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Patentability of Business Methods and Computer-Implemented Technology Inventions

by Orville R. Cockings

Starting in 2010 with the *Bilski* decision, the Supreme Court of the United States (SCOTUS) issued four important decisions impacting the boundaries of what qualifies as patentable subject matter under U.S. patent law.[1] In the 40 years preceding *Bilski*, SCOTUS issued exactly the same number of opinions in this area.[2] The relatively recent and renewed interest in subject matter eligibility by SCOTUS was fueled by a growing wave of complaints to Congress and challenges at the Federal Circuit (the appellate court for patent cases) and district courts level regarding exactly what is and what isn't patentable. Undoubtedly, there were decisions on both sides of the ledger, but to say there was uncertainty in the law would be an understatement. In fact, in 2013, Donald Chisum, author of the foremost treatise on patent law, commented that the status of the law regarding subject matter eligibility was "startling and disgraceful."[3]

Of the Supreme Court decisions since 2010, two dealt with human genetics technology (*Association For Molecular Pathology, Mayo Collaborative Svcs.*), and the other two involved business method computer-implemented technology (*Bilksi*, *Alice*) generally referred to as 'business method patents.' After the 2014 SCOTUS *Alice* decision, the Federal Circuit issued a number of opinions further elaborating on the test for patentable subject matter, and the United States Patent and Trademark Office (PTO) has issued subject matter eligibility guidelines.[4]

SCOTUS's *Alice* Decision

While 35 U.S.C. §101 seemingly opens the door for patenting anything under the sun, it has long been accepted that laws of nature, natural phenomena and abstract ideas are not patentable.[5] For example, discovery of a new atom or Einstein's theory of relativity are regarded as discoveries or laws of nature, and not patentable.[6] Today, business methods, software and other computer-related inventions are most often deemed unpatentable as abstract ideas.

In *Alice*, the Supreme Court explained the framework it set forth in *Mayo Collaborative Svcs.* for evaluating whether a patent claim is ineligible for patent protection. That framework involved two steps: "First, we determine whether the claims at issue are directed to one of those patent-ineligible concepts [*i.e.*, laws of nature, natural phenomena and abstract ideas]....If so, we then ask, '[w]hat else is there in the claims before us?'"[7] In the second step, consideration is given to the clauses or elements making up each patent claim, both individually and as an ordered combination, to determine whether the additional elements are enough to ensure that the claimed invention amounts to significantly more than merely a patent on an ineligible concept.[8]

The invention at issue in the *Alice* case was a computer system used as an intermediary to facilitate the exchange of financial obligations between two parties.[9] The patented claims covered the method for exchanging the obligations, a computer system for carrying out the method and a computer medium storing instructions for performing the method. The Supreme Court first concluded that the claims covered the abstract idea of intermediated settlements, (*i.e.*, the idea of using a third party to mitigate settlement risk in a transaction).[10] The Court found that this concept was a fundamental economic practice that long existed in commerce. In applying the second part of its framework, the Court found that mere implementation of the intermediated settlement concept in a computer environment was insufficient to transform it into a patentable invention.[11] In a nutshell, the Court found the patent claims did no more than "simply instruct the practitioner to implement the abstract idea of intermediated settlement on a generic computer."[12]

Courts have acknowledged the difficulty in applying the *Alice* framework, as the line separating eligible from ineligible abstract ideas is not always clear.

Case Law Applying *Alice*

Federal Circuit

Alice has been cited in at least 21 opinions issued by the Federal Circuit. Of those citations, the Federal Circuit has issued at least 12 opinions actually applying *Alice*. The Federal Circuit decisions applying *Alice* have not been favorable to patentees. In considering business method/software/computer-related inventions under the *Alice* framework, the Federal Circuit has thus far issued only one opinion in which it found software-related patents to be eligible for patent protection.

That single case upholding a software-related patent is *DDR Holdings, LLC v. Hotels.com, L.P.*[13] In that case, the Federal Circuit considered patents directed to e-commerce systems and methods for generating composite web pages that combine the look and feel of a host site with content of a third-party merchant website.[14] The host website can, therefore, display third-party ads without actually taking the user to the merchant's website. In upholding the validity of *DDR Holdings's* patents, the Federal Circuit found that it "stood apart" from claims in other cases that involved both a computer and the Internet because they did not merely seek to cover some pre-Internet business practice by now including "the requirement to perform it on the Internet."[15] Rather, the solution claimed "is necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer networks" and addressed a "business challenge particular...to Internet."[16]

While it extended a thin lifeline to patentees, the *DDR Holdings* decision nevertheless cautioned that "not all claims purporting to address Internet-centric challenges are eligible for patent."[17] In making this pronouncement, the court pointed to its earlier *Ultramercial* opinion.[18] The Federal Circuit concluded that the patent claims in *Ultramercial*, even if considered previously unknown and new to the Internet, merely covered routine or conventional use of the Internet.[19] Thus, those claims were not eligible for patent protection.

In a more recent case, *Vehicle Intelligence & Safety, LLC v. Mercedes-Benz USA, LLC,*[20] the Federal Circuit continued its trend of invalidating patents under §101. This decision provides additional guidance on another factor courts may consider in determining subject matter eligibility.[21] The patent at issue in *Vehicle Intelligence* was directed to methods and expert systems for screening equipment operators for impairments (*e.g.*, intoxication, heart attack) and then taking control of the equipment if an impairment is detected.[22] The court found critically absent from the patent details describing: 1) how the expert system measured impairment characteristics, 2) how the system determined if an operator is impaired based on the measurement, 3) how the decision was made on what control to response to take, and 4) how the expert system carries out the chosen control response.[23] Without these details the claims were deemed to cover an abstract idea.

This case suggests that had the patentee's claims included aspects of the details the court found absent, the claims may have been found eligible for patent protection.

District Courts

District court decisions since *Alice* and *DDR Holdings* have, by and large, also invalidated patents challenged on subject matter eligibility grounds under §101. In fact, court decisions outside the Eastern District of Texas upholding patents challenged under §101 are rare.[24]

Intellectual Ventures I, LLC et al. v. Canon, Inc. et al., from the District of Delaware, is one of those rare cases.[25] The challenged claims at issue in that case were directed to determining (using a mathematical formula) and applying parameters to operate a scanner.[26] The court found that the patent claims did not claim the mathematical formula but instead adopted the patentee's position that "the asserted claims are directed to internal operation of a particular physical device (a scanner), with particular physical components (image sensors and motors), using signals having particular timing relationship that differs from the prior art."[27] The court thus concluded that the claims were not directed to an abstract idea. While the court could have ended its analysis on that finding, it went on to hold that the claims included sufficient specificity (*e.g.*, drive a motor, output an image signal and store the image signal) to place meaningful boundaries on the inventive concept.[28]

The analysis applied by the court in *Intellectual Ventures* is very similar to that applied in the Supreme Court's *Diehr* case. In the end, the court was willing to accept the patentee's argument that the claims did not pose a threat to preempting use of the mathematical relationship outside the boundaries set by the patent claims.

United States Patent and Trademark Office Guidelines

2014 Guidelines

Not long after the *Alice* decision, the PTO issued interim eligibility guidance for determining subject matter patentability under §101.[29] Those initial guidelines included a two-part test that first determined whether the claims fit into one of the statutory classes under §101 (*e.g.*, process, machine, manufacture or composition of matter). If that criteria is satisfied, the PTO would then apply the two-step test initially set forth in the *Mayo* decision. The PTO provided several examples of what it considered to be within or outside the boundaries of subject matter eligible for patent protection. The common theme among these examples considered eligible for patent protection are where the claims are tied to computer or Internet technology, or show an improvement to another technology or technical field (*e.g.*, updating the GPS position of mobile devices).

The 2014 guidelines also provided examples outside the boundaries of protection such as employing mathematical relationships to manipulate existing information or generating additional information without further limiting the use of the generated information, patenting bingo, using advertising as exchange currency over the Internet, as well as others. Most of the examples given by the PTO were taken from prior Federal Circuit decisions.

2015 Guidelines

In July 2015, the PTO updated its eligibility guidelines by providing additional examples of court decisions and further explanation on how it applies the test for subject matter eligibility.[30] In Nov. 2015, it further updated its court decision listing.[31] In addition, the PTO provided a quick reference guide for identifying abstract ideas. In particular, ineligible abstract ideas were broadly categorized as follows:[32]

- **Fundamental Economic Practices:** Concepts relating to the economy and commerce, such as agreements between people in the form of contracts, legal obligations, and business relations (*e.g.*, mitigating settlement risk).
- **An Idea of Itself:** An idea standing alone, such as an uninstantiated concept, plan or scheme, as well as a mental process (thinking) that can be performed in the human mind, or by a human using a pen and paper (*e.g.*, comparing new and stored information and using rules to identify options).
- **Certain Methods of Organizing Human Activity:** Concepts relating to interpersonal and intrapersonal activities, such as managing relations or transactions between people, etc. (*e.g.*, using an algorithm for determining the optimal number of visits by a business representative to a client).
- **Mathematical Relationships/Formulas:** Mathematical concepts such as mathematical algorithms, relationships, formulas and calculations (*e.g.*, calculating the difference between local and average data values).

The PTO guide provides examples from case law that fit into these categories. The guide thus identifies markers for navigating the still murky waters in this area of law.

Summary

Case law and PTO policy and procedure relating to patenting business methods and computer-related inventions will continue to evolve. Certainly, one would expect the number of cases upholding patents against subject matter eligibility to rise, given that the vast majority of the patents now being challenged were written before the *Alice* case was decided. In that regard, by keeping track of the development of the law and PTO procedures, companies will be best positioned to obtain robust patents to stand up to such challenges. ■

Orville R. Cockings is a partner with the intellectual property law firm of Lerner, David, Littenberg, Krumholz & Mentlik, LLP, in Westfield. The views expressed are those of the author and not necessarily those of Lerner David or the publishers.

Endnotes

1. *See Bilski, et al. v. Kappos*, 561 U.S. 593 (2010); *Mayo Collaborative Services v. Prometheus Labs. Inc.*, 566 U.S. ___, 132 S.Ct. 1289 (2012); *Ass'n for Molecular Pathology v. Myriad Genetics*, 569 U.S. ___, 133 S.Ct. 2107 (2013); and *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 573 U.S. __, 134 S. Ct. 2347 (2014). Subject matter eligibility under U.S. patent law is governed by 35 U.S.C. §101: "Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title."
2. *See Gottschalk v. Benson*, 409 U.S. 63 (1972); *Parker v. Flook*, 437 U.S. 584 (1978); *Diamond v. Chakrabarty*, 447 U.S. 303 (1980); and *Diamond v. Diehr*, 450 U.S. 175 (1981).
3. *See* Patents on Computer-Implemented Methods and Systems: The Supreme Court Grants Review (CLS Bank) Background Developments and Comments, Donald Chisum, Dec. 10, 2013 at 1 (accessible via chisum-patent-academy.com/wp-content/uploads/Supreme-Court-on-Computer-Software-Patents-1.pdf); *See also* Chisum on Patents, §1.06[n].
4. uspto.gov/sites/default/files/documents/ieg-july-2015-update.pdf.
5. *Chakrabarty*, 447 U.S. at 309.
6. *Id.*
7. *Alice Corp.* 134 S. Ct. at 2355.
8. *Id.*
9. *Id*. at 2351-2353.
10. *Id*. at 2355.
11. *Id*. at 2358-2359.
12. *Id.*
13. *DDR Holdings, LLC v. Hotels.com, L.P.,* 773 F.3d 1245 (Fed. Cir. 2014).
14. *Id.* at 1248-49.
15. *Id.* at 1257.
16. *Id.*
17. *Id*. at 1258.
18. *See Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709 (Fed. Cir. 2014).
19. *See DDR Holdings* at 1258-1259.
20. *Vehicle Intelligence and Safety, LLC v. Mercedes-Benz USA, No. 2015-1411,* 2015 U.S. App. LEXIS 22681 (Fed. Cir. Dec. 28, 2015).
21. *Id.*
22. *Id*. at *1-4.
23. *Id*. at *7.
24. *See* Top Ten Alice Cases of 2015, *IPLaw 360*, Dec. 17, 2015. (law360.com/articles/738344/).
25. *Intellectual Ventures I, LLC v. Canon Inc., No. 13-473,* 2015 U.S. Dist. LEXIS 151485 (D. Del., Nov. 9, 2015).
26. *Id*. at *69.
27. *Id*. at *70.
28. *Id*. at *71.
29. *See* uspto.gov/patent/laws-and-regulations/examination-policy/2014-interim-guidance-subject-matter-eligibility-0.
30. uspto.gov/sites/default/files/documents/ieg-july-2015-update.pdf.
31. *See* uspto.gov/sites/default/files/documents/ieg-july-2015-app3.pdf.
32. uspto.gov/sites/default/files/documents/ieg-july-2015-update.pdf.