claims directed to using machine learning to optimize network broadcasts and network maps were found to be ineligible because the inputs to the model, the model itself, and the model outputs were all previously known components.

Will more innovative machine learning technologies fare any better under Section 101? It took nearly six years between the filing of the patent in *Recentive* and its corresponding

Federal Circuit decision on eligibility. Is there time to wait another six years for guidance from the Federal Circuit on the eligibility of the AI inventions being filed today?

Conclusion

Perhaps the most remarkable aspect of the post-Alice landscape is what the Supreme Court has not done. Amid deep intracourt disagreements about abstract ideas, as well as shifting and diverging standards between the USPTO and the federal courts, the Supreme Court seems content to deny all petitions to revisit its patent eligibility standards.

Thus, it's worth asking: Has the evolution of Alice brought us closer to promoting the progress of the useful arts in America today and into the future? Or are we simply wandering further astray?

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