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Patents on Methods of Doing Business

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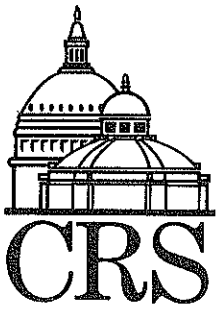

ABSTRACT

The courts and Patent and Trademark Office have recently confirmed that inventors may obtain patents on methods of doing business. This report explains these legal developments and considers their economic consequences. The principal arguments of proponents and detractors of business method patents, perceived problems of patent quality, and the effect of business method patenting upon entrepreneurs and small firms are reviewed. This report also considers the First Inventor Defense Act of 1999 (P.L. 106-113) and other possible procedural and substantive patent law reforms relating to business method patents. This report will be updated if events warrant.

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Patents on Methods of Doing Business

Summary

The decision of the United States Court of Appeals for the Federal Circuit in *State Street Bank & Trust Co. v. Signature Financial Group*, 149 F.3d 1368 (Fed. Cir. 1998), held that inventors may obtain patents on methods of doing business. Subsequent judicial opinions have confirmed this holding. Recently issued patents in fields such as architecture, investment, marketing, psychological analysis and sports methods also suggest that inventions from virtually any human endeavor may be the subject of proprietary rights through the patent system.

Since *State Street Bank*, proprietors of patents concerning Internet-based electronic commerce concepts have launched enforcement litigation against competitors. Notable among this litigation is *Amazon.com, Inc. v. Barnesandnoble.com, Inc.*, 73 F. Supp.2d 1228 (W.D. Wash. 1999), where a federal district court enjoined the use of one-click ordering system on a website on the eve of the holiday shopping season. Both Congress, by enacting the First Inventor Defense Act of 1999 (P.L. 106-113), and the United States Patent and Trademark Office, through its Business Methods Patent Initiative, have also addressed business method patent issues.

The opening of the patent system to inventions outside traditional industrial technologies has been the subject of an ongoing public debate. Proponents of business method patenting have urged that the patent system should keep pace with technologies of the Information Age, including electronic commerce and data processing. Proponents have also observed the difficulty of distinguishing business methods from traditionally patentable processes. In contrast, detractors have noted the lack of empirical evidence that economic gains will result from business method patents and expressed concerns that business method patents will hinder competition. Commentators have also expressed concerns that many business method patents should not have been granted, stating that such patents too often appropriate well-known commercial activities rather than inventive advances over public domain knowledge.

Observers differ on whether a legislative response to the phenomenon of business method patenting is desirable. Possibilities include amendment of the First Inventor Protection Act to provide a more detailed definition of the term "method of doing or conducting business." In addition, possible substantive reforms include imposing a ban upon business method patents, adoption of an industrial application requirement or a moratorium upon their offensive use. Possible procedural reforms include provision for an obligatory reevaluation of business method patents prior to enforcement litigation, as well as improved resources for the United States Patent and Trademark Office to examine business method patent applications.

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Patents on Methods of Doing Business

Introduction

The patent system has recently attracted considerable public attention. Numerous mainstream publications have issued articles and editorials explaining or contributing to a debate over the patent law.[1] A catalyst for this exchange of views appears to be the recent patenting of methods of doing business. Issues under discussion include the appropriate subject matter for patent protection, the potential impact of business method patents upon Internet-based electronic commerce and whether policy makers should respond with substantive or procedural patent law reform.

Much of the present controversy appears to flow from the 1998 decision of the United States Court of Appeals for the Federal Circuit in *State Street Bank & Trust Co. v. Signature Financial Group, Inc.*[2] Prior to *State Street Bank*, many legal texts stated that business methods were not patentable, and inventors did not routinely seek patents for business developments.[3] However, the *State Street Bank* court decided that a data processing system consisting of software for managing a stock mutual fund could be the subject of a patent. In so doing, the Federal Circuit ruled that patents could issue for innovative methods of doing business.[4]

The *State Street Bank* opinion held consequences for the executive, judiciary and legislature. In the wake of *State Street Bank*, the United States Patent and Trademark Office (PTO) has received numerous patent applications concerning business methods. To date, several hundred of these applications have issued as granted patents.[5] Disputes over the validity and scope of business method patents have quickly made their way to the courts. One noteworthy business method patent enforcement litigation involved an Amazon.com patent claiming single-click ordering from an Internet web site.[6] The result of the litigation was the award of a preliminary injunction against Internet bookseller BarnesandNoble.com on the eve of the holiday

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[1] Muehlbauer, Jan, "Patent Pundits On Parade," *The Standard*, 16 March 2000, available at http://www.thestandard.com/article/display/0,1151,13019,00.html.

[2] 149 F.3d 1368 (Fed. Cir. 1998).

[3] Greene, Jenna, "Staking a Claim," *Legal Times IP Magazine* (10 April 2000), 14, 18.

[4] Stern, Richard H., "Scope-of-Protection Problems with Patents and Copyrights on Methods of Doing Business," *Fordham Intellectual Property, Media and Entertainment Law Journal* 10 (1999), 105, 125-26.

[5] Hoffman, Gary M. & Coman, Gabriela I., "Business Method Patents," *National Law Journal* 22 (Feb. 14, 2000): B8. In the field of banking alone, Hoffman and Coman report that the PTO had issued over 500 patents since the *State Street Bank* decision. Ibid.

[6] *Amazon.com, Inc. v. Barnesandnoble.com, Inc.*, 73 F. Supp.2d 1228 (W.D. Wash. 1999).

shopping season. Finally, Congress enacted the First Inventor Defense Act of 1999, P.L. 106-113, creating an infringement defense for an earlier inventor of a "method of doing or conducting business" that was later patented by another.[7]

Although these developments have yet to yield a precise definition of "methods of doing business," this term appears to include any systematic way of accomplishing a commercial objective. The following patents suggest that techniques from finance, investment, marketing and management are among the arguable business methods that are subject to proprietary rights.

- *Education Finance.* For example, U.S. Patent No. 5,809,484 (Sept. 15, 1998) ("Method and apparatus for funding education by acquiring shares of students' future earnings"), claims a technique through which students pledge a portion of their future income in exchange for tuition payments.

- *Insurance.* For example, U.S. Patent No. 6,014,632 (Jan. 11, 2000) ("Apparatus and method for determining insurance benefit amounts based on groupings of long-term care patients with common characteristics"), claims a health insurance management method.

- *Investment Banking.* For example, U.S. Patent No. 6,052,673 (April 18, 2000) ("Investment management"), claims a method of managing financial accounts between depositors, marketing agents, financial intermediaries, mortgage brokers and borrowers in an inflation-adjusted financing program.

- *Marketing.* For example, U.S. Patent No. 5,668,736 (Sept. 16, 1997) ("Method for designing and illustrating architectural enhancements to existing buildings"), claims a home remodeling business that comprises cataloging ideas, presenting the ideas to a client, allowing the client to select an idea, and the preparing a visual image of the selection.

The impact of the *State Street* opinion may not be limited to business method patents, however. As Federal Circuit Judge Raymond Clevenger counseled in an opinion issued shortly after *State Street Bank*, "virtually anything is patentable."[8] Innovators in other endeavors in which patents were not traditionally sought appear to have heeded this advice, for they have also obtained patents from the PTO. A review of the PTO Official Gazette also demonstrates that among the disciplines recently subjected to patenting are:

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[7] U.S. Library of Congress, Congressional Research Service. *Patent Law Reform: An Analysis of the American Inventors Protection Act of 1999 and Its Effect on Small, Entrepreneurial Firms*, by John R. Thomas, Report RL30451,29 February 2000, 8-10.

[8] *Hughes Aircraft Co. v. United States*, 148 F.3d 1384 (1998) (Clevenger, J., dissenting from denial of rehearing *in banc*.)

- *Architecture.* For example, U.S. Patent No. 5,761,857 (June 6, 1998) ("Lots configuration and building position and method for residential housing"), claims an architectural scheme for eliminating hallways by placing staircases on the outside of buildings.

- *Personal Instruction.* For example, U.S. Patent No. 5,851,117 (Dec. 22, 1998) ("Building Block Training Systems and Training Methods"), claims a method for teaching custodial staff basic cleaning tasks.

- *Psychological Analysis.* For example, U.S. Patent No. 5,190,458 (Mar. 2, 1993) ("Character assessment method"), claims a method of analyzing the drawings of subjects in order to obtain a psychological diagnosis.

- *Sports Methods.* For example, U.S. Patent No. 5,616,089 (April 1, 1997) ("Method of putting"), claims a technique for swinging a golf club.

This report explores recent trends concerning the patenting of methods of doing business, as well as techniques from other disciplines. This report begins by reviewing basic legal principles concerning patentable subject matter. The *State Street Bank* decision and subsequent judicial developments are then discussed. This report next details the First Inventors Defense Act of 1999 and explores its consequences for the validity and enforceability of business method patents.

This report then summarizes the positions of proponents and detractors of the patenting of business methods. Next, this report considers the consequences of business method patents upon entrepreneurs and small, entrepreneurial firms. Finally, this report considers possible legislative responses to the phenomenon of patents in business methods and other disciplines.

Principles of Patentability

The patent law allows individuals to obtain proprietary rights in their inventions.[9] Unlike other forms of intellectual property, such as copyrights and trademarks, patent rights arise only through governmental intervention. Inventors must submit applications to the PTO if they wish to obtain patent rights.[10] PTO officials known as examiners then assess whether the application merits the award of a patent.[11]

In deciding whether to approve a patent application, a PTO examiner will consider whether the submitted application fully discloses and distinctly claims the

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[9] 35 U.S.C. § 271(a) (providing patentee with exclusive rights to make, use, offer to sell, or sell within the United States, or import into the United States, the patented invention).

[10] 35 U.S.C. § 111.

[11] 35 U.S.C. § 131.

invention.[12] The examiner will also determine whether the invention itself fulfills certain substantive standards set by the patent statute.[13] Among the more important requirements are that the invention must be useful, novel and nonobvious. The requirement of usefulness, or utility, is satisfied if the invention is operable and provides a tangible benefit.[14] To be judged novel, the invention must not be fully anticipated by a prior patent, publication or other knowledge within the public domain.[15] A nonobvious invention must not have been readily within the ordinary skills of a competent artisan at the time the invention was made.[16]

Beyond utility, novelty and nonobviousness, there is a fourth, distinct requirement for an invention to be patented. The invention must also be judged to comprise subject matter the patent law was designed to protect.[17] This final gatekeeper to patentability is variously known as the requirement of "patent eligibility," "patentable subject matter," or "statutory subject matter."[18] This report principally focuses upon this requirement of patentable subject matter, and in particular the propriety of the patenting of business methods.

Section 101 of the current patent law, the Patent Act of 1952, governs whether or not an invention comprises patentable subject matter. Section 101 allows patents to be granted for any "process, machine, manufacture, or composition of matter." As a result, an invention is eligible for patenting if it is a "process," which the Patent Act defines as a "process, art or method."[19] Alternatively, the invention may be a "machine," which has been interpreted to include any apparatus;[20] a "composition of matter," including synthesized chemical compounds and composite articles;[21] or a "manufacture," a broadly oriented, residual designation.[22] These definitions are not exclusive. A patentable invention may fall into multiple categories.[23]

The definition of patentable subject matter under the 1952 Act is nearly identical to that which appeared in predecessor federal patent statutes enacted as early as

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[12] 35 U.S.C. § 112.

[13] These requirement apply to so-called "utility patents." The patent statues also allow for design patents, *see* 35 U.S.C. § 171, and plant patents, *see* 35 U.S.C. § 161. Subject matter and other patentability standards differ somewhat for these more specialized patent regimes.

[14] 35 U.S.C. § 101; *see also Brenner v. Manson*, 383 U.S. 519 (1966).

[15] 35 U.S.C. § 102.

[16] 35 U.S.C. § 103.

[17] *Diamond v. Chakrabarty*, 447 U.S. 303, 309 (1980).

[18] Adelman, Martin J. et al. *Patent Law: Cases and Materials* (Minnesota: West Publishing Co., 1998).

[19] 35 U.S.C. § 100(b).

[20] *Nestle-Le Mur Co. v. Eugene, Ltd.*, 55 F.2d 854 (6th Cir. 1932).

[21] *Diamond v. Chakrabarty*, 447 U.S. 303 (1980).

[22] Ibid.

[23] *Bandag, Inc. v. Al Bolser's Tire Stores, Inc.*, 750 F.2d 903 (Fed. Cir. 1984).

1793.[24] On its face, the § 101 definition seems quite expansive. Many sorts of behavioral engagements, techniques and protocols could be characterized as a process within the meaning of the patent law. Further, almost any tangible product, artifact or thing could be seen as a composition of matter under § 101.[25] The only statutory exclusion from these broad categories of patentable subject matter concerns inventions useful solely to utilize special nuclear material or atomic energy in an atomic weapon.[26]

Despite this broad statutory language, the courts had traditionally crafted several exceptions to patentability. Variously expressed as bars to patents on business methods,[27] as well as such things as "mental steps," "algorithms," and "laws of nature," these doctrines held that certain subject matter was unpatentable *per se*.[28] Most of these rules were corollary to the well-established tenet that the patent law does not protect abstract ideas.[29] In order to receive patent protection, inventors must claim discrete, operable products and processes, not broad categories of generalized intellectual concepts. By protecting downstream technology rather than upstream knowledge, the patent law is said to preserve "the basic tools of scientific and technological work" for all to employ.[30]

In particular, the business methods exception may be traced back at least as early as 1868. In *Ex parte Abraham*, the Patent Commissioner sensed that "[i]t is contrary to the spirit of the law . . . to grant patents for methods of book-keeping."[31] Nineteenth century courts also opined that "a method of transacting common business"[32] or "a mere contract"[33] were unpatentable. Perhaps the most thorough review of the proscription on business method patents was provided in the 1908 opinion of the United States Court of Appeals for the Second Circuit in *Hotel Security Checking Co. v. Lorraine Co.*[34] The patent at issue in *Hotel Security Checking* concerned a "method and means for cash-registering and account-checking"

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[24] *Diamond v. Diehr*, 450 U.S. 175, 192 (1981).

[25] Thomas, John R., "The Patenting of the Liberal Professions," *Boston College Law Review* 40 (1999), 1144.

[26] 42 U.S.C. § 2181(a).

[27] *See generally* Yoches, E. Robert & Pollack, Howard G., "Is the 'Method of Doing Business" Rejection Bankrupt?," *Federal Circuit Bar Journal* 3 (Spring 1993): 73; Tew, Geo. E., Method of Doing Business, *Journal of the Patent Office Society* 16 (Aug. 1934): 607.

[28] Thomas, *supra* note 25, at 1145.

[29] *See Pioneer Hi-Bred International, Inc. v. J.E.M. Ag Supply, Inc.*, 200 F.3d 1374, 1376 (Fed. Cir. 2000).

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

[31] 1868 Comm'r Dec. 59, 59.

[32] *United States Credit Sys. Co. v. American Credit Indemnity Co.*, 53 F. 818, 819 (S.D.N.Y. 1893).

[33] *In re Moeser*, 27 App. D.C. 397, 310 (1906).

[34] 160 F. 467 (2d Cir. 1908).

designed to prevent fraud by waiters and cashiers. The system employed certain forms that tracked sales and ensured that waiters submitted appropriate funds at the close of business. The Second Circuit invalidated the patent on the basis of knowledge within the public domain, finding that the patented invention "would occur to anyone conversant with the business."[35] However, the court further observed that "[a] system of transacting business disconnected from the means of carrying out the system is not, within the most liberal interpretation of the term, an art" that could be patented.[36]

Most of the judicial and Patent Office decisions discussing the business method exception arose under predecessor versions of the 1952 Patent Act. As noted above, the 1952 Act essentially maintained earlier definitions of patentable subject matter.[37] However, although the legislative history pertaining to the 1952 Act is relatively sparse, it suggested that Congress intended to liberalize statutory subject matter requirements. In particular, committee reports accompanying the legislation included the following statement:

> A person may have "invented" a machine or a manufacture, which may include anything under the sun that is made by man . . . .[38]

In its 1980 decision in *Diamond v. Chakrabarty*,[39] the Supreme Court relied in part upon this legislative history in order to approve the patentability of a genetically engineered microorganism. As the Court confirmed in its later opinion in *Diamond v. Diehr*, it read this language to reveal a legislative intent to open the patent system to anything artificial.[40] During the 1990's, several Federal Circuit decisions followed this reasoning in order to ease and ultimately eliminate earlier restrictions upon the patenting of computer software.[41]

Mindful of these legislative and judicial developments, commentators questioned the continued vitality of the business methods exception to patentable subject matter.[42] When the Federal Circuit first turned to the issue in 1998 in its decision in *State Street Bank v. Signature Financial Group*, the court proved that these concerns were

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[35] Ibid at 471.

[36] Ibid at 468.

[37] *See supra* notes 19-24 and accompanying text.

[38] 82d Cong., 2d sess. (1952), 5, S.Rept. 1979; 82d Cong., 2d Sess. (1952), 6, H.Rept. 1923.

[39] 447 U.S. 303 (1980).

[40] 450 U.S. 175, 182 (1981).

[41] *See In re Alappat*, 33 F.3d 1568 (Fed. Cir. 1994) (*in banc*); *In re Warmerdam*, 33 F.3d 1354 (Fed. Cir. 1994); *Arrhythmia Research Technology, Inc. v. Corazonix Corp.*, 958 F.2d 1053 (Fed. Cir. 1992).

[42] Del Gallo III, Rinaldo, "Are 'Methods of Doing Business' Finally Out of Business as a Statutory Rejection?," *IDEA: Journal of Law & Technology* 38 (1998), 403.

warranted. Given the significance of the *State Street Bank* decision, a detailed review of the facts and outcome of that litigation is appropriate here.[43]

The *State Street Bank* Case

Signature Financial Group held U.S. Patent No. 5,193,056, which was entitled "Data Processing System for Hub and Spoke Financial Services Configuration." The patent described a data processing system for implementing an investment structure known as a "Hub and Spoke" system. This system allowed individual mutual funds (Spokes) to pool their assets in an investment portfolio (Hub) organized as a partnership. According to the patent, this investment regime provided the advantageous combination of economies of scale in administering investments coupled with the tax advantages of a partnership.[44]

Maintaining a proper accounting of this sophisticated financial structure proved difficult. Indeed, due to "the complexity of the calculations, a computer or equivalent device is a virtual necessity to perform the task."[45] Signature's patented system purported to allow administrators to "monitor and record the financial information flow and make all calculations necessary for maintaining a partner fund financial services configuration."[46] In addition it tracked "all the relevant data determined on a daily basis for the Hub and each Spoke, so that aggregate year end income, expenses, and capital gain or loss can be determined for accounting and for tax purposes for the Hub and, as a result, for each publicly traded Spoke."[47]

Following PTO issuance of the patent, Signature entered into licensing negotiations with a competitor, State Street Bank, that ultimately proved unsuccessful. State Street Bank then brought a declaratory judgment action against Signature, seeking the invalidity of the patent. The district court granted summary judgment in favor of State Street Bank under two alternative grounds.[48] First, the court concluded that the invention was merely an abstract mathematical algorithm:

> At bottom, the invention is an accounting system for a certain type of financial investment vehicle claimed as means for performing a series of mathematical functions. Quite simply, it involves no further physical transformation or reduction than inputting numbers, calculating numbers, outputting numbers, and storing

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[43] *See also* Keeley-Domokos, Francisc Marius, "State Street Bank & Trust Co. v. Signature Financial Group, Inc.," *Berkeley Technology Law Journal* 14 (1998),153.

[44] 149 F.3d at 1370.

[45] 149 F.3d at 1371.

[46] 149 F.3d at 1371.

[47] 149 F.3d at 1371.

[48] *State Street Bank and Trust Co. v. Signature Financial Group, Inc.*, 927 F. Supp. 502 (D. Mass. 1996).

> numbers. The same functions could be performed, albeit less efficiently, by an accountant armed with pencil, paper, calculator, and a filing system.[49]

The district court then buttressed its holding by turning to "the long-established principle that business 'plans' and 'systems' are not patentable."[50] The court judged that "patenting an accounting system necessary to carry on a certain type of business is tantamount to a patent on the business itself. Because such abstract ideas are not patentable, either as methods of doing business or as mathematical algorithms," the patent was held invalid.[51]

On appeal, the Federal Circuit reversed. Writing for a three-judge panel, the late Judge Giles S. Rich found the patent claimed not an abstract idea but a programmed machine that produced a "useful, concrete, and tangible result."[52] "This renders it statutory subject matter, even if the useful result is expressed in numbers, such as price, profit, percentage, cost, or loss."[53] According to the court, "[t]he question of whether a claim encompasses statutory subject matter should not focus on which of the four categories of subject matter a claim is directed to--process, machine, manufacture, or composition of matter--but rather on the essential characteristics of the subject matter, in particular, its practical utility."[54] The Federal Circuit further explained that:

> Today, we hold that the transformation of data, representing discrete dollar amounts, by a machine through a series of mathematical calculations into a final share price, constitutes a practical application of a mathematical algorithm, formula, or calculation, because it produces "a useful, concrete and tangible result" -- a final share price momentarily fixed for recording and reporting purposes and even accepted and relied upon by regulatory authorities and in subsequent trades.[55]

The Federal Circuit then turned to the district court's business methods rejection, opting to "take the opportunity to lay this ill-conceived exception to rest."[56] Judge Rich analyzed *Hotel Security Checking* and other cases denying patents upon methods of doing business. He concluded that each of these decisions had actually been decided on other grounds, such as that the patented invention would have been obvious over knowledge within the public domain. The Federal Circuit also reasoned that the case law on business methods had largely been decided prior to the 1952 Patent Act. The Federal Circuit closed by directing that methods of doing business were to be subject only to the same patentability analysis as any other sort of process.

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[49] 927 F. Supp. at 515.

[50] 927 F. Supp. at 515-16.

[51] 927 F. Supp. at 516.

[52] 149 F.3d at 1373 (quoting *In re Alappat*, 33 F.3d at 1544).

[53] 149 F.3d at 1375.

[54] 149 F.3d at 1375.

[55] 149 F.3d at 1373.

[56] 149 F.3d at 1375.

The Supreme Court announced that it would decline review of the Federal Circuit's *State Street Bank* decision on January 11, 1999.[57] Some observers believe that unless the Supreme Court develops an interest in patent eligibility issues in the future, a decision from the lower courts contrary to *State Street Bank* is unlikely.[58] As a result, the business methods exception to patentable subject matter is no longer extant. Subject to the other requirements of the patent laws, business methods may be the subject of patent protection within the United States.

Subsequent Judicial Developments

Judicial encounters with business method patents did not end in *State Street Bank*. Subsequent litigation has provided further details on the scope and enforceability of patents towards business methods. These developments have confirmed and to some degree extended the holding that methods of doing business constitute patentable subject matter.

AT&T v. Excel Communications

A second Federal Circuit decision, *AT&T Corp. v. Excel Communications Inc.*,[59] followed the reasoning of *State Street Bank* in upholding a patent claiming a data processing technique.[60] This litigation arose from AT&T's efforts to enforce U.S. Patent No. 5,333,184, which was directed towards the composition of billing records used in telephone networks.[61] The AT&T patent claimed a method for a telephone company to determine whether both the caller and the recipient of a long-distance telephone subscribed to the company's network. If so, the telephone company could provide a different billing treatment to such calls, most likely discounting the fee in order to encourage both individuals to subscribe to its services.

The invention relied upon the fact that when a customer makes a long-distance telephone call, the telephone network contemporaneously maintains billing records. These records include such information as the originating and terminating telephone numbers, as well as the length of the call. Also associated with the call is data indicating an individual's chosen "primary interexchange carrier," or PIC. A PIC is essentially the equivalent of a long-distance telephone service provider.

The claimed invention called for the addition of a discrete item of data, termed the "PIC indicator," to the billing record. The value of the PIC indicator was determined by analyzing the data identifying the primary interexchange carriers of the

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[57] 525 U.S. 1093 (1999) (denying petition for certiorari).

[58] See Stern, *supra* note 4.

[59] 172 F.3d 1352 (Fed. Cir.), *cert. denied*, 120 S.Ct. 368 (1999).

[60] *See* Cretsinger, Cathy E., "AT&T Corp. v. Excel Communications Corp.," *Berkeley Techology Law Journal* 15 (2000): 165.

[61] U.S. Patent No. 5,333,184 (July 26, 1994) ("Call message recording for telephone systems.").

originator and recipient of the long-distance call. If both customers have subscribed to the same phone company, the PIC indicator is set to a logical "one." Otherwise the PIC indicator remains at the value of "zero." The phone company may then readily apply its discounted rate to any call where the PIC indicator is set to one, without more extensive data processing at the time of billing.

In an opinion issued prior to the release of *State Street Bank*, the United States District Court for the District of Delaware held that the claimed invention was not patentable subject matter.[62] Judge Robinson described the patent as "claiming an invention whereby certain information that is already known within a telecommunications system (the PICs of the originating and terminating subscribers) is simply retrieved for an allegedly new use in billing."[63] With this sense of the claimed invention, the court held that "a change in the data's format should not serve to convert nonpatentable subject matter into patentable subject matter."[64]

Following an appeal, the Federal Circuit reversed. Writing for a three-judge panel, Judge Plager held that the patented invention "comfortably" fell within the scope of statutory subject matter.[65] Judge Plager followed the holding of *State Street Bank* in concluding that the test for patentable subject matter was whether an invention achieved a "useful, concrete, tangible result."[66] Because AT&T's claimed process produced "a number which had specific meaning," it could be employed in a discrete setting and was therefore patentable.[67]

In closing the *AT&T v. Excel* opinion, the Federal Circuit was quick to note that it had only addressed the subject of patent eligibility. According to Judge Plager,"the ultimate validity of these claims depends upon satisfying the other requirements for patentability . . . ."[68] These words proved prophetic. Upon the return of the litigation to the Delaware district court, Judge Robinson concluded that the invention claimed in the AT&T patent was already known within the public domain. More particularly, the court judged that the well-known MCI Friends & Family program either wholly anticipated or made obvious the patented invention.[69] As a result, the district court held that the AT&T patent was invalid under the legal requirements of novelty and nonobviousness.[70]

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[62] 1998 WL 175878 (D. Del. March 27, 1998).

[63] Ibid at *6.

[64] Ibid at *7.

[65] 172 F.3d at 1361.

[66] 172 F.3d at 1358.

[67] 172 F.3d at 1358.

[68] 172 F.3d at 1361.

[69] 52 U.S.P.Q.2d 1865 (D. Del. Oct 25, 1999).

[70] 52 U.S.P.Q.2d at 1879-84.

The *AT&T v. Excel* opinion suggests that the Federal Circuit will continue to follow its earlier decision in *State Street Bank.*[71] The nature of the invention in *AT&T v. Excel* also indicates that the Federal Circuit considers inventions in the fields of data processing and information transformation to comprise patentable subject matter. Finally, *AT&T v. Excel* reminds the reader that all patented inventions are subject to the full range of requirements under the Patent Act. Particularly noteworthy are the patentability standards of novelty and nonobviousness. Because an invention must be both new and beyond the ordinary skills of a artisan within that technical field, simply because an invention may comprise patentable subject matter does not necessarily mean that the invention may be the subject of a valid patent.[72]

Amazon.com v. BarnesandNoble.com

The federal district courts have also considered patents concerning methods of doing business. Perhaps the most well-known lawsuit to date is *Amazon.com, Inc. v. Barnesandnoble.com, Inc.*[73] Amazon.com obtained a patent on a method and system through which a consumer may complete a purchase order for an item through the Internet using only a single action, such as one click of a mouse button.[74] The patent was issued on September 28, 1999. On October 21, 1999, Amazon.com brought a patent infringement suit against a rival website, Barnesandnoble.com. On December 1, 1999, the District Court for the Western District of Washington enjoined Barnesandnoble.com from using its so-called "Express Lane" one-click ordering system on its website. The Court of Appeals for the Federal Circuit declined to intervene, resulting in the deletion of one-click ordering from the Barnesandnoble.com website on the eve of the holiday shopping season.[75] The Amazon.com litigation resulted in a considerable debate about the proprietry of patent rights on electronic commerce concepts.[76]

Other Internet-Based Patent Litigation

Other proprietors of electronic commerce patents have commenced enforcement efforts in the federal courts. For example, in October, 1999, Trilogy Software Inc. filed a patent infringement suit in the Austin, Texas, federal court against CarsDirect.com.[77] On October 20, 1998, Trilogy was issued U.S. Patent No. 5,825,651, entitled "Method and Apparatus for Maintaining and Configuring Systems." The patented invention allows Internet purchasers to construct a car online by selecting from various design and configuration options. According to

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[71] Thomas, *supra* note 25, at 1161 n.170.

[72] *See supra* notes 12-18 and accompanying text.

[73] 73 F. Supp.2d 1228 (W.D. Wash. 1999).

[74] U.S. Patent No. 5,960,411 (28 Sept. 1999) ("Method and system for placing a purchase order via a communications network").

[75] "BarnesandNoble.com Ordering System Is Enjoyed As Infringing Amazon.com Patent," *Bureau of National Affairs Patent, Trademark & Copyright Journal* 59 (10 Dec. 1999), 355.

[76] Muehlbauer, *supra* note 1.

[77] *Trilogy Software, Inc. v. CarsDirect.com*, No. 99CA-690JN (W.D. Texas).

Trilogy, the CarsDirect.com website, which works with auto dealers to fulfill customer orders for specifically configured automobiles, infringes its patented business method.

FantasySports.com filed another such lawsuit on December 28, 1999, asserting that Sportsline.com, Yahoo!, ESPN and Sandbox Entertainment infringed U.S. Patent No. 4,918,603.[78] FantasySport's complaint alleges that each of the accused web sites produces a fantasy football game that infringes upon the claimed method for playing fantasy football using a computer.[79]

A final example of electronic commerce patent litigation involves priceline.com's patent claiming an online reverse auction. In August 11, 1998, priceline.com obtained U.S. Patent No. 5,794,207 for its system of allowing consumers to name their own price for a variety of goods and services.[80] The priceline.com system assembles the consumer demand and presents it to sellers, which may fill as much of the demand as they wish at the specified prices. On October 13, 1999, priceline.com filed suit in U.S. District Court against Microsoft Corporation and its Expedia Inc. subsidiary, contending that Expedia.com's Hotel Price Matcher service infringes the reverse auction patent.[81]

Other commentators have collected more extensive compilations of business method patent enforcement litigation.[82] Along with PTO data, these studies suggest that innovative business methods are being patented at a growing rate. These studies also reveal that some proprietors of business method patents have not hesitated to enforce their patent rights through litigation.[83]

The First Inventor Defense Act of 1999

Legal developments with respect to business methods patents have not been limited to the courts. On November 19, 1999, Congress lent final approval to the American Inventors Protection Act of 1999, P.L. 106-113, as part of the Intellectual Property and Communications Omnibus Reform Act of 1999 (S. 1948), attached by

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[78] U.S. Patent No. 4,918,603 (17 Apr. 1990) ("Computerized statistical football game").

[79] "Fantasysports.com Files Patent Infringement Suit Against Four Leading Online Sports Sites," (28 Dec. 1999), available at http://www.fantasysports.com/lawsuit_pr.html.

[80] U.S. Patent No. 5,794,207 (11 Aug. 1998) ("Method and apparatus for a cryptographically assisted commercial network system designed to facilitate buyer-driven conditional purchase offers").

[81] "Priceline.com Sues Microsoft for Patent Infringement," (13 Oct. 1999), available at http://www.corporate-ir.net.

[82] See, e.g., Wilmer, Cutler & Pickering, "Spotlight on Business Process Patents," *Monday Business Briefing* (21 Mar. 2000).

[83] Zirin, James D., "So Sue Me," *Forbes* (22 May 2000), 44; Petty, W. Scott, "Internet Patent Lawsuits Multiply as E-Commerce Revenues Soar," *Intellectual Property Today* 7 (Feb. 2000), 46.

reference to the Consolidated Appropriations Act for Fiscal Year 2000. President Clinton signed this bill into law on November 29, 1999. Subtitle C of the American Inventors Protection Act, known as the First Inventor Defense Act of 1999, creates an infringement defense for an earlier inventor of a "method of doing or conducting business" that was later patented by another. The defendant must have reduced the infringing subject matter to practice at least one year before the effective filing date of the patent and made commercial use of that subject matter in the United States before the effective filing date.

The impetus for this provision lies in the rather complex relationship between the law of trade secrets and the patent system. Trade secrecy protects individuals from misappropriation of valuable information that is useful in commerce. One reason an inventor might maintain the invention as a trade secret rather than seek patent protection is that the subject matter of the invention may not be regarded as patentable. Such inventions as customer lists or data compilations have traditionally been regarded as amenable to trade secret protection but not to patenting.[84] Inventors might also maintain trade secret protection due to ignorance of the patent system or because they believe they can keep their invention as a secret longer than the period of exclusivity granted through the patent system.[85]

It is important to note from the outset that the patent system has not favored trade secret holders. Well-established patent law provides that an inventor who makes a secret, commercial use of an invention for more than one year prior to filing a patent application at the PTO forfeits his own right to a patent.[86] This policy is based principally upon the desire to maintain the integrity of the statutory proscribed patent term. The patent law grants patents a term of twenty years, commencing from the date a patent application is filed.[87] If the trade secret holder could make commercial use of an invention for many years before choosing to file a patent application, he could disrupt this regime by delaying the expiration date of his patent.

On the other hand, settled patent law principles established that prior secret uses would not defeat the patents of later inventors.[88] If an earlier inventor made secret commercial use of an invention, and another person independently invented the same technology later and obtained patent protection, then the trade secret holder could face liability for patent infringement. This policy was based upon the reasoning that once issued, published patent instruments fully inform the public about the invention, while trade secrets do not. As between a subsequent inventor who patented the invention, and thus had disclosed the invention to the public, and an earlier trade secret holder who had not, the law favored the patent holder.

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[84] Restatement of Unfair Competition § 39.

[85] Friedman, David D. "Some Economics of Trade Secret Law," 5 *Journal of Economic Perspectives* (1991), 61, 64.

[86] 35 U.S.C. § 102(b). *See Metallizing Engineering Co. v. Kenyon Bearing & Auto Parts*, 153 F.2d 516, *cert. denied*, 328 U.S. 840 (1946).

[87] 35 U.S.C. § 154.

[88] *W.L. Gore & Associates. v. Garlock, Inc.*, 721 F.2d 1540 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984).

The *State Street Bank* decision focused attention upon the relationship between patents and trade secrets. Inventors of methods of doing business traditionally relied upon trade secret protection because such inventions had long been regarded as unpatentable subject matter. As a result, inventors of innovative business methods obtained legal advice not to file applications at the PTO on their inventions. This advice was sound under the patent law as it then stood.

State Street Bank overturned the historical bar denying patents on methods of doing business. As a consequence, inventors in fields ranging from such sectors as finance, insurance and services have sought proprietary interests in their inventions through the patent system. The change in this background principle was perceived to have harmed individuals that invented business methods prior to the issuance of the *State Street Bank* opinion. Many of these inventors had maintained their innovative business methods as trade secrets for many years. As a result, they were unable belatedly to obtain patent protection on their business methods. As well, because trade secrets did not constitute prior art against the patent applications of others, a subsequent inventor would be able to obtain patent protection. Under these circumstances, a trade secret holder could find himself an adjudicated infringer of a patented business method that he actually invented first.[89]

The First Inventor Defense Act of 1999 reconciled these principles by providing an infringement defense for an earlier inventor of a method of doing business that was later patented by another. This infringement defense is subject to several qualifications. First, the defendant must have reduced the infringing subject matter to practice at least one year before the effective filing date of the application. Second, the defendant must have commercially used the infringing subject matter prior to the effective filing date of the patent. Finally, any reduction to practice or use must have been made in good faith, without derivation from the patentee or persons in privity with the patentee.

Although the First Inventor Defense Act addresses transition problems between the regimes of trade secrets and patents, it does not directly assess the propriety of patenting business methods in the first instance. It may be implied that the First Inventor Defense Act assumes an approving posture towards patented methods of doing business, however. As a result, subsequent courts would most likely consider Congress to have condoned business methods patents when considering them in the future.

The Debate Over Patenting Methods of Doing Business

There has been considerable debate over the desirability of extending the reach of the patent system to methods of doing business. Both proponents and detractors of business method patents have emerged. Before considering the views of various participants in the business method patent debate, it should be noted that most

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[89] Thomas, John R.. "The Post-Industrial Patent System," *Fordham Intellectual Property, Media & Entertainment Law Journal* 10 (1999), 32 n.156.

commentators consider this issue to be an important one.[90] In the patent law, few constraining doctrines allay the proprietary rights associated with granted patents.[91] The adjudicated infringer need not have derived the patented invention from the patentee, as liability rests solely upon a comparison of the text of the patent instrument with an accused infringement.[92] The patent law also lacks a robust experimental use exemption in the nature of copyright law's fair use privilege.[93] Although accused infringers theoretically may employ the defense of patent misuse, most commentators agree that the Federal Circuit has minimized the application of the patent misuse doctrine.[94] The decision to subject particular areas of endeavor to the patent system is therefore of particular importance. Once an invention has been patented, it is subject to a robust set of proprietary rights.

Perceived Benefits of Business Method Patents

Supporters of *State Street Bank* have urged that business methods are as subject to costly research and development efforts as the inventions traditionally amenable to patenting. For example, suppose a diversified enterprise spends considerable resources on research in traditional manufacturing processes, and spends the same amount on research on business methods. It may be questioned why the reward of exclusive patent rights is available in one field of costly research and not in another.[95]

Observers have also argued that future technological process will occur as much in activities as business methods and information processing as in traditional manufacturing techniques. This argument urges that the patent system should not be confined to technologies of the Industrial Revolution, but should embrace the inventions of the Information Age as well.[96] To do otherwise would be arbitrary and unfair, according to commentator Sari Gabay. As with other observers, Gabay

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[90] Thomas, *supra* note 25, at 1141.

[91] *See* 35 U.S.C. § 271(a) (1994) (the patentee has the exclusive right to make, use, sell, offer to sell, or import into the United States the patented invention).

[92] Adelman, *supra* note 18, at 860-61.

[93] *See* Rebecca S. Eisenberg, *Patents and the Progress of Science: Exclusive Rights and Experimental Use*, UNIVERSITY OF CHICAGO LAW REVIEW 56 (1989), 1017, 1023; Rebecca S. Eisenberg, *Proprietary Rights and the Norms of Science in Biotechnology Research*, YALE LAW JOURNAL 97 (1987), 177, 222.

[94] *See* Note, *Is the Patent Misuse Doctrine Obsolete?*, HARVARD LAW REVIEW 110 (1997), 1922; Mark A. Lemley, Comments, *The Economic Irrationality of the Patent Misuse Doctrine*, CALIFORNIA LAW REVIEW 78 (1990), 1599.

[95] *See* Melton, Michael E., "The Business of Business Method Patents," *Practising Law Institute Patents, Copyrights, Trademarks and Literary Property Course Handbook Series* 589 (Feb. 2000), 97 (cataloguing sorts of innovative business methods).

[96] *See* Richard Poynder, "Who Pays, Who Plays? Internet Patents Test The Limits of National Authority on The Web," 9 *Corporate Legal Times* no. 96 at 11, col. 1 (Nov. 1999).

contends that incentives to innovate are required in this arena as well as in fields traditionally considered amenable to patenting.[97]

Proponents of business method patenting have also argued that the U.S. patent system has granted and enforced these sorts of patents for some time. They point to such decisions as *Markman v. Westview Instruments*,[98] a well-known patent infringement case from the Supreme Court.[99] The Markman litigation involved a patent entitled "Inventory Control and Reporting System for Drycleaning Stores."[100] This patent allowed dry cleaning establishments to track the location of individual articles of clothing as they moved throughout the cleaning process. The Markman patent could easily be characterized as directed towards a method of doing of business, supporters say, yet the patentability of this system was never questioned by any court or commentator.

Commentators such as attorney Carl Oppendahl further note that such enterprises as Merrill Lynch and Citibank obtained numerous patents on financial service products long before the Federal Circuit issued *State Street Bank*. One of the Merrill Lynch patents, U.S. Patent No. 4,346,442., was involved in litigation before the District Court for the District of Delaware.[101] This patent, entitled "Securities Brokerage–Cash Management System," claimed a computerized method of managing certain financial services. In 1983, the Delaware federal district court expressly found that the asserted patent "claims statutory subject matter because the claims allegedly teach a method of operation on a computer to effectuate a business activity."[102] Attorney Walter Hanchuk therefore explains that *State Street Bank* merely confirmed and focused attention upon a trend that had occurred for many years.[103] As stated most succinctly by attorney Thomas S. Hahn, "There is no revolution here."[104]

Similarly, some patent law experts argue that no meaningful distinction separates a method of doing business as opposed to a method of doing some other activity. Patented inventions are generally put to commercial uses by business enterprises. According to some commentators, whether an observer chooses to view

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[97] Gabay, Sari, "The Patentability of Electronic Commerce Business Systems in the Aftermath of *State Street Bank & Trust Co. v. Signature Financial Group, Inc.*," Journal of Law and Policy 8 (1999), 179, 226.

[98] 116 S.Ct. 1384 (1996).

[99] Thomas, *supra* note 25, at 1161 n.171.

[100] U.S. Patent No. Re. 33,054.

[101] *Paine, Webber, Jackson & Curtis, Inc. v. Merrill, Lynch, Pierce, Fenner & Smith, Inc.*, 564 F. Supp. 1358 (D. Del. 1983).

[102] Ibid at 1369.

[103] Hanchuk, Walter, "Assessing the Real Impact of *State Street*," *New York Law Journal* 223 (24 April 2000), 7.

[104] Hahn, Thomas S., "Much Ado About Method Patents," *The San Francisco Recorder*, January 1999, Intellectual Property Supplement, S21.

an invention as a "business method" or something else is a matter of characterization rather than a meaningful substantive difference.[105]

Commentators have also lauded the *State Street Bank* decision as simplifying the law concerning the patentability of computer software.[106] In recent years, the rules determining whether software could be patented or not could be characterized as complex. Whether a particular software program could be patented or not was often determined not by the substance of the invention, but by the form in which the patent application was drafted. More specifically, skillful patent drafters would often claim software-related inventions as a hard-wired computer, so that the invention looked less like a mathematical algorithm and more like a machine. This trend tended to place a premium on artful claims drafting and made patents more difficult to read.[107] Following *State Street Bank*, proponents contend that less need should arise for elaborate claims drafting exercises in the area of software inventions. Any software is patent eligible if it achieves a useful, concrete and tangible result.

Finally, attorneys Michael T. Platt, Francis X. Gindhart, and Laurence E. Stein observe that in order to obtain patent protection, inventors must fully disclose their inventions such that a skilled artisan could practice the invention without undue experimentation.[108] Platt, Gindhart and Stein believe that information available in published patent applications serves as a rich library of prior knowledge that serves as a starting point for subsequent inventors. A patent system that denied protection to business methods would cause business method innovators to conceal their inventions as trade secrets. Other valuable business methods might simply go unknown for want of publicity. According to Platt, Gindhart and Stein, now that the patentability of business methods has been confirmed, the commercial community should benefit from the public disclosure that accompanies patent issuance.[109]

Perceived Negative Consequences of Business Method Patents

Detractors of the *State Street Bank* opinion have attempted to counter the argument of proponents of business method patents. Some of these detractors have expressed concerns about the lack of empirical evidence supporting the extension of the patent system towards business methods.[110] The Federal Circuit decided *State Street Bank* based upon its interpretation of terms that have appeared for over two centuries in our patent statute, rather than strong evidence that economic gains would result from business method patenting. These commentators believe that historical

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[105] Del Gallo III, *supra* note 42, at 434-47.

[106] Cantzler, Christopher S., "State Street: Leading the Way to Consistency for Patentability of Computer Software," *University of Colorado Law Review* 71 (Spring 2000), 423.

[107] Thomas, John R., "Of Text, Technique and the Tangible: Drafting Patent Claims Around Patent Rules," 17 *John Marshall Journal of Computer and Information Law* (1998), 219, 222.

[108] 35 U.S.C. § 112 ¶ 1.

[109] Platt, Michael T., et al., "Patenting Business Genius," *Metropolitan Corporate Counsel* 7 (Feb. 1999), 19.

[110] Thomas, *supra* note 25, at 1165-66.

experience teaches that the patent system is susceptible to abuse by the monopolist and speculator. Absent compelling evidence for market interference in business method innovation, Professor Lawrence Lessig and other commentators contend that the stewards of the patent system should proceed with moderation when assessing the scope of patentable subject matter.[111]

In his book, OWNING THE FUTURE, Seth Shulman also suggests that a broad sense of patentable subject matter may harm rather than foster economic progress.[112] According to Shulman, the existence of numerous proprietary interests in particular market segments may create barriers to entry that stifle competition.[113] Attorney Jeffrey A. Berkowitz notes the particular concern that the expansive and innovative Internet of the late 1990's may instead be constrained by owners of patents claiming electronic commerce business concepts.[114] A New York Times Magazine article was to similar effect, deeming *State Street Bank* and its progeny a "ridiculous phenomenon [that] could kill e-commerce."[115]

Detractors also argue that effort alone is insufficient to justify the reward of patent protection for an innovative business methods. They point to the Supreme Court's opinion in *Feist Publications, Inc. v. Rural Telephone Service Co.*,[116] which adopted this position with respect to the copyright laws. There, the Court rejected "sweat of the brow" as a basis for copyright protection by reasoning that effort alone was not enough to make particular subject matter copyrightable. The *Feist* Court concluded that an ordinary "white pages" telephone directory was not subject to the copyright laws because it lacked even a minimal degree of creative expression. Because a telephone directory is not a work of authorship within the meaning of the copyright laws, it was not the kind of work the copyright laws were designed to protect.[117] Applied to the patenting of business methods, the *Feist* opinion may suggest that the mere expenditure of resources should not by itself result in an award of intellectual property rights.

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[111] Lessig, Lawrence, The Problem with Patents, *The Industry Standard* ("Rather than unbounded protection, our tradition teaches balance and the dangers inherent in overly strong intellectual- property regimes.") (April 23, 1999) (available at http://www.thestandard.com/article/display/0,1151,4296,00.html).

[112] Shulman, Seth, *Owning the Future* (Boston: Houghton Mifflin, 1999), 3-6.

[113] *See also* Maeir, Gregory J., et al., "Patent Protection Provides Long-term Net Strategy," *National Law Journal* 22 (18 Oct. 1999), B11; Raskind, Leo J., "The *State Street Bank* Decision: The Bad Business of Unlimited Patent Protection for Methods of Doing Business," *Fordham Intellectual Property, Media and Entertainment Law Journal* 10 (1999), 61.

[114] Berkowitz, Jeffrey A., "Patenting the Com in '.Com,'" *Practicing Law Institute/Patent* 588 (Jan. 2000), 331, 334.

[115] Gleick, James, "Patently Absurd," *The New York Times Magazine* (12 March 2000), 47.

[116] 499 U.S. 340 (1991).

[117] *See* Ginsburg, Jane C., "No Sweat?' Copyright and Other Protection of Works of Information After Feist v. Rural Telephone," *Columbia Law Review* 92 (1992), 338.

Some patent law experts believe that business method patents may be successfully distinguished from other types of patents. They point to the First Inventor Protection Act of 1999, which creates an infringement defense only for practitioners of "methods of doing or conducting business."[118] They also note that Article 52 of the European Patent Convention has for many years expressly disallowed patents on "schemes, rules and methods for performing mental acts, playing games or doing business."[119] Each of these measures necessarily requires courts to distinguish between business methods and other sorts of inventions, suggesting that a plausible distinction can be drawn.

Professor Robert A. Kreiss and other commentators have argued that business methods do not fall within the "useful Arts," the Constitutional expression of the subject matter appropriate for patenting.[120] These detractors have urged that the sparse materials available regarding the term "useful Arts" suggest that the Framers of the Constitution were unlikely to view every created thing as patentable.[121] The Framers undoubtedly contemplated the industrial, mechanical and manual arts of the late eighteenth century, in contrast to the seven "liberal arts" and the four "fine arts" of classical learning.[122]

Patent law experts have also suggested that the Framers were undoubtedly aware of the English experience leading to the Statute of Monopolies. Parliament enacted the Statute of Monopolies in 1624 in order to curb the grant of abusive monopolies by the Crown. In order to generate income, the Crown had awarded exclusive rights to private parties for such activities as manufacturing playing cards and importing salt. These monopolies resulted in higher consumer prices and were subject to considerable public disapproval. Parliament reacted by enacting the Statute of Monopolies, which proscribed the grant of monopolies except in one area:

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[118] *See supra* notes 85-89 and accompanying text.

[119] Thomas, *supra* note 25, at 1179. *See* Convention on the Grant of European Patents, 13 International Legal Materials 268 (1974) (amended by Decision of the Administrative Council of the European Patent Organization of 21 Dec. 1978).

[120] Kreiss, Robert A., "Patent Protection for Computer Programs and Mathematical Algorithms: The Constitutional Limitations on Patentable Subject Matter," *New Mexico Law Review* 29 (1999), 31. *See also* Durham, Alan L., "'Useful Arts' in the Information Age," *Brigham Young University Law Review* 1999 (1999), 1419; Thomas, *supra* note 25, at 1164.

[121] *See The Federalist* No. 43, at 271-72 (James Madison) (Clinton Rossiter ed. 1961) ("The copyright of authors has been solemnly judged in Great Britain to be a right of common law. The right to useful inventions seems with equal reason to belong to the inventors. The public good fully coincides in both cases with the claims of individuals.").

[122] *See* Coulter, Robert I., "The Field of the Statutory Useful Arts, Part II," *Journal of the Patent Office Society* 34 (1952), 487, 494 ("The seven historic 'liberal arts' were: grammar, logic (dialectics), rhetoric, arithmetic, geometry, music and astronomy[.] The four 'fine arts' were: painting, drawing, architecture and sculpture; to which were often added: poetry, music, dancing and drama.").

"the sole working or makinge of any manner of New Manufactures with this Realme, to the first and true Inventor."[123]

The Court of Customs and Patent Appeals, a predecessor of the Federal Circuit, commented on the Statute of Monopolies in 1951. The court explained that the Constitution authorized Congress to enact a patent law because "those who formulated the Constitution were familiar with the long struggle over monopolies so prominent in English history, where exclusive rights to engage even in ordinary business activities were granted so frequently by the Crown . . . ." Professor Robert P. Merges and other commentators have suggested that the *State Street Bank* court did not sufficiently respect the policy concerns animating the Statute of Monopolies.[124] Citing more familiar historical events such as the Boston Tea Party, attorney Richard H. Stern has also noted an American antipathy to exclusive rights in business methods.[125]

Appraisals of the *State Street Bank* decision have also questioned the Federal Circuit's adoption of what appears to be a very lenient standard of patentable subject matter.[126] According to *State Street Bank*, whether a particular invention is eligible for patenting depends upon "the essential characteristics of the subject matter, in particular, its practical utility."[127] This holding appears to collapse the patentable subject matter into another patentability requirement known as utility.[128] A perceived difficulty with this approach is that, since the early nineteenth century, the utility standard has been understood to present a distinct, additional hurdle to patentability.[129] One commentator concludes that *State Street Bank* "reduces the statutory categories of patentable subject matter [process, machine, machine and composition of matter] into claim-formatting protocols. . . . After *State Street*, it is hardly an exaggeration to say that if you can name, you can claim it."[130]

The Perceived Patent Quality Problem

Although observers differ in their support or opposition of patents on business methods, many have stated their view that the quality of issued business method patents is poor. In particular, numerous commentators believe that the PTO should have rejected many business method patent applications rather than have allowed

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[123] 21 Jam. I, ch.3, § 6. *See generally* Kyle, Chris, "But a New Button to an Old Coat: The Enactment of the Statute of Monopolies," *Journal of Legal History* 19 (1998), 203.

[124] Merges, Robert P., "As Many As Six Impossible Patents Before Breakfast: Property Rights for Business Concepts and Patent System Reform," *Berkeley Technology Law Journal* 14 (1999), 577.

[125] Stern, *supra* note 4, at 106.

[126] Thomas, *supra* note 25, at 1160.

[127] *State Street Bank*, 149 F.3d at 1375.

[128] *See supra* note 14 and accompanying text.

[129] *See Bedford v. Hunt*, 3 F. Cas. 37, 37 (C.C.D. Mass. 1817) (No. 1,217); *Lowell v. Lewis*, 15 F. Cas. 1018, 1019 (C.C.D. Mass. 1817 (No. 8,568).

[130] Thomas, *supra* note 25, at 1160.

them to issue as granted patents. A complaint that is frequently made is that many business method patents merely appropriate well-known business activities that have been adopted to the Internet in a straightforward fashion.[131] As stated by attorney Robert Gorman, "There are going to be a lot of patents that issue that shouldn't be, and it will cause a lot of problems. Companies are trying to patent inventions as old as the wheel. They're just doing it with the Internet."[132]

Attorney John Altmiller has offered an explanation for this perception of poor patent quality. Because the patentability of business methods was unclear prior to the Federal Circuit's *State Street Bank* decision, the PTO has not developed a library of prior art materials that examiners may consult when considering whether to grant or deny a business method patent application.[133] Even if a prior art library were available, Professor Rochelle Dreyfuss has also observed that many business methods are not routinely memorialized in written form. They instead are maintained in the heads and practices of business persons.[134] While such practices should ordinarily be considered prior art under U.S. law,[135] they are not readily located by PTO examiners.

Of course, the PTO has issued many patents that were later invalidated during litigation. In part this possibility occurs because U.S. patent law features a very encompassing definition of the prior art that bears upon each patent or patent application. For example, a publication in an obscure foreign language may render a U.S. patent invalid, even if the knowledge within that publication was never held within the United States.[136] Knowledge publicly available within the United States may also have patent-defeating effect, even if it has never been memorialized in written form.[137] The PTO simply lacks the resources to perform an exhaustive search of such references. Further, because most patented inventions are probably never commercialized,[138] an exhaustive search in connection with every patent application may present needless costs. When the patent holder later attempts to enforce the issued patent in court, an accused infringer often has significant incentives to locate such patent-defeating prior art.

The stakes may be higher for business method patents, however. Professor Dreyfuss has observed business method and data transformation patents concern

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[131] See Mullaney, Timothy J., "These Web Patents Aren't Advancing the Ball," *Business Week* (17 April 2000), 62; Scott Thurm, "The Ultimate Weapon: It's the patent," *The Wall Street Journal* (17 April 2000), R18.

[132] Greene, *supra* note 3, at 16.

[133] Ibid.

[134] Dreyfuss, Rochelle Cooper, "Testimony Before the House Judiciary Committee, Subcommittee on Courts and Intellectual Property," (9 March 2000) (available on Westlaw at 2000 WL 11069340).

[135] 35 U.S.C. § 102.

[136] 35 U.S.C. § 102(b).

[137] 35 U.S.C. § 102(a).

[138] Dreyfuss, *supra* note 134.

information rather than industrial products. As noted by economists Carl Shapiro and Hal Varian, information products tend to exhibit lock-in and network externalities.[139] Lock-in occurs when consumers face high costs in switching from one brand of technology to another.[140] Network externalities result from a situation of positive feedback, where the value of connecting to a network depends upon the number of other people connected to it. Applied to economic competition, the typical result of network effects is a monopolistic, winner-take-all market. Telephony and computer operating systems present examples of markets with network externalities.[141]

Professor Dreyfuss explains that business method patents need not be considered valid for very long in order to have substantial market impact due to lock-in and network externalities.[142] Suppose, for example, that an Internet-based electronic retailer obtains a patent on a method of ordering merchandise, conducting an auction or enlisting associated retailers. Such patents may be invalid because they merely claim obvious electronic variants of well-known commercial activities. Competitors of the patentee may face delays of several years as they seek to strike down such patents, however.[143] Indeed, the high costs of patent litigation may discourage other retailers from challenging a patent at all.[144] As a result, competitors of the patentee may be discouraged from engaging in the patented method. Consumers who wish to take advantage of the patented business features must transact with the patentee.

According to Professor Dreyfuss, the market distortions caused by the issuance of an invalid business method patent may be significant. Once a consumer has entered his name, address and billing information into one company's site, he may be reluctant to engage in the same tedious task with another Internet retailer. As a result, the consumer is locked into that retailer, even if the patent is later invalidated.[145]

Network effects may also play a role here. Internet retailers often analyze the information they receive from consumers in order to predict what other products individual consumers might enjoy. The accuracy of these predictions depends in part upon the number of consumers. Thus, the larger the network of consumers who patronize a particular web site, the more valuable it is to patronize that web site. Internet auction houses also appear to operate more effectively with more propsective sellers and bidders available. In sum, the issuance of invalid business method patents may produce significant market distortions.[146]

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[139] Shapiro, Carl, & Varian, Hal, *Information Rules: A Strategic Guide to the Network Economy* (Boston: Harvard Business School Press, 1999).

[140] Ibid at 104.

[141] Ibid at 173-79.

[142] Dreyfuss, *supra* note 134.

[143] Ibid.

[144] Ibid.

[145] Ibid.

[146] Ibid.

PTO management has noted these concerns and attempted to respond. On March 29, 2000, PTO Director Q. Todd Dickinson announced that the PTO had established a "Business Methods Patent Initiative" in order to improve patent quality.[147] The Initiative consists of two principal components. The first component consists of an "industry outreach" towards representatives of the software, Internet and electronic commerce communities. The second component is directed towards patent quality. The Initiative calls for the enhanced technical training of examiners, with particular emphasis upon practices in banking, finance, electronic commerce, insurance and Internet infrastructure. Perhaps most significantly, the PTO has also pledged to expand its search activities as follows:

> **Mandatory Search**: A mandatory search for all applications in Class 705[148] to include a classified U.S. patent document search, and a text search of U.S. patent documents, foreign patent documents, and non-patent literature (NPL), with NPL searches to include required search areas mapped/correlated to U.S. classification system for Class 705, which will provide a more fully developed prior art record;
>
> **Second Review**: A new second-level review of all allowed applications in Class 705 will be required, with an eye toward ensuring compliance with search requirements, reasons for allowance, and a determination whether the scope of the claims should be reconsidered; and
>
> **Expand Sampling Size**: The sampling size for quality review by the Office of Patent Quality Review will be substantially expanded, and a new in-process review of Office actions will be introduced with an emphasis on the field of search of prior art and patentability determinations under 102/103.[149]

Response to the Business Method Patents Initiative has been mixed. Lawyer Harold C. Wegner called the Initiative "nothing more than a rehash of stale proposals from a decade ago."[150] Commentator Gregory Aharonian also dismissed the new

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[147] See Sapp, Geneva, "Net patents process receives an overhaul", *InfoWorld* 22 (3 April 2000).

[148] Class 705 is entitled "Data Processing: Financial, Business Practice, Management, or Cost/Price Determination." *See* United States Patent & Trademark Office, *Manual of U.S. Patent Classification* (1999). According to the PTO, "This is the generic class for apparatus and corresponding methods for performing data processing operations, in which there is a significant change in the data or for performing calculation operations wherein the apparatus or method is uniquely designed for or utilized in the practice, administration, or management of an enterprise, or in the processing of financial data. This class also provides for apparatus and corresponding methods for performing data processing or calculating operations in which a charge for goods or services is determined."

[149] 35 U.S.C. § 102 is that portion of the patent statute that addresses the patentability requirement of novelty. 35 U.S.C. § 103 concerns the nonobviousness requirement. *See supra* notes 15-16 and accompanying text.

[150] Slind-Flor, Victoria, "Business Patents Get 2d Look: But Critics Assert that PTO's New (continued...)

procedures as little more than public relations. He contends that the expanded PTO review of one class of inventions will come at the expense of other patent applications.[151] However, observers such as attorney Henry Petri believe the Initiative is a step in the right direction that should "improve the quality" of business method patents.[152]

Effect of Business Method Patents Upon Entrepreneurs and Small, Entrepreneurial Firms

Commentators have differed in their views on whether the *State Street Bank* decision will help or hinder entrepreneurs and small, entrepreneurial firms. Much of this discussion has focused on start-up companies planning to do business on the Internet.

Some observers believe the availability of patent protection will enhance the ability of start-up companies to obtain venture capital and to prevent others from free riding off their innovative business concepts. The Internet has been lauded as a market with few barriers to entry,[153] both for legitimate competitors and for pirates. Given that most Internet innovations are available in a readily copied digital format, patent rights may stand as one of the more enduring assets a start-up firm possesses. As explained in the ECONOMIST magazine, "Internet entrepreneurs have realized that one of the few things to stand between them and death by copying is a patent."[154]

Although business method patents may benefit entrepreneurs and small firms, attorney Michael E. Melton notes that the availability of patent protection can act as a "double-edged sword."[155] Many patentees may also infringe business method patents held by competitors. According to Melton, such a patentee "could force a company to pay a royalty for practicing a business method the company considered proprietary."[156]

Attorney Andrew B. Katz is representative of observers who are more pessimistic about the impact of *State Street Bank* on smaller firms.[157] Katz observes that patents come into existence only after a costly and time-consuming examination procedure at the PTO. Citing figures from the American Bar Association, Katz

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[150] (...continued)
Policies Won't Solve Problems," *National Law Journal* 22 (17 April 2000), B6.

[151] Ibid.

[152] Sapp, *supra* note 147.

[153] *See generally* Levine, Rick et al., *The Cluetrain Manifesto* (Cambridge, Massachusetts: Perseus Publishing, 2000.

[154] "Patent wars: The Knowledge Monopolies," *The Economist* (8 April 2000).

[155] Melton, *supra* note 95.

[156] Ibid at 102.

[157] Katz, Andrew B., "'State Street' May Place Start-Ups in Peril," *New York Law Journal* 221 (19 Jan. 1999), C2.

estimates the average fee for merely filing a patent application for computer software or hardware is $7,500. Continued prosecution of that application at the PTO may result in the doubling of this figure. Katz further notes that patent litigation is notoriously expensive. He observes that the cost of trying and appealing a patent infringement case may run well over one million dollars. Katz concludes that commercial entities require a level of financial and legal wherewithal in order to pursue patent protection, enforce their patents and defend themselves from charges of patent infringement.

Katz believes that this situation will deleteriously impact smaller enterprises.[158] Predicting that "big businesses will not sit idly up and watch their market share become vulnerable to start-ups," Katz concludes:

> Most small businesses will find themselves at the mercy of large companies with software patents. Raising the defenses of invalidity and non-infringement are not options, as proof of these "theories" lies beyond the means of a company whose entire business is funded by five million dollars of venture capital. A sole proprietor has no chance.[159]

While considering Katz's contentions, it should be noted that the Patent Act does allow inventors to file a so-called "statutory invention registration" with the PTO. [160] Although a statutory invention registration does not lead to an issued patent, it is inexpensive and readily allows PTO examiners to employ the registration against subsequent patent applicants. A statutory invention registration may reduce the need for so-called "defensive patenting."[161] As well, a proceeding known as reexamination does provide a mechanism to challenge issued patents that is less expensive than litigation.[162] Neither the statutory invention registration and reexamination proceedings can be considered full substitutes for patent acquisition and litigation, however, and it should be noted that both proceedings have their critics.[163]

Stepping beyond electronic commerce patents, *State Street Bank* appears to provide many other sorts of industry actors with the opportunity to appropriate business and other techniques through the patent system. Prior to *State Street Bank*, legal, financial, insurance and service industries were generally faced with two options: either protect an innovation as a trade secret or allow the innovation to enter the public domain. The sudden injection of the patent system into existing markets

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[158] *See also* Leibowitz, Wendy R., "Patents and E-Business," *National Law Journal* 22 (14 June 1999), A19.

[159] Katz, *supra* note 157.

[160] 35 U.S.C. § 157.

[161] Guffey, Wendell Ray, "Statutory Invention Registration: Defensive Patentability," *Golden Gate University Law Review* 16 (1986), 291.

[162] 35 U.S.C. § 302.

[163] Guffey, *supra* note 161; Janis,, Mark D., "Rethinking Reexamination: Toward A Viable Administrative Revocation System for U.S. Patent Law," *Harvard Journal of Law and Technology* 11 (1997), 1.

provides market entrants with a third option, in effect subjecting them to a private regulatory environment. Private parties are now able to limit the conduct of their competitors through proprietary patent interests.[164]

One apparent difficulty for small businesses is that the PTO issues new patents each week.[165] Often no prior notice accompanies the issuance of a patent.[166] As a result, many patent instruments are only available for public inspection after they have been granted legal effect. In our fast-moving contemporary economy, business method patents can issue long after many electronic merchants have adopted that commercial strategy on their web sites. As a result, almost any business method patent has the potential to be a so-called "submarine patent," rising unexpectedly from the PTO and poised to torpedo established electronic industries. Submarine patents remain a particular concern of the National Commission on Entrepreneurship, which believes that "some current intellectual property and patent procedures and regulations impede entrepreneurs seeking to create and commercialize new technologies."[167]

Although no firm conclusion about the impact of business method patents upon small business is possible at this time, most commentators agree that businesses of all sizes should be more attentive to the patent system. Attorney Mark Plotkin advises commercial enterprises to employ due diligence when embarking upon new ventures. Not only should the patentability of the enterprise's own business methods be assessed, enterprises should consider whether any proposed activities would infringe the patents of others.[168] Other observers have encouraged small businesses to perform an intellectual property audit. Such an audit allows businesses to identify intangible intellectual assets, confirm their ownership and assess their value.[169] Of course, tracking the patent portfolios of competitors may prove to be a task that

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[164] Thomas, *supra* note 25, at 1141.

[165] *See* Stross, Randall E., "Patently absurd claims," *U.S. News & World Report* (20 March 2000), 56.

[166] Traditionally, the PTO did not published pending applications. Under U.S. law, patents were traditionally published only at the time they were formally granted. The American Inventors Protection Act of 1999 altered this principle, calling for the publication of some pending patent applications eighteen months after they have been filed. However, if the patent applicant certifies that it will not seek corresponding patent rights abroad, then the PTO will not publish the application. These changes do not guarantee that industry participants will be provided with notice of the patent rights of others prior to that patent's issuance. U.S. Library of Congress, Congressional Research Service. *Patent Law Reform: An Analysis of the American Inventors Protection Act of 1999 and Its Effect on Small, Entrepreneurial Firms*, by John R. Thomas, Report RL30451,29 February 2000, 8-10.

[167] Pages, Erik R., "Priorities for Federal Innovation Reform," National Commission on Entrepreneurship, available at http://www.ncoe.org//policy/ostp.html.

[168] Plotkin, Mark, "Mind Your Own Business Method: Innovators Must Help Themselves as PTO Issues Out Dot-Com Patents," *Legal Times* 23 (14 Feb. 2000), 31.

[169] Buff, Ernest D.& Restaino, Leslie Gladstone, "Using Intellectual Property Audits in Acquiring and Exploiting Technology," *New Jersey Law Journal* 155 (29 March 1999) 1361

involves considerable resources and legal wherewithal, assets that small companies may not possess in abundance.

Legislative Options

The possibility of a legislative response to *State Street Bank* has gained considerable currency in the popular press. Professor Lawrence Lessig considers the advent of business method patents to be such a significant development that he has unequivocally stated: "There is no more important issue about cyberspace for Congress to address than this, and now rather than later. It is the Issue of the Year for 2000."[170]

Other observers suggest that no legislative response is necessary. According to attorney Jonathon Band, the patent system has a capacity for self-correction. Band believes that PTO examiners will climb the learning curve of business methods patents over time, just as they have with new technologies in the past.[171] This view suggests that business method patenting brings no fundamental changes to U.S. law, but merely presents problems that are transitional in character.

If Congress elects to address this issue, a number of legislative options are available. One possibility is modification of the First Inventor Defense Act of 1999. Further legislative activity might introduce substantive changes in the law of patent eligibility *per se*, or instead create procedural reforms to create administrative mechanisms for dealing with the perceived difficulties surrounding business method patents. A brief review of some of these options follows.

The First Inventor Defense Act

The First Inventor Defense Act of 1999, Title C of P.L. 106-113, presents several opportunities for further clarification. First, the Act provides only a brief explanation of the patented subject matter to which it applies. In contrast to its fulsome definition of "commercially used," the statute provides only that "the term 'method' means a method of doing or conducting business." This succinct delineation may contain some ambiguity. As an example, consider an accused infringer whose sole commercial practice is the manufacturing of a particular chemical compound. Methods of manufacturing have traditionally been among the subject matter of the patent system. Yet, should another patent that method, the accused infringer may well argue that a chemical manufacturing technique is also a method of doing business.

Given that the statute's legislative history makes clear that the First Inventor Defense Act of 1999 was inspired by the Federal Circuit opinion in *State Street Bank*, this argument may at first appear untenable. The House Report to accompany H.R. 1907 expressly states, however, that this legislation is "not confined to the financial

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[170] Lessig, Lawrence, "Patent Problems," *The Standard*, available at http://www.thestandard.com/article/display/0,1151,8999,00.html (21 Jan. 2000).

[171] *See* Schwartz, John, "Online Patents to Face Tighter Review," *Washington Post*, 30 March 2000, sec. E, 1.

services industry."[172] Further, while the *State Street Bank* opinion undoubtedly triggered a boom in filing patents on such inventions in such industries as finance and insurance, a review of patents issued prior to that opinion suggests that numerous previous patents had issued that could arguably be described as business methods.[173] Two such issued patents, one relating to managing a dry cleaning establishment and the other relating to a plan for saving for college tuition expenses, were the subject of recent opinions from the United States Supreme Court.[174] With no articulated definition of the term "method of doing or conducting business" in the statute, no clear record of congressional intent, and no shared meaning of this term prevalent within the patent community, judicial interpretation of this term will be crucial.[175]

The First Inventor Defense Act also calls for consideration of the manner in which the patent claim is drafted. The statute provides that "[a] person may not assert the defense under this section unless the invention for which the defense is asserted is for a method." However, the House Report to accompany H.R. 1907 provides:

> An invention is considered to be a process or method if it is used in connection with the production of a useful end-product or -service and is or could have been claimed in the form of a business process or method in a patent. A software-related invention, for example, that was claimed by the patent draftsman as a programmed machine when the same invention could have been protected with process or method patent claims is a process or method for purposes of § 273.[176]

Some observers contend that virtually any invention can be drafted in either product and method format.[177] The choice of one format or the other is most typically a matter of drafting style. That the first inventor defense is supposedly limited to methods appears to have almost no substantive legal effect whatsoever.

Looking forward, Congress may wish to explore an expansion of the First Inventor Defense Act of 1999. This statute could be amended to embrace a more expansive group of patentable subject matter.[178] In this regard the first inventor

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[172] House Committee on the Judiciary, *American Inventors Protection Act of 1999*, 106th Cong., 1st sess., 1999, H.Rept. 106-287, 46.

[173] *See supra* notes 98-104 and accompanying text.

[174] *Florida Prepaid Postsecondary Education Expense Board v. College Savings Bank*, 527 U.S. 627 (1999); *Markman v. Westview Instruments Inc.*, 517 U.S. 370 (1996).

[175] "Signing of IP Reforms Amends Work-for-Hire, Leaves 'First Inventor Defense' Unclear," 59 *Patent, Trademark & Copyright Journal* (2 Dec. 1999), 330, 331-32.

[176] House Committee on the Judiciary, *American Inventors Protection Act of 1999*, 106th Cong., 1st sess., 1999, H.Rept. 106-287, 46.

[177] Thomas, John R., "Of Text, Technique and the Tangible: Drafting Patent Claims Around Patent Rules," 17 *John Marshall Journal of Computer and Information Law* (1998), 219, 222.

[178] Jean Hubert, Pierre. "The Prior User Right of H.R. 400: A Careful Balancing of Competing Interests," 14 *Santa Clara Computer & High Technology Law Journal* (1998), 189.

defense could prove quite similar to those prevailing in other countries.[179] These statutes are commonly referred to as creating "prior user rights." Unlike the more limited regime created by the First Inventor Defense Act of 1999, prior user rights abroad are not limited to methods of doing or conducting business. They instead apply to any sort of invention. Experience with the First Inventor Defense Act of 1999 might suggest whether the United States should consider a more full-fledged prior user rights regime, or be maintained as a limited cure of a specific problem.

Finally, to whatever range of inventions it applies, a first inventor defense appears to augment the value of trade secrets at the expense of the patent regime. In a system where trade secret holders may face liability for patent infringement in the future, inventors face significant incentives to file applications at the PTO. Even if inventors never plan to enforce their patents against competitors, the patents nonetheless possess defensive value should others come to the same invention later. But where trade secret holders may employ a first inventor defense, the incentive to obtain patent protection is diminished. A prior trade secret status will block liability for patent infringement. This system may reduce the number of filed patents, and as a consequence diminish the public trove of knowledge that appears only in issued patent instruments.[180] Observers may wish to devote some attention to the impact of the First Inventor Defense Act upon the willingness of inventors to seek patent protection.

Possibilities for Further Legislative Activity

A number of additional legislative possibilities suggest themselves for responding to business method patents. Some opponents of business method patents have called for a ban on their issuance.[181] This change would likely require modifications to § 101 of the Patent Act. Such a ban could employ the same wording as Article 52 of the European Patent Convention, which denies patents on methods of doing business.[182]

To similar effect is a proposal that an "Industrial Application" standard of patentability be introduced into the U.S. patent law.[183] This standard presently stands within the European Patent Convention and Japanese patent statute.[184] This standard

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[179] The Advisory Commission on Patent Law Reform, *A Report to the Secretary of Commerce* (1992), 48.

[180] Rohrback, Robert L. "Prior User Rights: Roses or Thorns?," 2 *University of Baltimore Intellectual Property Journal* (1993), 1.

[181] *See* Thomas, *supra* note 25, at 1181.

[182] *See* Convention on the Grant of European Patents, 13 International Legal Materials 268 (1974) (amended by Decision of the Administrative Council of the European Patent Organization of 21 Dec. 1978).

[183] Thomas, *supra* note 25, at 1178-85.

[184] Ibid.

would require a "technical rule for the control of natural forces,"[185] or "a teaching for systematic activity using controllable natural forces for the attainment of a causally predictable result"[186] for an invention to be patentable. It would eliminate matters of business practice, social observation and personal skill from the patent system.

Less extreme proposals include the suggestion of economist Joseph Farrell that Congress should declare a moratorium on the offensive use of software and business method patents.[187] Inventors would be allowed to apply for software and business method patents but, at least initially, would not be permitted to enforce them against infringers. Such a grace period might allow the PTO to augment its examination staff and improve its collection of prior art, better enabling an assessment of the patentability of individual applications.

Another possibility is the creation of a specialized, *sui generis* protection regime that is specially crafted for business methods. Boat hulls[188] and semiconductor masks[189] are among the categories of inventions for which particularized schemes of intellectual property rights are now available under federal law. Professor Pamela Samuelson and other commentators have elaborated upon a proposed registration system for computer software that might be applied to computer-based business methods as well.[190]

The President of Amazon.com, Jeff Bezos, has also proposed legal reforms with respect to business method patents. In an open letter issued, on March 9, 2000, Bezos urged that "the patent laws should recognize that business method and software patents are fundamentally different than other kinds of patents." Bezos suggested that business method patents have a reduced duration of three to five years. He also proposed that business method and software patents be subjected to a public comment period prior to grant, purportedly allowing "the Internet community the opportunity to provide prior art references to the patent examiners at a time when it could really help."[191]

Although a thorough review of the legal ramifications of these proposals exceeds the scope of this report, it should be noted that the United States has

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[185] *A.E.K. v. Federal Patent Office*, International Review of Industrial Property and Copyright Law 15 (1984), 82, 83 (reporting the September 21, 1982, opinion of the Swiss Supreme Court).

[186] Gert Kolle, *The Patentable Invention in the European Patent Convention*,International Review of Industrial Property and Copyright Law 5 (1974) 140, 146.

[187] *See* Lessig, Lawrence, "Online Patents: Leave Them Pending," *Wall Street Journal,* 23 March 2000, sec. A, 22.

[188] Vessel Hull Design Protection Act, Title V of the Digital Millennium Copyright Act, Pub. L. No. 105-304, 112 Stat. 2860 (Oct. 28, 1998).

[189] The Semiconductor Chip Protection Act of 1984, 17 U.S.C. §§ 901-914.

[190] Samuelson, Pamela *et al.*, "A Manifesto Concerning the Legal Protection of Computer Programs," *Columbia Law Review* 94 (1994), 2308.

[191] Slind-Flor, *supra* note 150.

committed to maintaining certain minimal standards of patent protection. A particular source of obligations is the TRIPS Agreement, the Trade-Related Aspects of Intellectual Property Rights Agreement of the World Trade Organization.[192] Some of the patent law reforms noted above might run counter to provisions of the TRIPS Agreement. For example, the TRIPS Agreement both requires the United States to preserve a specified patent term, and disallows the United States from granting compulsory patent licenses except in limited circumstances.[193]

Possible procedural changes include the provision of additional guarantees of patent validity at the PTO prior to costly litigation of patented business methods in the courts. For example, prior to filing a charge of infringement in the courts, the business method patentee might be required to undergo an obligatory reevaluation proceeding to ensure that the patent is valid and enforceable. Another possibility is a directive and additional funding for the PTO to improve its handling of patent applications claiming methods of doing business. An improved collection of prior art literature might allow the PTO to better assess whether business methods claimed in patent applications are novel and nonobvious over the prior art.[194]

Conclusion

The patenting of business methods has focused considerable public attention to a traditionally obscure legal discipline. Commentators have been both intrigued and dismayed by patent law trends that subject inventions from business, the social sciences and virtually any other human endeavor to private appropriation. Although opinions vary on the propriety of these patents, there is broad concern about the adaptability of the patent system towards these unfamiliar disciplines. Whether business method patents will promote or stifle the efforts of entrepreneurs and small firms also remains to be seen. As innovations in many sectors play a significant role in the growth and international competitiveness of the U.S. economy, the post-industrial patent system should remain a matter for continued public concern and possible legislative oversight.

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[192] Agreement on Trade-Related Aspects of Intellectual Property Rights, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1C, 33 I.L.M. 1197 (1994).

[193] *See generally* Reichman, J.H., "GATT/WTO Universal Minimum Standards of Intellectual Property Protection Under the TRIPS Component of the WTO Agreement," *International Lawyer* 29 (1995), 345.

[194] Sandburg, Brenda, "Business Method Patents Come Under Increased Scrutiny," The Legal Intelligencer, 222 (31 March 2000), 4.