

Modern-Day 101 Cases Spell Trouble For ATMs Of The Future

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The automated teller machine, better known as the “ATM,” will celebrate its 50-year anniversary next June.[1] The ATM’s profound impact on the banking industry is undeniable, performing a multitude of services today that the original inventors likely did not fathom. The ATM is an early example of how technological innovations were employed to address business needs. And in 1970, no one would have thought to question its patentability as a major innovation bringing technology — including mechanical, electromechanical, electronic, computer and software — to the aid of the financial services industry. And in 1970, when the earliest instance of an ATM was granted a patent in the United States, the focus was much more on the innovation itself — the processing unit, magnetic card reader and other previously developed components that uniquely came together to enable cash withdrawal transactions without the aid of a human bank teller.



David J. Kappos

With the rise of the Information Age, the financial services sector continues to rely on technology-based solutions to enable and evolve its business capabilities. Some of these patent-worthy solutions, however, have become vulnerable to invalidation due to the courts’ increasing overreliance on Section 101’s abstract idea exception. Under the modern Alice[2] framework brought on by the U.S. Supreme Court decision of that name, one can argue that the ATM is directed at the idea of withdrawing cash from a bank account, and therefore within the court’s prohibition against patenting “abstract ideas.”

While Alice has established a two-part test for evaluating claims whose patent eligibility may be suspect under this judicially recognized exception, the Supreme Court has stopped short of explaining how to practically determine when a claim is actually directed to an abstract idea. As a result, lower courts have taken up the challenge to establish the boundaries and applicability of this exception.

"I Know It When I See It."

One approach that lower courts have adopted to determine whether a claim is directed at an abstract idea is evocative of Justice Potter Stewart’s famous phrase: “I know it when I see it.” Under this approach, courts establish abstractness using the basic “look and feel” of a patented claim to determine whether it is directed at an economic or commercial practice. See, e.g., *Money Suite Co. v. 21st Century Ins. & Fin. Servs.*, 2015 U.S. Dist. LEXIS 8978, *9 (D. Del. 2015) (holding that a process used to generate price quotes for various types of financial products using front-end network gateways is a “fundamental economic or conventional business practice and therefore an abstract idea”); and *Tenon & Groove LLC v. Plusgrade SEC*, 2015 U.S. Dist. LEXIS 754, *18 (D. Del. 2015) (holding that the relevant patents-at-issue were “directed to the unpatentable fundamental concept of using a computer to facilitate negotiations

between an airline and its customer that results in a contract for a product upgrade.”).

It is important to take a step back and highlight that in *Bilski v. Kappos*, the Supreme Court substantiated its assertion that hedging was a “fundamental economic practice” by citing to a number of sources. See 561 U.S. 593, 611 (U.S. 2010) (the Supreme Court, in holding that “hedging is a fundamental economic practice ... and taught in any introductory finance class,” cited to the following sources: D. Chorafas, *Introduction to Derivative Financial Instruments* 75-94 (2008); C. Stickney, R. Weil, K. Schipper & J. Francis, *Financial Accounting: An Introduction to Concepts, Methods, and Uses* 581-582 (13th ed. 2010); S. Ross, R. Westerfield & B. Jordan, *Fundamentals of Corporate Finance* 743-744 (8th ed. 2008)). Unfortunately, this level of evidentiary support and fact-based analysis is almost entirely lacking in decisions evaluating the patent eligibility of financial systems today, with courts choosing instead to engage in high-level characterizations.

Courts have also employed the “I know it when I see it test” by comparing the claims at issue to previously adjudicated patents, namely the claims that recited the concepts of hedging in *Bilski* and intermediated settlement in *Alice*. For example, *KomBea Corp. v. Noguera LC*, 73 F. Supp. 3d 1348, 1349 (D. Utah 2014), involved a case in which the district court evaluated the patentability of an invention that allowed sales agents to use prerecorded scripts, live voice and interjections during a telemarketing call to give potential customers the impression that the computer-generated conversations were person-to-person. This court held that the patents-in-suit were “similar to those in *Bilski* and *Alice*” and thus were directed toward an abstract idea. *Id.* at 1335.

However, one may wonder whether the concepts of hedging and intermediated settlement are sufficiently similar or even relevant to the concept of improving the effectiveness of a sales/marketing call, or whether the claimed ability to make a prerecorded sales script sound personalized and live to a customer could perhaps be considered as technological. While the answers to these questions could be critical in swinging the pendulum against a finding for abstractness, lower courts have shown a tendency to overlook such considerations. See also, *OIP Techs. Inc. v. Amazon.com Inc.*, 788 F.3d 1359, 1362 (Fed. Cir. 2015) (holding that the claims were directed at an abstract idea because the concept of offer-based pricing optimization is “similar to other fundamental economic concepts found to be abstract ideas by the Supreme Court.”).

The Pen and Paper Test

Another rule that lower courts have employed in the quest to define abstractness is the “pen and paper” test. Some courts have interpreted the Supreme Court’s ruling in *Benson*[3] as having established a rule against the patentability of methods that can be performed entirely in the human mind. See *CyberSource Corp. v. Retail Decisions Inc.*, 654 F.3d 1366, 1373 (Fed. Cir. 2011) (“in finding that the process in *Benson* was not patent eligible, the Supreme Court appeared to endorse the view that methods which can be performed mentally ... are unpatentable abstract ideas.”). The pen and paper test is used to effectuate this interpretation by invalidating patented technologies that involve “steps [that] can be performed in the human mind or by a human using a pen and paper.” *Id.* at 1372.

This test is problematic for a number of reasons. First, it ignores the Supreme Court’s precedent in *Diamond v. Diehr*, which established that mathematical formulas may be considered in Section 101 analysis as long as the claims possess an inventive concept that sufficiently limits their preemptive effect. 450 U.S. 175, 187 (U.S. 1981) (“our earlier opinions lend support to our present conclusion that a claim drawn to subject matter otherwise statutory does not become nonstatutory simply because it uses a mathematical formula”).

The pen and paper test also ignores the fact that while many inventions could be theorized with pen and paper, pen and paper rarely produce the actual effect of the invention. See *Cal. Inst. of Tech. v. Hughes Communs. Inc.*, 59 F. Supp. 3d 974, 996 (C.D. Cal. 2014) (court stating that “a human could spend months or years writing on paper the 1s and 0s comprising a computer program and applying the same algorithms as the program At the end of the effort, he would be left with a lot of paper that obviously would not produce the same result as the software.”).

Furthermore, the pen and paper test encourages courts to “create false positives” by assuming that humans actually engage in the same activity that a computer-based invention seeks to perform, no matter how unrealistic, unconventional or futile the efforts for human application. *Id.* at 995 (“In the case at hand, it is clear that Caltech’s error correction codes were not conventional activity that humans engaged in before computers, and the codes do not become conventional simply because humans can do math.”).

Abstractness Tests Run Amok on Innovation Related to Financial Services

These unrefined tests for abstractness run the risk of misleading courts into believing that innovations used for economic reasons, or employing computer algorithms, are per se patent-ineligible. This confusion is particularly fatal to innovations in the financial services industry for two reasons: first, innovations in this space will naturally have a closer proximity to a business-related use, versus other industries where the business purpose may be more remote (i.e., the invention of the Post-it note likely created immense value for 3M shareholders and accountants both). Second, inventions related to financial systems have a higher tendency to rely on algorithms, due to their dependency on computer- and software-based solutions in the digital era. But these characterizations should not take away from the fact that innovations related to financial systems may nevertheless be directed at a technological art or possess an inventive concept.

One example of a financial system that has utilized a technological invention is graphical user interface (GUI) tools that place trade orders on an electronic commodities exchange. The conventional tool posed difficulties for traders when entering orders at particular price levels due to a particular glitch that sacrificed accuracy for speed. Trading Technologies developed a patented technology that improved the structure and makeup of the GUI tool to address this problem.

CQG, a party infringing TT's patents covering this enhanced GUI tool, sought to invalidate TT's patents by arguing that the claims recited “the abstract idea of placing an order for a commodity on an electronic exchange.” *Trading Techs. Int'l v. CQG Inc.*, 2015 U.S. Dist. LEXIS 22039, *9 (N.D. Ill. 2015). The district court disagreed, finding that the patent at issue was actually directed to solving a technological problem that existed with prior art GUIs. *Id.* at *11. The court also noted that the concept of placing orders on an electronic exchange could not constitute an abstract idea, because electronic trading has only been viable for a couple of decades, and thus cannot represent a “fundamental economic or longstanding commercial practice.” *Id.* at *10.

While this court was able to discern the technological art embedded within the invention, other courts are blindsided where technology is used to perform business functions. For example, in *Telebuyer LLC v. Amazon.com Inc.*, 2015 U.S. Dist. LEXIS 96391 (W.D. Wash. 2015), the district court assessed the patent eligibility of a traffic control system that provides e-commerce buyers with the most relevant product information, while enabling e-commerce vendors to target buyers most likely to be interested in their products. The patented technology was intended to address an “information overload” problem in the

e-commerce space. Similar to the ATM invention of decades past, this technology employed a number of well-known technologies, including a central data system, a video storage device and identification data, which collectively worked to facilitate more efficient e-commerce transactions. The court, applying the “I know it when I see it” test, held that the technology was directed to the abstract idea of connecting buyers and sellers, which is “not different from the economic concepts found to be abstract ideas by the Supreme Court in *Alice*.” *Id.* at 31.

Courts are also distracted from finding an inventive concept in cases where a patented technology employs algorithms as part of its solution. In *SnowCast Solutions v. Endurance Specialty Holdings*, 2016 U.S. Dist. LEXIS 37559 (N.D. Ill. 2016), *SnowCast* sought to defend the patentability of its technology that claimed a system for managing financial risk associated with the purchase of weather-related services. The solution was primarily intended to address forecasting problems faced by snow-removal providers due to the unpredictable nature of weather. The court held that the technology was patent-ineligible given that it was directed at the concept of hedging, which “as held by the Supreme Court in *Bilski* ... is an un-patentable abstract idea.” *Id.* at 8.

SnowCast nevertheless urged the court to appreciate the inventive concept inherent in the system’s iterative tick price calculations. *Id.* at *13 (the patented claims calculate “the unitary event module from the entered input information, the cost at the site in the area, calculating the base price for services, and calculating the tick price and the associated premium for the selection of the option ... and the hedge assignment module iteratively determines a tick price for the option from the weather options database.”). The court disagreed, holding that “mathematical algorithms, including those executed on a generic computer, are abstract ideas.” *Id.* at 14. The court never gave the inventive concept a chance, due to its preoccupation with the technology’s use of mathematical algorithms.

The Value of Guidance Provided by Principle-Based Decisions

The above analysis is not to say that all of the identified courts ultimately arrived at the wrong decisions. Rather, the point is that all of the decisions made under Section 101, to the extent patentability truly is lacking, could be made more fairly, and with greater fidelity to the importance of innovation incentives, under Sections 102, 103 and 112. Those highly refined sections of the patent law comprise the scaffolding needed to guide innovators’ activities in a principled way. Section 101 is better used as a backstop rather than a gateway to patent eligibility.

Today, however, courts are using Section 101’s abstract idea exception in a rather blunt and unrefined manner, as a prerequisite to patentability. This practice sends a message to the marketplace and to innovators that software inventions generally, and software inventions involving technology applied to the financial services industry in particular, will be discriminated against by the patent system. Innovators will invariably allocate resources away from affected innovation, in this case in the financial services industry, just as resources are deallocated any time incentives are diminished.

Given its particular susceptibility to being labeled “abstract,” innovation applicable to financial services must be looked upon by the judiciary as vulnerable. Vulnerable to misunderstanding, vulnerable to labeling, vulnerable to discrimination. Courts must be sensitive to these vulnerabilities, and begin taking steps to see past the “abstractness” label, and analyze financial services-related innovation based on its technological content. Until courts develop a more refined approach to Section 101 analysis, the ATM inventions of the future are in peril.

—By David J. Kappos and Jessica I. Park, Cravath Swaine & Moore LLP

David Kappos is a partner at Cravath in New York. From August 2009 to January 2013, he served as undersecretary of commerce and director of the U.S. Patent and Trademark Office.

Jessica Park was a 2016 summer associate in Cravath's corporate and litigation departments.

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[1] It is widely accepted that the first cash machine was established at the Enfield Town branch of Barclays Bank, north of London, on June 27, 1967.

[2] *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 134 S. Ct. 2347 (U.S. 2014) (hereinafter “Alice”).

[3] *Gottschalk v. Benson*, 409 U.S. 63 (U.S. 1972) (hereinafter Benson).

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