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I. INTRODUCTION

The debate over the patentability of business methods has recently increased in intensity. On July 23, 1998, the United States Court of Appeals for the Federal Circuit ruled that there is no business method exception to the patent laws, and that business method claims must be treated like other method claims.[1] Since that ruling, the United States Patent and Trademark Office has experienced a surge in the number of patent applications filed.[2] The Federal Circuit ruling and the concomitant effects at the United States Patent and Trademark Office have increased the debate over the wisdom of allowing business methods to be patented.

This article explores the evolution of the law regarding business method patents, considers the impact of the above-mentioned Federal Circuit decision, defines what business methods patents are, explains why they are important to companies, and discusses the arguments for and against their patentability.

II. LEGAL FRAMEWORK BACKGROUND

One of the first hurdles an inventor seeking patent protection for his or her invention encounters is ensuring that the invention is within the subject matter defined as patentable by 35 U.S.C. §101.[3] Section 101 states, "[w]hoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title."[4] Thus, there are four statutory categories of patentable subject matter: processes, machines, articles of manufacture, and compositions of matter.

Although Section 101 lists specific categories of patentable subject matter, Congress stated that it "intended statutory subject matter to 'include anything under the sun that is made by man.'"[5] The Supreme Court, however, has imposed some limits. "Excluded from such patent

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1. State St. Bank & Trust v. Signature Fin. Group, 149 F.3d 1368, 1375 (Fed. Cir. 1998) (citing *In re* Schrader, 22 F.3d 290, 298 (Fed. Cir. 1994) (Newman, J., dissenting)).

2. See U.S. Patent and Trademark Office, FY 2000 USPTO Annual Reports *at* http://www.uspto.gov/web/offices/com/annual/2000/00patents.pdf (last visited Dec. 12, 2001).

3. *See* 35 U.S.C. § 101 (1994).

4. 35 U.S.C. § 101.

5. Diamond v. Diehr, 450 U.S. 175, 182 (1981) (citing H.R. REP. NO. 82-1923, at 6 (1952); S. REP. NO. 82-1979, at 5 (1952), *reprinted in* 1952 U.S.C.C.A.N. 2394, 2399).

protection are laws of nature, natural phenomena, and abstract ideas."[6] For example, one could not claim the law of gravity in a patent, even if one had just discovered it.[7] Courts have consistently enforced the Supreme Court's limits.[8]

Previously, many courts classified mathematical algorithms and business methods as abstract ideas or laws of nature, thereby rendering them unpatentable under the exceptions that the Supreme Court created.[9] The development of these classifications is discussed below.

A. *Mathematical Algorithm Exception*

The Supreme Court addressed the issue of whether mathematical algorithms were patentable subject matter under Section 101 in three cases that involved computer programs.[10] In the first case, *Gottschalk v. Benson*,[11] Benson patented a method for converting binary-coded decimal numerals into pure binary numerals using a general-purpose computer.[12] As a practical matter, the patent claimed a method of doing math problems.[13] The Supreme Court invalidated the patent as containing subject matter not covered by the statute.[14] In doing so, the Court noted that "abstract intellectual concepts are not patentable" because they are the "basic tools of scien[ce]"[15] and that "[t]he mathematical formula involved here has no substantial practical application except in connection with a digital computer, which means that if the judgment below is affirmed, the patent would wholly pre-empt the mathematical formula and in practical effect would be a patent on the algorithm itself."[16] *Gottschalk* has recently been read to mean that mathematical algorithms (e.g., computer

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6. *Diamond*, 450 U.S. at 185 (citing Parker v. Flook, 437 U.S. 584, 589 (1978); Gottschalk v. Benson, 409 U.S. 63, 67 (1972); Funk Bros. Seed Co. v. Kalo Inoculant Co., 333 U.S. 127, 130 (1948)).

7. *Diamond*, 450 U.S. at 185 (quoting Diamond v. Chakrabarty, 447 U.S. 303, 309 (1980)).

8. *See generally* Gottschalk v. Benson, 409 U.S. 63 (1972); Funk Bros. Seed Co. v. Kalo Inoculant Co., 333 U.S. 127 (1948); MacKay Radio & Tel. Co. v. Radio Corp. of Am., 306 US 86 (1939).

9. *See generally* Diamond v. Diehr, 450 U.S. 175 (1981) (mathematical algorithms); Parker v. Flook, 437 U.S. 584 (1978) (mathematical algorithms); Gottschalk v. Benson, 409 U.S. 63 (1972) (mathematical algorithms); Loew's Drive-In Theatres, Inc. v. Park-In Theatres, Inc., 174 F.2d 547 (1st Cir. 1949) (business methods); Rand McNally & Co. v. Exch. Scrip-Book Co., 187 F. 984 (7th Cir. 1911) (business methods); Hotel Sec. Checking Co. v. Lorraine Co., 160 F. 467 (2d Cir. 1908) (business methods).

10. *See* Gottschalk v. Benson, 409 U.S. 63 (1972); Parker v. Flook, 437 U.S. 584 (1978); Diamond v. Diehr, 450 U.S. 175 (1981).

11. 409 U.S. 63 (1972).

12. *Gottschalk*, 409 U.S. at 64.

13. *See id.* at 65.

14. *Id.* at 72.

15. *Id.* at 67.

16. *Id.* at 71-72.

programs) are not patentable unless they are claimed in connection with a machine (i.e., computer).[17]

The second Supreme Court case is *Parker v. Flook*.[18] In *Flook*, the Supreme Court relied on *Gottschalk* to hold that a method for updating alarm set points during the process of catalytic conversion was unpatentable because the only "inventive" element of the patent was an unpatentable mathematical algorithm.[19] The Court explained that the "notion that post-solution activity, no matter how conventional or obvious in itself, can transform an unpatentable principle into a patentable process exalts form over substance."[20]

Finally, in *Diamond v. Diehr*,[21] Diamond invented a process for molding synthetic rubber.[22] The process combined molds, temperature monitors, automated machinery, and a computer.[23] In this case, the computer constantly monitored the core temperature of the mold, recalculated the cure time,[24] and automatically opened the mold when the cure was completed.[25] In holding that the process was statutory subject matter the Court stated:

> [W]hen a claim containing a mathematical formula implements or applies that formula in a structure or process which, when considered as a whole, is performing a function which the patent laws were designed to protect (e.g., transforming or reducing an article to a different state or thing), then the claim satisfies the requirements of § 101.[26]

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17. *See* Wesley L. Austin, *Software Patents*, 7 TEX. INTELL. PROP. L.J. 225, 230 (1999) (citing *Gottschalk*, 409 U.S. at 72; State St. Bank & Trust Co. v. Signature Fin. Group, Inc., 149 F.3d 1368, 1373 (Fed. Cir. 1998), *cert. denied*, 525 U.S. 1093 (1999); Brian R. Yoshida, *Claiming Electronic and Software Technologies: The Effect of the Federal Circuit Decisions in* Alappat, Waterdam, *and* Lowry *on the Claiming of Mathematical Algorithms and Data Structures*, 45 BUFF. L. REV. 457,461, 463 (1997)).

The Court's statement that "if the judgment below is affirmed, the patent would wholly pre-empt the mathematical formula and in practical effect would be a patent on the algorithm itself" was an unfortunate use of the term 'algorithm.' It was unfortunate because all software can properly be referred to as different algorithms. Gottschalk should not be read as a rule that 'algorithms' are not patentable. In light of recent case law, algorithms are patentable to the extent that they are not abstract ideas.

Id. (citations omitted).

18. 437 U.S. 584 (1978).

19. *Flook*, 437 U.S. at 593-94.

20. *Id.* at 590.

21. 450 U.S. 175, 177 (1981).

22. *Id.*

23. *See id.* at 178-79.

24. *See id.* at 177 n.1. "A 'cure' is obtained by mixing curing agents into the uncured polymer in advance of molding, and then applying heat over a period of time. If the synthetic rubber is cured for the right length of time at the right temperature, it becomes a usable product." *Id.*

25. *See id.* at 178-79.

26. *Id.* at 191-92.

Significantly, the Court did not perceive the patent claims "as an attempt to patent a mathematical formula, but rather . . . an industrial process for the molding of rubber products...."[27]

In response to the Supreme Court's trilogy of cases, the Court of Customs and Patent Appeals ("CCPA") developed the Freeman-Walter-Abele test to determine the patentability of patent claims incorporating mathematical algorithms.[28] Under the test, a court considers first, "whether a mathematical algorithm is directly or indirectly cited."[29] Then, "if a mathematical algorithm is found, the claim is further analyzed to determine whether the algorithm is 'applied in any manner to physical elements or process steps,' and, if it is, it 'passes muster under § 101.'"[30] Thus, under the test, if an algorithm is part of a patent claim, the claim must recite either a physical transformation or an application to a process in order to not be invalid under Section 101.

The Federal Circuit, however, in *In re Alappat*,[31] found patentable subject matter in claims that recited a "means for" generating smooth digital waves on a display screen.[32] Because the "means" recited could be accomplished by a general-purpose computer and because the invention was truly the software, the decision effectively relaxed the physicality requirement of the Supreme Court's trilogy.[33]

B. *Business Method Exception*

For much of the United States' patent history, the law regarding the patentability of business methods has wavered. Early decisions of the United States Patent and Trademark Office ("USPTO") and the lower courts demonstrated the opinion that business methods were not patentable subject matter.[34] For example, in *Ex parte Abraham*,[35] the Commissioner of Patents observed, "[i]t is contrary . . . to the spirit of the law, as construed by the office for many years, to grant patents for methods of

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27. *Id.* at 192-93.

28. *See generally* State St. Bank & Trust Co. v. Signature Fin. Group, 149 F.3d 1368, 1373-74 (Fed. Cir. 1998) (citing the Freeman-Walter-Abele test); Cathy E. Cretsinger, *Berkeley Technology Law Journal Annual Review of Law And Technology I. Intellectual Property B. Patent* AT & T Corp. v. Excel Communications, Inc., 15 BERKELEY TECH. L.J. 165, 168-69 (2000) (discussing the Freeman-Walter-Abele Test). The Freeman-Walter-Abele test was derived from three C.C.P.A. decisions: *In re* Freeman, 573 F.2d 1237 (C.C.P.A. 1978); *In re* Walter, 618 F.2d 758 (C.C.P.A. 1980); and *In re* Abele, 684 F.2d 902 (C.C.P.A. 1982).

29. *In re* Pardo, 684 F.2d 912, 915 (C.C.P.A. 1982) (quoting *In Re* Walter, 618 F.2d at 767).

30. *Id.* at 915.

31. 33 F.3d 1526, 1545 (Fed. Cir. 1994).

32. *Id.*

33. *Id.*

34. *See generally Ex parte* Abraham, 1869 Comm'r Decision 59, 59 (Comm'r Pat. 1869) (holding that business methods were not patentable subject matter).

35. *Id.*

book-keeping...."[36] However, in *In re Tallmadge,*[37] a court suggested in dictum that "[h]ad he really invented a method of simultaneous double entry bookkeeping he would be entitled to the protection of that invention...."[38]

The first appellate court to decide the issue of subject matter as applied to business method patents was the Second Circuit in *Hotel Security Checking Co. v. Lorraine Co.*[39] ("*Hotel Security*"). *Hotel Security* is frequently cited for giving rise to the business method exception.[40] The method claimed in *Hotel Security* was "designed to prevent fraud and speculation by waiters and cashiers in hotels and restaurants."[41] The method involved: (1) assigning each waiter a number and placing the number on order slips; (2) recording on a register in the kitchen the food taken by each waiter under his or her number; and (3) comparing the order slips, that the cashier kept when the customers paid, to the kitchen register to detect dishonesty.[42] In invalidating the patent the court said, "[t]he fundamental principle of the system is as old as the art of bookkeeping, i.e., charging the goods of the employer to the agent who takes them."[43]

Therefore, the patent was invalidated for lack of novelty and invention and not because it claimed a business method.[44] The court confirmed this explicitly stating, "[i]f at the time of [application for the patent], there had been no system of bookkeeping of any kind in restaurants, we would be confronted with the question whether a new and useful system of cash-registering and account-checking is such an art as is patentable under the statute."[45] Earlier in the opinion, however, in dictum the court warned,

> [a] system of transacting business disconnected from the means for carrying out the system is not, within the most liberal interpretation of the term, an art. Advice is not patentable..."No mere abstraction, no idea, however brilliant, can be the subject of a patent irrespective of the means designed to give it effect."[46]

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36. *Id.*
37. 37 App. D.C. 590, 594 (1911).
38. *Id.*
39. 160 F. 467 (2d Cir. 1908).
40. Rinaldo Del Gallo, III, *Are "Methods of Doing Business" Finally Out of Business as a Statutory Rejection?*, 38 IDEA 403, 405 (1998).
41. Hotel Sec. Checking Co., 160 F. at 467.
42. *See id.* at 467-68.
43. *Id.* at 469.
44. *See id.* at 472.
45. *Id.*
46. *Id.* at 469 (quoting Fowler v. City of New York, 121 F. 747, 748 (2d Cir. 1903)).

With this statement, in spite of the fact that it was dictum, and notwithstanding the patent was invalidated for lack of novelty and invention, the court gave birth to the business method exception.

Another decision frequently cited for the proposition that business methods as a group are unpatentable is *Loew's Drive-In Theatres, Inc. v. Park-In Theatres, Inc.*[47] The patent claim at issue was a method for parking cars in an open lot so that everyone could see the movie.[48] The lower court found the patent to be valid, noting its novelty and success.[49] The Court of Appeals for the First Circuit cast aside these findings and focused on what it determined to be the more important issue of "whether, given the idea or conception of an open-air drive-in theatre, an exercise of inventive faculty was required to devise the means for carrying it out."[50] Thus, the court indicated that because there was no invention in the physical means, the claim must be invalidated; the fact that the invention involved an ingenious, new idea did not save the claim.[51] The final holding was, "a system for the transaction of business, such, for example, as the cafeteria system for transacting the restaurant business...however novel, useful, or commercially successful is not patentable apart from the means for making the system practically useful, or carrying it out."[52] Although this case applied a test requiring that the physical means must be novel, and not an application of a rule that business methods are unpatentable per se, the case is often cited for such a proposition.[53]

When the physical means for implementing a business method have been novel and inventive, patents have been upheld as within the range of statutory subject matter. In *Rand, McNally & Co. v. Exchange Scrip-Book Co.*,[54] a passenger's coupon book that expressed units of travel in terms of money as opposed to the usual mileage was held to be patentable subject matter.[55] The court said,

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47. 174 F.2d 547 (1st Cir. 1949).

48. *See Loew's Drive-In Theatres, Inc.*, 174 F.2d at 550-51.

49. *See id.* at 552.

50. *Id.* at 551.

51. *See id.* at 552.

52. *Id.*

53. *See, e.g.*, Paine, Webber, Jackson & Curtis, Inc. v. Merrill Lynch, Pierce, Fenner & Smith, Inc. 564 F. Supp. 1358, 1365 (D. Del. 1983) (explaining that Plaintiff used *Loew's Drive-In Theatres, Inc.*, to argue "that business methods and systems cannot form the subject matter of a valid patent monopoly and that courts do not hesitate to invalidate patents on the grounds that they merely describe business systems."); Leslie M. Hill, *Prior User Defense: The Road to Hell is Paved with Good and Bad Intentions*,10 FED. CIR. B.J., 2001 513, 539 n.136 (citing *Loew's Drive-In Theatres, Inc.*, as holding that "business methods did not fall within the boundaries of patentable subject matter.").

54. 187 F. 985-86 (7th Cir. 1911).

55. *Rand McNally*, 187 F. at 986.

> [n]or do we think that this patented concept is nothing more than a business method. Its use is a part of a business method. The ticket patented is not a method at all, but a physical tangible facility, without which the method would have been impracticable, and with which it is practicable. And this is the status of thousands of like facilities that, once designed and put to use, have become the first of a new business method; and patents on such facilities have been sustained.[56]

The fact that the physical means was used in a business method was irrelevant once it was determined that the physical means was novel.[57]

Many of the decisions cited above, support, only by dicta, the proposition that the business method exception exists.[58] Furthermore, after *Hotel Security*, neither the CCPA nor the Federal Circuit has ever invoked the business method exception as the sole basis to invalidate a patent for being directed to non-statutory subject matter.[59]

1. Criticism of the Business Method Exception

Recently, the business method exception to statutory subject matter has received criticism from commentators and the judiciary.[60] In *In re Schrader*,[61] Judge Newman wrote a vehement dissent that criticized the business method exception. She stated that the exception is an "unwarranted encumbrance to the definition of statutory subject matter in section 101, my guidance is that it be discarded as error-prone, redundant, and obsolete."[62] She continued by criticizing *Hotel Security*, and argued that many of the cases reciting the business method exception were decided on grounds other than the exception.[63] She concluded her critique of the exception by stating, "[p]atentability does not turn on whether the claimed method does 'business' instead of something else, but on whether the method, viewed as a whole, meets the requirements of patentability as set forth in Sections 102, 103, and 112 of the Patent Act."[64]

2. United States Patent and Trademark Office and the Business Method Exception

Previously, the USPTO adopted the official position that business methods were unpatentable subject matter.[65] This position was codified in Section 706.03 of the USPTO's Manual of Patent Examining Procedure

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56. *Id.*
57. *See id.*
58. *See* Del Gallo, *supra* note 40, at 406.
59. *See* State St. Bank & Trust v. Signature Fin. Group, 149 F.3d 1368, 1375 (Fed. Cir. 1998).
60. *See* Del Gallo, *supra* note 40, at 403-04.
61. 22 F.3d 290, 296 (Fed. Cir. 1994).
62. *In re Schrader*, 22 F.3d at 298.
63. *Id.*
64. *Id.*
65. *See* Hotel Sec. Checking v. Lorraine County, 160 F. 467, 469 (2d Cir. 1908).

("MPEP").[66] The provision stated, "[t]hough seemingly within the category of process or method, a method of doing business can be rejected as not being within the statutory classes."[67]

As a result of the USPTO's position that business methods were unpatentable subject matter, many applicants tried to disguise the true nature of their claims as being directed to something besides a business method.[68] For example, in one case analyzing such a patent, the patentee wrote the claims "in terms of apparatus, that is, 'means for' performing certain tasks or steps, rather than in terms of the method steps themselves,"[69] to disguise the business method.[70]

In 1996, the USPTO removed Section 706.03 from the MPEP.[71] In addition, the 1996 Examination Guidelines for Computer Related Inventions stated, "[o]ffice personnel have had difficulty in properly treating claims directed to methods of doing business. Instead such claims should be treated like any other process claims."[72]

III. *STATE STREET*[73]

With criticism mounting against the business method exception and the USPTO changing the MPEP, the Federal Circuit sought review of *State Street Bank and Trust Co. v. Signature Financial Group, Inc.*[74] *State Street* was the first appeal since *In re Alappat*[75] in deciding whether a claim directed to a computer "means" for performing business functions constituted statutory subject matter under Section 101.[76]

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66. *See* State St. Bank and Trust v. Signature Fin. Group, 149 F.3d 1368, 1377 (Fed. Cir. 1998).

67. *See id.*

68. *See, e.g.*, Paine, Webber, Jackson & Curtis, Inc. v. Merrill Lynch, Pierce, Fenner & Smith, Inc., 564 F. Supp. 1358 (D. Del. 1983).

69. *Paine*, 564 F. Supp. at 1365.

70. Speaking of Paine, Webber, Jackson & Curtis, Inc. v. Merrill Lynch, Pierce, Fenner & Smith, Inc., 564 F. Supp. 1358 (D. Del 1983), a commentator has said:

> Ultimately, the claim was upheld as statutory subject matter on the grounds that the patentee claimed "a method of operation on a computer to effectuate business activity." . . . This case was decided in 1983. Some commentators have noted that it marked the beginning of the trend towards accepting business method claims as patentable subject matter. Even though a business method was not literally claimed, it is clear that the invention in question was nothing more than an application of a business method.

Jared Earl Grusd, *Internet Business Methods: What Role Does and Should Patent Law Play*, 4 VA. J. L. & TECH. 9, 16 n. 35 (1999).

71. *See State St.*, 149 F.3d at 1377.

72. Notice of final publication of the Examination Guidelines for Computer Related Inventions, 61 Fed. Reg. 7478, 7479 (Feb. 28, 1996).

73. 149 F.3d 1368 (Fed. Cir. 1998).

74. *State St.*, 149 F.3d 1368.

75. 33 F.3d 1526 (Fed. Cir. 1994) (en banc).

76. *State St.*, 149 F.3d at 1370.

A. *Background*

Initially, State Street Bank engaged in negotiations to license the patented invention.[77] When negotiations failed, State Street Bank brought a declaratory judgment action and filed a motion for summary judgment of patent invalidity for failure to claim statutory subject matter under 35 U.S.C. § 101.[78]

Signature's patent, entitled "Data Processing System for Hub and Spoke Financial Services Configuration," discloses a data processing system for implementing an investment structure by which mutual funds pool their assets into an investment portfolio that is organized as a partnership.[79] The claimed system performs numerous complex calculations that allocate the portfolio's daily income, expenses, and gain or loss among the mutual funds.[80] In addition, the system facilitates annual accounting and tax assessment.[81]

The district court characterized the issue in the case to be whether software that performed mathematical and accounting functions on a computer was statutory subject matter.[82] The court held that the invention was both a method of doing business and a mathematical algorithm.[83] Because these were both nonstatutory subject matter, the patent was invalid.[84]

B. *Federal Circuit*

The Federal Circuit began its analysis by noting that the district court erred in construing the claims as being directed to a process.[85] The Federal Circuit concluded that the claims should have been construed as claiming a machine because of their means-plus-function structure and the supporting structure in the technical disclosure.[86] The court noted, however, that the characterization of a claim as being directed to a machine or process is of little relevance "as long as it falls within...one of the four enumerated categories of patentable subject matter...."[87]

The court next analyzed the statutory language of Section 101, attempting to assess the statutory basis for the two "judicially-created ex-

77. *See id.*
78. *See id.*
79. U.S. Patent No. 5,193,056 (issued Mar. 9, 1993).
80. *See State St.*, 149 F.3d at 1371.
81. *Id.*
82. State St. Bank & Trust v. Signature Fin. Group, 927 F. Supp. 502, 506 (D. Mass. 1996).
83. *State St.*, 927 F. Supp. at 516.
84. *Id.*
85. *State St.*, 149 F.3d at 1371.
86. *See id.* at 1371-72.
87. *Id.* at 1372.

ceptions to statutory subject matter,"[88] relied on by the district court. The court failed to find any basis for the exceptions in the statute:

> The repetitive use of the expansive term 'any' in §101 shows Congress's intent not to place any restrictions on the subject matter for which a patent may be obtained beyond those specifically recited in § 101. Indeed, the Supreme Court has acknowledged that Congress intended § 101 to extended to 'anything under the sun that is made by man.'...Thus, it is improper to read limitations into § 101 on the subject matter that may be patented where the legislative history indicates that Congress clearly did not intend such limitations.[89]

Therefore, the court concluded that there was no support in the plain language of the statute for the two judicially created exceptions, namely, the business method exception and the mathematical algorithm exception.[90]

After advocating an expansive reading of Section 101,[91] the court addressed the mathematical algorithm exception specifically. The court explained that the Supreme Court has held that "mathematical algorithms are not patentable subject matter to the extent they are merely abstract ideas."[92] The court further stated that in order for a mathematical algorithm to be patentable, it must be reduced to a practical application, such that it produces "a useful, concrete and tangible result."[93] Unpatentable mathematical algorithms, according to the Federal Circuit, are "identifiable by showing they are merely abstract ideas constituting disembodied concepts or truths that are not 'useful.' From a practical standpoint, this means that to be patentable an algorithm must be applied in a 'useful' way."[94] Therefore, claims reciting a series of mathematical calculations to produce a useful, concrete, and tangible result are patentable.[95]

While discussing the mathematical algorithm exception, the court took occasion to rule that "the Freeman-Walter-Abele test has little, if any, applicability to determining the presence of statutory subject matter."[96] The court noted that the Freeman-Walter-Abele test assists in identifying a mathematical algorithm but does not assist in determining the "usefulness" of the results.[97] The court concluded the mathematical algorithm exception analysis holding that the claim produced a useful,

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88. *Id.*
89. *Id.* at 1373, (quoting Diamond v. Chakrabarty, 447 U.S. 303, 309 (1980)).
90. *State St.*, 149 F.3d at 1372.
91. *Id.* at 1373.
92. *Id.*
93. *Id.* (quoting *In re* Kuriappan P. Alappat, 33 F.3d 1526, 1544 (Fed. Cir. 1994).
94. *Id.* at 1373.
95. *See id.* at 1375.
96. *Id.* at 1374.
97. *See id.*

concrete, and tangible result, and therefore, was statutory subject matter.[98]

After discussing the mathematical algorithm exception, the court addressed the business method exception.[99] The Federal Circuit specifically rejected the exception, noting that neither it nor the CCPA had ever invoked the exception to declare an invention unpatentable.[100] The court explained that the business method exception "represented the application of some general, but no longer applicable legal principle, perhaps arising out of the 'requirement for invention'—which was eliminated by § 103."[101] The court further stated that "[s]ince the 1952 Patent Act, business methods have been, and should have been, subject to the same legal requirements for patentability as applied to any other process or method."[102] In concluding its opinion, the court acknowledged the change in the USPTO's MPEP and the issuance of the 1996 Examination Guidelines for Computer Related Inventions, discussed above.[103]

In summary, *State Street* stands for the proposition that business methods constitute statutory subject matter if they produce a useful, concrete and tangible result. According to *State Street*, these methods should be treated like other methods and analyzed under the standard criteria for validity.[104]

IV. THE IMPACT OF *STATE STREET*

The impact of *State Street* can be viewed in a variety of ways. One view is *State Street* will have little impact because, in spite of the MPEP's Section 706.03 (which, as discussed above, has been removed), the USPTO has been granting business method patents all along.[105] Supporters of this opinion point out that before *State Street*, the USPTO issued numerous business method patents, including the patent at issue in the case.[106] Furthermore, many of the cases discussing business method patents were not suits against the USPTO by applicants who had applications rejected but, rather, were cases that involved parties who had received patents and alleged infringers.[107]

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98. *See id.* at 1375.
99. *Id.*
100. *Id.*
101. *Id.*
102. *Id.*
103. *Id.* at 1377.
104. *Id.* at 1375.
105. Craig J. Madson, "Anything Under the Sun Made by Man" is Patentable, Including Methods of Doing Business 6 (Oct. 18, 2000) (unpublished manuscript, on file with author).
106. *See id.*
107. *See supra* Part II.B.

Supporters of this view argue that the business method exception was used only as an alternative reason for invalidating patents.[108] They contend that the courts used the exception to bolster stronger reasons for patent invalidity, such as obviousness or lack of novelty.[109]

Another view, taken by some commentators, is that *State Street* will cause vast problems to the patent system and possibly the marketplace.[110] They assert that the patent system is in danger because the *State Street* decision opened the floodgates for filing patent applications.[111] This increase in the number of applications filed causes additional strain on USPTO resources, and consequently, jeopardizes the quality of patents that ultimately issue.[112] To illustrate this assertion, commentators point out that the USPTO is presently granting business method patents with little resources to examine the prior art.[113] As a result, patents that are obvious, too broad or lacking novelty are being issued.[114]

One such commentator, Professor Rochelle Cooper Dreyfuss of New York University School of Law, believes that business method patents adversely affect the market and should be eliminated.[115] She claims business method patents "will distort the market in the period between their issuance and any court ruling that may find them invalid."[116]

Another view is that *State Street* will cause some initial problems, but that these problems are typical of the growing pains the USPTO and courts experience as they begin handling applications and patents in new areas of technology.[117] In the beginning, a few anomalous decisions may be made which seem unfair but, within a few years, the USPTO and courts will acquire the experience necessary to issue and uphold valid business method patents.[118] Once the initial cases are decided, "the rule of law becomes fairly well settled and businesses begin to operate" with an understanding of the law.[119]

Whether *State Street* will have little impact or will cause problems is, at this point, difficult to predict. In the next couple of years, as the numerous patent applications filed post-*State Street* begin to issue and be litigated, the real impact of *State Street* will be seen.

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108. Madson, *supra* note 105, at 7.
109. *Id.*
110. *Id.* at 7-8.
111. *Id.* at 8.
112. *See id.*
113. *Id.* at 7.
114. Madson, *supra* note 105, at 8.
115. *Id.* at 7.
116. *Witnesses Testify on Diversion of Patent Fees and Business Method Patents,* 59 PATENT, TRADEMARK & COPYRIGHT J. 659, 660 (2000).
117. Madson, *supra* note 105, at 9.
118. *See id.*
119. *Id.*

V. FIRST INVENTOR DEFENSE

After *State Street*, Congress passed, and President Clinton signed, the Patent Reform Act of 1999. The Act added a new section to the patent code, creating a defense to infringement of a business method patent based upon a prior commercial use. The new Section of the patent code states in part:

> [i]t shall be a defense to an action for infringement under section 271 of this title with respect to any subject matter that would otherwise infringe one or more claims for a [business] method in the patent being asserted against a person, if such person had, acting in good faith, actually reduced the subject matter to practice at least 1 year before the effective filing date of such patent, and commercially used the subject matter before the effective filing date of such patent.[120]

The general belief before *State Street*, that business methods were not patentable subject matter justifies the new Section. Companies reasonably believed that if they kept their business methods secret, they would not be precluded from practicing them by another's patent. The Section allows these companies, subject to the limitations described below, to continue practicing their business methods even after another entity patents the same method.

The Code limits use of the defense in several ways: (1) "a person may not assert the defense under this section if the subject matter on which the defense is based was derived from the patentee or persons in privity with the patentee;"[121] (2) "the defense . . . is not a general license under all claims of the patent at issue," only the business method claims;[122] (3) "a person who has abandoned commercial use of subject matter may not rely on activities performed before the date of such abandonment in establishing a defense . . . with respect to actions taken after the date of such abandonment;"[123] (4) "the defense . . . may be asserted only by the person who performed the acts necessary to establish the defense;"[124] (5) "except for any transfer to the patent owner, the right to assert the defense [may] not be licensed or assigned or transferred to another person" except with a transfer of the entire line of business to which the defense relates;[125] and (6) the party asserting the defense must prove it by "clear and convincing evidence."[126]

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120. 35 U.S.C.S. § 273(b)(1)(2000).
121. 35 U.S.C.S. § 273(b)(3)(B).
122. *Id.* at § 273(b)(3)(C).
123. *Id.* at § 273(b)(5).
124. *Id.* at § 273(b)(6).
125. *Id.*
126. 35 U.S.C.S. § 273(b)(4).

VI. WHAT ARE BUSINESS METHOD PATENTS?

A business method patent is a United States utility patent directed to a method of doing business. "Business methods include the way a business is structured, managed, organized and/or carried out."[127] One scholar has defined a business method patent as requiring two key components.[128] First, the end result of the process must be of commercial rather than technological interest.[129] Second, the inventive aspect of the claim must lie in the process vis-à-vis the software or hardware elements.[130] In other words, the software and hardware must be known and the claim cannot derive any novelty from these elements. Instead, the novelty must arise either from the process or from applying the process to a computer.

A. *History*

The first business method patent was "granted on March 19, 1799, to Jacob Perkins of Massachusetts . . . [on] 'Detecting Counterfeit Notes'."[131] All the details of the invention were lost in the Patent Office fire of 1836.[132] The first business method patent for which any detailed written description presently "exists ... was a printing method entitled 'A Mode of Preventing Counterfeiting' granted to John Kneass on April 28, 1815."[133]

The first business method patents directed to automated methods of processing business data were granted to Herman Hollerith on January 8, 1889.[134] That day, he received three patents[135] for the "Art of Compiling Statistics."[136] The protection of these patents allowed his Tabulating Machine Company to survive.[137] In 1924, Thomas J. Watson, Sr. changed the company name to International Business Machine Corporation."[138] The manual punch cards that Hollerith invented (IBM punch cards) and

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127. Michael E. Melton, *The Business of Business Method Patents*, 589 PLI/PAT. 97, 103 (2000).

128. Robert P. Merges, *As Many as Six Impossible Patents Before Breakfast: Property Rights for Business Concepts and Patent System Reform*, 14 BERKELEY TECH. L.J. 577, 579 n.5 (1999).

129. *Id.*

130. *Id.*

131. U.S. Patent and Trademark Office, White Paper on *Automated Financial or Management Data Processing Methods (Business Methods) at* http://www.uspto.gov/web/menu/busmethp/index.html (last visited Jan. 13, 2001)

132. *Id.*

133. *Id.*

134. *Id.*

135. U.S. Patent No. 395,781 (issued Jan. 8, 1889); U.S. Patent No. 395,782 (issued Jan. 8, 1889); U.S. Patent No. 395,783 (issued Jan. 8, 1889).

136. U.S. Patent and Trademark Office, *supra* note 131.

137. *Id.*

138. *Id.*

his methods for processing business data were used until the birth of the personal computer.[139]

B. *Recent Examples*

Other examples of business method patents can be found dating from Hollerith in 1889 to the present.[140] Recent business method patents are more numerous and sophisticated than ever before.[141] Patents have been granted for (1) date matching methods,[142] (2) interactive trading of securities,[143] (3) selling expert advice online,[144] (4) electronic-monetary system,[145] (5) estimating construction project costs and schedules,[146] (6) training janitors using picture displays,[147] (7) transmitting a digital video or audio signal over a network,[148] (8) displaying patent text and images on a computer,[149] (9) placing a purchase order over a communication network,[150] (10) managing the amortization of a loan,[151] (11) structuring and managing human communications,[152] (12) the training of golf putting skills,[153] (13) detecting error in accounting for postal charges,[154] (14) reverse auctioning online,[155] (15) tracking personal financial data,[156] (16) surveying a music listener's opinion about songs,[157] (17) pre-authorizing individual account transactions,[158] (18) ranking of search results according to computer relevance,[159] and (19) collecting and archiving patient records.[160] These examples illustrate that the USPTO has issued patents on a wide variety of business methods.

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139. *Id.*
140. *Id.*
141. *Id.*
142. U.S. Patent No. 5,920,845 (issued July 6, 1999).
143. U.S. Patent No. 6,014,643 (issued Jan. 11, 2000).
144. U.S. Patent No. 5,862,223 (issued Jan. 19, 1999).
145. U.S. Patent No. 5,953,423 (issued Sept. 14, 1999).
146. U.S. Patent No. 5,918,219 (issued June 29, 1999).
147. U.S. Patent No. 5,851,117 (issued Dec. 22, 1998).
148. U.S. Patent No. 5,191,573 (issued Mar. 2, 1993).
149. U.S. Patent No. 5,991,780 (issued Nov. 23, 1999).
150. U.S. Patent No. 5,960,411 (issued Sept 28, 1999).
151. U.S. Patent No. 5,878,404 (issued Mar. 2, 1999).
152. U.S. Patent No. 5,216,603 (issued June 1, 1993).
153. U.S. Patent No. 6,004,230 (issued Dec. 21, 1999).
154. U.S. Patent No. 6,009,416 (issued Dec. 28, 1999).
155. U.S. Patent No. 5,794,207 (issued Aug. 11, 1998).
156. U.S. Patent No. 5,947,526 (issued Sept. 7, 1999).
157. U.S. Patent No. 5,913,204 (issued June 15, 1999).
158. U.S. Patent No. 5,991,750 (issued Nov. 23, 1999).
159. U.S. Patent No. 6,012,053 (issued Jan. 4, 2000).
160. U.S. Patent No. 5,903,889 (issued May 11, 1999).

VII. PATENTABILITY REQUIREMENTS OF BUSINESS METHOD PATENTS

To obtain a business method patent, an invention must satisfy the patentability requirements.[161] As Judge Rich wrote in *State Street*, business methods are subject to the same requirements of patentability as any other process.[162] Accordingly, in order to be patentable, a business method must satisfy the subject matter, utility, novelty and obviousness requirements.[163] Furthermore, the corresponding patent application must meet the enablement and written description requirements.[164]

A. *Subject Matter*

Like any other invention, a business method must fall within the patentable subject matter.[165] In *State Street,* the Federal Circuit delineated the test for patentable subject matter, "the transformation of data . . . constitutes a practical application of a mathematical algorithm, formula, or calculation, because it produces 'a useful, concrete and tangible result.'"[166] Most business methods and processes are analogous to mathematical algorithms, formulas, and calculations. Therefore, if a business method produces a useful, concrete and tangible result, it is patentable subject matter.

B. *Utility*

In order to be patentable, an invention must have utility. Having utility "means that an invention must perform some function of positive benefit to society."[167] The requirement exists to "assure that society obtains a 'quid pro quo' in the form of a 'substantial utility' and 'specific benefit in currently available form' before granting a monopoly to an inventor."[168] The utility requirement does not demand that the invention be superior to existing products or processes.[169] The requirement does, however, demand compliance with three tests: (1) the invention must perform the intended function; (2) it must operate to achieve some minimum human purpose; and (3) it must achieve a human purpose that is not illegal, immoral or contrary to public policy.[170]

In the business method context, the utility requirement precludes the patenting of abstract ideas. To be patentable, the idea must be applied to

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161. 35 U.S.C. § 101 (1984).
162. State St. Bank & Trust Co. v. Signature Fin. Group, Inc., 149 F.3d 1368, 1377 (Fed. Cir. 1998).
163. 35 U.S.C. §§ 101, 102, 103.
164. 35 U.S.C. § 112
165. *See* 35 U.S.C. § 101.
166. *State St.*, 149 F.3d at 1373.
167. CHISUM, DONALD S., CHISUM ON PATENTS § 4.01 (2001).
168. *Id.* (quoting Brenner v. Manson, 383 U.S. 519, 534-35 (1996)).
169. *See id.*
170. *See id.* at 4-2.1.

achieve some type of result. In this respect the requirement is similar to the test articulated in *State Street*, specifically, requiring a method to produce "a useful, concrete and tangible result."[171] Accordingly, theoretical ideas of how to operate a business are not patentable.

C. *Novelty*

In addition to having utility, to receive a patent an applicant's invention must be new or novel at the time of discovery. "The novelty requirement lies at the heart of the patent system."[172] Novelty requires that a patent applicant contribute something new to the public in exchange for receiving patent rights.[173] The meaning of "new" or "novel" is defined by three conditions listed in 35 U.S.C. §102. Subsection (a) bars an applicant from patenting an invention that was "known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for patent."[174] Subsection (e) bars an applicant from patenting an invention "described in ... a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent."[175] Subsection (g) bars an applicant from patenting an invention that "before [the applicant's] invention . . . was made in this country by another inventor who had not abandoned, suppressed, or concealed it."[176]

When a patent application is filed at the USPTO, an examiner reviews the prior art to determine whether the claimed invention is novel.[177] The reviewed prior art is primarily comprised of issued patents and printed publications.[178] This prior art review presents an enormous problem for business method patent applications because the reviewed prior art is unlikely to include the majority of prior art or public knowledge in this area.[179] This is because many companies were deterred from filing patent applications and some companies maintained their business methods as trade secrets due to the perception that business methods were not patentable. Consequently, the resources at the USPTO have been inadequate to determine the novelty of business method patent applications. The inadequate USPTO resources cause problems for the patent owner by undermining the presumption of validity in the minds of potential licensees and potential infringers. This results in lost licensing revenues and increased litigation costs to the patent owner.

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171. *State St.*, 149 F.3d at 1373.
172. CHISUM, *supra* note 167, at § 3.01.
173. 35 U.S.C. § 102 (1984).
174. 35 U.S.C. § 102 (1999).
175. 35 U.S.C. § 102.
176. *Id.*
177. MANUAL OF PATENT EXAMINING PROCEDURE, § 904, 7th ed., (July 1998).
178. MANUAL OF PATENT EXAMINING PROCEDURE at § 901.
179. *Id.* at § 901.06.

The USPTO has taken steps to alleviate these problems. On March 29, 2000, the USPTO "announced a plan to improve the quality of the examination process in technologies related to electronic commerce and business methods."[180] The plan includes increased training for examiners examining business method patent applications, a mandatory search of non-patent literature databases, and a new required second-level review of all allowed applications to ensure compliance with the search requirements and to determine if the scope of the claims should be reconsidered.[181]

D. *Nonobviousness*

Even if an invention is new or novel, it might not be patentable. The invention must also be nonobvious to one of "ordinary skill in the art" at the time of invention.[182] The obviousness bar, like the novelty bar, requires the patent applicant to contribute something to the knowledge in the public domain in exchange for patent rights. The Supreme Court established the test for obviousness in *Graham v. John Deere Co.*[183] The Court laid out three factors to be considered in determining obviousness.[184] First, "the scope and content of the prior art."[185] Second, "the differences between the prior art and the claims at issue."[186] Third, "the level of ordinary skill in the pertinent art."[187] The Court also recognized that secondary considerations, such as commercial success, the failure of others, long felt need within the industry, and copying, could be considered.[188]

Business method patents may have difficulty meeting the nonobviousness requirement. Many business method patents are simply an old idea applied on the Internet. For example, the Priceline.com patent, directed to online reverse auctioning, claims a method that allows a buyer to submit a bid to purchase goods or services and a seller to "bind a buyer to a contract based on the buyer's purchase offer."[189] Clearly, the only thing new about this idea is doing it online.

The motivation to combine requirement, however, has the possibility of saving some business method patents from a determination of obviousness. In order for a patent to be invalidated for obviousness, prior art must be gathered that discloses all of the limitations of the patent

180. U.S. Patent and Trademark Office, *supra* note 131.
181. *See id.*
182. Patent Act of 1952, 35 U.S.C. § 103(a) (Supp. V 1999).
183. 383 U.S. 1, 17 (1966).
184. *See id.* at 17.
185. *Id.*
186. *Id.*
187. *Id.*
188. *See id.* at 17-18.
189. U.S. Patent No. 5,794,207 (issued Aug. 11, 1998).

claims. If a patent is alleged to be obvious, and not lacking novelty, there must be more than one piece of prior art.[190] In order to combine several pieces of prior art together to render a claim obvious, there must be a motivation to combine. The suggestion to combine the prior art references together must come from either the prior art, the knowledge of one of ordinary skill in the art, or the nature of the problem itself. Some business method patents might be saved under this requirement because it is not easy to prove a motivation to combine.

E. *Enablement and Written Description*

In addition to the fact that the invention must satisfy the abovementioned requirements, a patent application must enable one of ordinary skill in the art to make and use the invention.[191] The purpose of the enablement requirement is to force the inventor to disclose sufficient information about the invention to the public in exchange for the right to a patent. The sufficiency of the disclosure is judged by whether one of ordinary skill in the art can make and use the invention without undue experimentation.[192] A patent with few details in the disclosure forces the patent owner or applicant to argue for a higher level of skill in the art, so that the few disclosed details are all that are necessary to make and use the invention. However, arguing for a higher level of skill in the art makes a patent more vulnerable to invalidity attacks based on obviousness, because if the level of skill in the art is high, the invention may have been obvious to those of ordinary skill in the art.

A patent application must also satisfy the written description requirement.[193] The written description requirement forces the applicant to describe the invention to "clearly allow persons of ordinary skill in the art to recognize that [the applicant] invented what is claimed."[194] The reason for the requirement is to prevent an inventor from overreaching.[195]

Courts might use the written description and enablement requirements to invalidate overly broad business method patents. Professor William Lee, however, suggests that the written description and enablement requirements have been used in the biotechnology field to strike down overly broad patents because of the inherent unpredictability of dealing with living things.[196] He argues that there is a degree of predictability with business method patents, and therefore, no basis for impos-

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190. If all the limitations of the patent claim can be found in one piece of prior art, the patent would be anticipated and fail the novelty requirement.

191. *See* 35 U.S.C. § 112 (1994).

192. *See In re* Glass, 492 F.2d 1228, 1233 (C.C.P.A. 1974).

193. *See* 35 U.S.C. § 112.

194. *In re* Gosteli, 872 F.2d 1008, 1012 (Fed. Cir. 1989).

195. *See* Rengo Co. v. Molins Mach. Co., 657 F.2d 535, 551 (3d Cir. 1981).

196. Professor William Lee, Remarks during Intellectual Property Litigation class at Harvard Law School (Fall 1999) (on file with author).

ing strict enablement and written description requirements on Internet business method patents.[197]

VIII. WHY SHOULD BUSINESS METHOD PATENTS MATTER TO COMPANIES?

Companies should be aware of the patent requirements of business methods because these patents have the potential to greatly affect the success of a company. These patents present a critical risk that a company might be precluded from using important business methods. Business method patents, however, also present a tremendous opportunity to increase the value of a company, raise capital and revenue, and assist in marketing products.

The risk that business method patents present to a company is that the company might be precluded from using a method it either presently uses, or might use in the future. Such preclusion occurs because a business method patent grants to its owner the right to exclude others from practicing the invention. Preclusion from using a certain business method does not present a significant problem if the particular method is not essential to a company. In some cases, however, the business method is essential. In these cases the company is forced to attempt to negotiate a license from the patent owner or use the business method and risk the cost and consequences of a patent infringement suit.

In the present environment where technology is rapidly advancing, it is difficult to determine if a particular novel business method (even if the only novel aspect is doing the method on a computer) will become the subject of another's patent. This is because patent applications are prosecuted secretly.[198] Of course, a company can take steps to mitigate these risks by patenting its own business methods.

Aside from the risks they present, business method patents can afford tremendous opportunities to increase a company's value. Corporate valuation, to a large extent, is determined by the value of the corporation's intellectual property, including patents. One commentator stated that the "capital assets of Fortune 500 companies account for only 15% of the company's value, whereas intellectual assets account for 85% of the company's value."[199] In many Internet companies, the ratio of the value of the intellectual property to capital assets is even greater. For example, Priceline.com is currently valued at nearly ten billion dollars; a

197. *Id.*

198. *See* American Inventors Protection Act, § 502, 35 U.S.C. § 122 (allowing for publication of pending patent applications in certain circumstances).

199. Paul S. Hunter, Patenting Methods of Doing Business (Oct. 10, 2000) (unpublished manuscript).

significant portion of this valuation is based on the twenty business method patents that it has recently received.[200]

Business method patents can offer other financial benefits to companies. For example, the ability to exclude others from using a specific method in e-commerce can provide a competitive advantage to a start-up company or even an existing company expanding into e-commerce. A patent is beneficial because it prevents other companies from practicing one's idea or invention. On the other hand, if the company so desires, it can raise revenue by licensing its patents to competitors. Moreover, a company looking for capital will want to patent its ideas to help lure venture capitalists. Venture capitalists are leery of investing in a company whose great ideas are not protected and can be exploited by others.

As previously noted, a company can use its patents offensively to stop others from practicing its inventions. Patents can also be used defensively. For example, if a company is charged with an infringement, in some cases the company might assert its own patents in a counterclaim, or use its patents in settlement discussions to negotiate cross-licenses.

Business method patents can also be used for marketing purposes. As one commentator stated, "[i]f a company can describe its product in promotional material and advertisements as 'patented,' that may convey to consumers that the product is cutting edge, and perhaps more desirable than a competitor's unpatented model."[201] To much of the public, the fact that a product is "patented" connotes a sense that the product is important or represents a large technological advance. This connotation, with proper marketing, can work to a company's benefit.

In summary, while business method patents can pose a risk to a company, they can also assist the company in obtaining a competitive advantage over others in the field. Furthermore, business method patents can increase a company's value and revenue and be an invaluable marketing tool.

IX. LAWSUITS INVOLVING BUSINESS METHOD PATENTS

As discussed above, companies constantly face the risk of being sued for infringing a business method patent. Two recent high profile cases illustrate this point.

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200. *See* Larry J. Guffey, *Business Method Patents: What They Are – Why Clients and Service Providers Should Care*, 33 MD. B. J. 25, 26 (July/Aug. 2000).

201. Sari Gabay, Note & Comment, *The Patentability of Electronic Commerce Business Systems in the Aftermath of State Street Bank & Trust Co. v. Signature Financial Group, Inc.*, 8 J. L. & POL'Y 179, 221 (1999).

A. *Priceline.com v. Microsoft*[202]

In October 1999, Priceline.com sued Microsoft for infringing its patent for reverse auctioning.[203] Specifically, Priceline.com alleged that Microsoft's travel services website, expedia.com, infringed the patent through its use of "Hotel Price Matcher" and "Flight Price Matcher."[204]

The patent at issue in the suit has received much criticism. Over a year before Priceline.com filed its patent application, a patent attorney and inventor, Thomas Woolston, applied for a patent, which he claims, covered a process substantially similar to Priceline.com's patent.[205] Due to the delay of the USPTO, Priceline.com's patent was issued several months before the Woolston patent.[206] When Woolston first heard of Priceline.com's patent, he contacted the company and proposed a joint venture.[207] After the company refused, Woolston filed patent interference claims.[208] As the litigation continues, Priceline.com may find itself in the strange position of trying to invalidate a patent very much like the one it holds.[209]

Moreover, a California company named Marketel claims that Priceline.com stole the reverse auction idea.[210] Marketel claims the idea came from its "TelAssist System," marketed in 1991. The "TelAssist System" involved taking bids for airline tickets by phone and fax.[211] Marketel folded seven months after it launched the idea because it could not raise sufficient capital and the airlines were not particularly cooperative.[212]

As of the time of writing this article, it remains to be seen what will happen to Priceline.com's patent and what will be the result of the infringement suit.

B. *Amazon.com v. Barnesandnoble.com*

On October 21, 1999, Amazon.com filed suit against Barnesandnoble.com for infringement of U.S. Patent No. 5,960,411.[213] The patent at issue covers a "one-click" ordering system whereby a buyer can purchase

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202. Priceline.com, Inc. v. Microsoft Corp., No. 399CV1991 (D. Conn. Oct 13, 1999).

203. *See id.* (discussing the infringement of U.S. Patent No. 5,794,204).

204. *See id.*

205. *See* William Krause, Comment, *Sweeping the E-Commerce Patent Minefield: The Need for a Workable Business Method Exception*, 24 SEATTLE U. L. REV. 79, 98 (Summer 2000).

206. *See id.* at 98-99.

207. *See id.* at 99.

208. *See id.*

209. *See id.*

210. *See* Jeffrey A. Berkowitz, *Business Method Patents: Everyone Wants to be a Millionaire*, 609 PLI/PAT 7, 34 (June 2000).

211. *See id.*

212. *See id.*

213. *See* Amazon.com, Inc. v. Barnesandnoble.com, Inc., 73 F. Supp. 2d 1228, 1231 (W.D. Wash. 1999).

goods online with one click of the mouse, provided that the seller already has the necessary information about the buyer (e.g., credit card number, address, name) in its computer system.[214]

The district court granted Amazon.com's motion for a preliminary injunction on December 1, 1999, as the Christmas shopping season approached.[215] The court found that the plaintiff had made a strong showing of validity and infringement, and was likely to suffer irreparable harm if no injunction was issued.[216] The irreparable harm was most likely the inability to distinguish itself from a competitor and the associated loss in market share and sales.

On February 14, 2001, the Court of Appeals for the Federal Circuit vacated the preliminary injunction.[217] The court found that although Amazon.com had made a showing that it was likely to succeed at trial on its infringement claim, Barnesandnoble.com had mounted a serious challenge to the validity of Amazon.com's patent.[218] The court was quick to add that "[a]ll we hold, in the meantime, is that [Barnesandnoble.com] cast enough doubt on the validity of the '411 patent to avoid a preliminary injunction, and that the validity issue should be resolved finally at trial.'"[219]

X. ARGUMENTS FOR AND AGAINST BUSINESS METHOD PATENTS

Due in part to the recent litigation, debate over the patentability of business method patents has increased. Numerous arguments have been made against granting business method patents. The argument most frequently mentioned is based on the perceived poor quality of the business method patents that have been issued by the USPTO. The argument asserts that a much higher percentage of business method patents (vis-à-vis other patents) issue from the USPTO that are invalid because they are obvious or lack novelty. Two of the reasons cited for the higher percentage of invalid business method patents are the lack of non-patent related prior art that is available to patent examiners and the examiners' unfamiliarity with the prior art that is available.

David Bender has summarized this argument well.[220] In areas of technology that have been subject to patent protection for sometime, there is a well-developed body of prior art representing the state of the technology at any particular time.[221] Therefore, in areas of technology

214. *See* U.S. Pat. No. 5,960,411 (issued Sept. 28, 1999).
215. *See* Amazon.com, 73 F. Supp. 2d at 1249.
216. *See id.* at 1246.
217. *See* Amazon.com, Inc. v. Barnesandnoble.com, Inc., 239 F.3d 1343 (Fed. Cir. 2001).
218. *See id.*
219. *Id.* at 1360.
220. David Bender, *Recent Developments Regarding Business Method Patents*, 616 PLI/PAT 9, 18-19 (2000).
221. *See id.*

that have typically been patentable subject matter, the USPTO is able to make a good determination of the novelty and non-obviousness of the claimed invention. Bender's argument continues:

> in the realm of business methods, no rich body of prior art exists and, to the extent there are references at all to the state of the pertinent art, they are not categorized and easily found, especially by persons lacking a background in the industry to which the claimed invention is directed (and, so goes the argument, the PTO has few if any persons with appropriate backgrounds). As a result, the PTO is not in a position to make an informed determination on novelty and non-obviousness. And, the argument concludes, as a result many business method patents will issue claiming methods used (often secretly) well before the patent application was filed.[222]

In response to this argument, proponents of business method patents point out that the USPTO has taken steps to alleviate these problems. The USPTO has a plan which includes increased training for business method patent application examiners, a mandatory search of non-patent literature databases, and a new required second-level review of all allowed applications to ensure compliance with the search requirements and to determine if the scope of the claims require reconsideration.[223] Furthermore, the first inventor defense[224] protects a prior user of a business method from being precluded from continuing to use the business method.

Moreover, one scholar, Rochelle Dreyfuss, has suggested that even if the USPTO issues patents with claims that are overly broad, the courts will construe the claims narrowly.[225] Dreyfuss argues that *Wang Laboratories, Inc. v. America Online, Inc.*,[226] demonstrates this view.

The question in *Wang Laboratories* was patent scope, and the court took a very narrow view of what any particular business methodology teaches. Thus, the court found patent-significant distinctions between two "favorite places" or "bookmark" features, one using bit mapping protocols and the other using a character-based system.[227]

Therefore, one might conclude that even if the USPTO issues patents with claims that are invalid or overly broad, what is the harm? The courts will later strike down invalid claims and construe overly broad claims very narrowly, and furthermore, the first inventor defense protects many prior users.

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222. *Id.*

223. *See* U.S. Patent and Trademark Office, *supra* note 131.

224. *See supra* Part V.

225. *See* Rochelle Cooper Dreyfuss, Essay, *Are Business Method Patents Bad for Business?*, 16 SANTA CLARA COMPUTER & HIGH TECH. L. J. 263, 269 (2000).

226. 197 F. 3d 1377 (Fed. Cir. 1999).

227. *See* Dreyfuss, *supra* note 225, at 269.

Rochelle Dreyfuss argues that invalid and overly broad issued patents cause great harm.[228] The biggest problem is what she calls "stickiness."[229] "Stickiness" is a concept much like loyalty; once it takes hold, the invalidation of the business method patent has no effect.[230] She illustrates the problem of "stickiness" with Amazon.com's one-click patent[231] asserted against Barnesandnoble.com.

> One click is very nice for shoppers because once they have inputted various bits of shipping and billing information, they can check out quickly on subsequent visits. Accordingly, if Amazon has the exclusive right to one-click, we can expect that many customers will patronize its site. What happens if the patent is eventually invalidated – will there then be effective competition? Probably not because once a book buyer has entered information at Amazon, there is no reason to go elsewhere . . . . Buyers who rely on such services will not care if the patent is invalidated, and rival sites are permitted to utilize one-click: once locked in to Amazon, shoppers will not likely visit a site that is less informative and requires more work.[232]

In addition to the problem of "stickiness," Dreyfuss points out that invalid patents deter investment in competing companies that cannot succeed without first winning a lawsuit.[233]

The popular response to her argument is that these problems are typical of the growing pains the USPTO and the courts experience as they begin handling applications and patents in new areas of technology.[234] In the beginning, there are always a few anomalous decisions, which seem unfair.[235] Within a few years, however, the USPTO and the courts acquire the experience necessary to issue and uphold valid business method patents.[236] With time, the USPTO will develop a comprehensive body of prior art in the area that will allow it to perform better prior art searches.

Another argument against granting business method patents is that the social costs outweigh the social benefits. The social costs imposed by patents include the increased price of patented products and the decreased product quantity and quality from that typically found in a competitive market.[237] Critics also contend that the underlying policy of patents is to encourage otherwise unlikely investments in research and de-

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228. *See id.* at 270-71.
229. *Id.* at 271.
230. *See id.*
231. U.S. Patent No. 5,960,411 (issued Sept. 28, 1999).
232. Dreyfuss, *supra* note 225, at 271.
233. *See id.* at 270.
234. *See* Madson, *supra* note 105.
235. *See id.*
236. *See id.*
237. *See* Dreyfuss, *supra* note 225, at 275.

velopment.[238] Such critics argue that the incentive is not needed with business method patents because new business methods do not require large investments in research and development, and that new business methods are likely to arise as a result of a competitive economy, without the extra incentive of patent rights.[239]

Proponents of business methods patents respond that without patent protection, many businesses would maintain their business methods as trade secrets, and thus, the methods would not be publicly disclosed.[240] These patent supporters argue that offering patent protection encourages public disclosure.[241] Proponents also "see the Internet as simply another frontier of technology for which patents have played a useful role in fostering innovation and protecting financial investments by entrepreneurs."[242]

As the flood of business method patent applications filed post-*State Street* issue, the debate over the wisdom of allowing patent protection to business methods will likely continue and become more intense.

XI. CONCLUSION

The life of the business method exception to patentable subject matter, uncertain as it was in the past, now appears to be officially over. The *State Street* decision clarified the present state of the law.[243] As more and more business method patents are the subject of litigation, the courts will shed more light on how these patents will be construed and enforced. In the meantime, as the effects of *State Street* continue to play out, wise companies will plan accordingly and seek patent protection for their business methods.[244]

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238. *See* Robert A. Kreiss, *Patent Protection for Computer Programs and Mathematical Algorithms: The Constitutional Limitations on Patentable Subject Matter*, 29 N.M. L. REV. 31, 84 n. 358 (1999).

239. *See id.*

240. *See* Madson, *supra* note 105.

241. *See id.*

242. *Id.*

243. *See id.*

244. *See id.*