

United States of America

Q158

The Patentability of Business Methods

II. The legal situation in the USA

II.1 *The question of the patentability of business methods cannot be isolated from the problem of the protection of intellectual and abstract methods.*

*The groups are therefore invited first of all to indicate the exclusions from patentability, as provided for by the law of their country, based on the abstract nature of the invention:*

- *statutory exclusions;*
- *and exclusions arising from case-law.*

*If intellectual and abstract methods are excluded from patentability, the groups are invited to give details as to the basis of this exclusion.*

**statutory exclusions**

It is a basic tenet of patent law that the statutory authority from which the protection of inventions stems should be read broadly. The public policy rationale behind this principle is to encourage innovation. The range of subject matter for which patent protection may be obtained in the United States is defined by 35 U.S.C. §101, which states:

Sec. 101. Inventions patentable

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

According to the Federal Circuit, the plain and unambiguous meaning of §101 is that any invention falling within one of the four stated categories of statutory subject matter (i.e., process, machine, manufacture, or composition of matter) may be patented, provided it meets the other requirements for patentability set forth in Title 35, i.e., those found in §§ 102 (novelty), 103 (non-obviousness), and 112 (adequate description and definition of the invention). *State Street Bank & Trust Co. v. Signature Financial Group, Inc.*, 149 F.3d 1368, 47 USPQ2d 1596 (Fed. Cir. 1998). The Federal Circuit has further stated that 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. *State Street Bank & Trust Co. v. Signature Financial Group, Inc.* 149 F.3d 1368, 47 USPQ2d 1596 (Fed. Cir. 1998). Indeed, the U.S. Supreme Court has acknowledged that Congress intended §101 to extend to "anything under the sun that is made by man." *Diamond v. Chakrabarty*, 447 U.S. 303, 309, 65 L. Ed. 2d 144, 100 S. Ct. 2204 (1980); see also *Diamond v. Diehr*, 450 U.S. 175, 182, 67 L. Ed. 2d 155, 101 S. Ct. 1048 (1981).

**- exclusions arising from case-law**

**Supreme Court-** The Supreme Court of the United States has considered the issue of the patentability of software in the following three cases.

**Gottschalk v. Benson 409 U.S. 63 (1972)-** The Supreme Court rejected an attempt to patent "a method of programming a general-purpose digital computer to convert signals from binary-coded decimal form to purely binary form." According to the Supreme Court, the mathematical procedures in Benson could be carried out "in existing computers long in use, [with] no new machinery being necessary," so that such conversion was

achieved through what the Supreme Court termed an algorithm which the Court defined as "[a] procedure for solving a given type of mathematical problem." The Supreme Court reasoned that, if a patent were granted on such a programming method, the patent would wholly pre-empt the mathematical formula, and the practical effect would be a patent on the algorithm itself. Thus, the Supreme Court held that as an algorithm, the claimed process was not statutory and the patent on the process was invalid.

**Parker v. Flook 437 U.S. 584 (1978)**- The Supreme Court held that a process for updating "alarm limits" for the catalytic conversion of hydrocarbons was unpatentable, even as a patent was directed to an algorithm tied to a specific post-solution activity. According to the Supreme Court, "The notion that post-solution activity, [in this case, adjusting alarm limits at which chemical reactions become unstable] no matter how conventional or obvious in itself, can transform an unpatentable principle into a patentable process exalts form over substance."

**Diamond v. Diehr 450 U.S. 175 (1981)**- The Supreme Court did hold patentable a computerized process for curing synthetic rubber, notwithstanding that the process employed a well-known mathematical formula. The formula was coupled with a constant measurement of temperature inside a mold. A computer calculated ongoing changes in temperature and automatically terminated the curing process at the proper point with a degree of precision that had not been known in the art. The Supreme Court distinguished the Benson and Flook cases on the basis that the claimed process in Diehr involved more than calculating the numbers. The Supreme Court found the claimed process to "involve the transformation of an article, in this case raw, uncured synthetic rubber, into a different state or thing."

**Federal Circuit**- The Court of Appeals for the Federal Circuit has also considered the patentability of software in the following three cases.

**Arrhythmia Research Technologies Inc. v. Corazonix 958 F.2d 1053 (Fed. Cir. 1992)**- The Federal Circuit held patentable an implementation of a mathematical formula (in software) to perform a computer-based monitor of cardiac activity. The Federal Circuit held that a system performing a "transformation" of signals representative of a "useful, concrete or tangible thing" was patentable subject matter.

**In re Alappat 33 F.2d 1526 (Fed. Cir. 1994)**- The subject matter of the patent application under review was a "programmed machine"-e.g., a general purpose computer containing a software program (and thereby becoming a special-purpose machine). The Federal Circuit held that a "programmed machine" was patentable subject matter under 35 U.S.C. § 101.

**AT&T Corp. v. Excel Communications Inc. 172 F.3d 1352 (Fed. Cir. 1999)** issued patent under review was for a method of producing a message record for long distance telephone calls using a mathematical algorithm implemented through switching and recording mechanisms and from data gathered from call subscribers and call recipients. There was no "physical transformation" of any kind. The Federal Circuit held that the subject matter was patentable. The proper test applied was "whether the algorithm-containing invention, as a whole, produces a tangible, useful result."

## *II.2 Are business methods patentable or, on the contrary, are they excluded from patentability in the legislation of your country?*

The patentability of innovative methods for doing business was reaffirmed by the Court of Appeals for the Federal Circuit in *State Street Bank & Trust Co. v. Signature Financial Group, Inc.*, 149 F.3d 1368, 47 USPQ2d 1596 (Fed. Cir. 1998). In *State Street*, the Federal Circuit confirmed that there is no rule which prohibits the patentability of "business methods." The Court stated: [The judicially-created business method exception to patentability] is . . . an unwarranted encumbrance to the definition of statutory subject matter in section 101, that [should] be discarded as error-prone, redundant, and obsolete. It merits retirement from the glossary of section 101. . . . Patentability 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.

It is important to recognize that the Federal Circuit did not conclude that business method inventions had suddenly become patentable subject matter. Instead, the court simply confirmed that there has never been any

basis in U.S. patent law to suggest that such inventions cannot be patented. The recent surge in patent application filings in the area of "business" process inventions thus cannot be attributed to a fundamental change in the patent law. Instead, this dramatic increase in filings is principally attributable to the enormous growth of innovative activity in business methods, principally due to the new business paradigms available in the electronic commerce world.

The Federal Circuit stated further that since at least as early as 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." The Federal Circuit noted that neither it nor its predecessor court, the CCPA, has ever deemed an invention as unpatentable under any business method exception. Accordingly, in the State Street case the Federal Circuit put to rest this "ill-conceived exception" to patentability.

The recent actions of the U.S. Patent and Trademark Office are in accord with the Federal Circuit's holding in the State Street decision. In the 1996 Examination Guidelines for Computer Related Inventions, the U.S. Patent Office states:

Claims should not be categorized as methods of doing business. Instead such claims should be treated like any other process claims.

The Federal Circuit agreed that this is precisely the manner in which this type of claim should be treated. Whether the claims are directed to subject matter within §101 should not turn on whether the claimed subject matter does "business" instead of doing something else.

*II.3 If business methods are excluded from patentability, does this exclusion concern only the methods in themselves, or does it also apply to any invention applying business methods?*

Business methods are not excluded.

*II.4 If business methods are not patentable, are there other means of protection of business methods, particularly copyright?*

Business methods are not excluded.

*II.5 If business methods are patentable, is there a distinction in the grant of protection between business methods used in the context of traditional business and business methods used in the context of the Internet?*

There is no distinction.

*II.6 If business methods are patentable in the country, have the national courts already had the occasion to decide on the extent of the protection conferred by patents concerning such methods? In the affirmative, have the Courts applied specific rules or, on the contrary, the normal rules governing the patent system?*

The courts have applied normal rules governing the patent system. The following are two recent cases inviting business method patents.

**State Street Bank & Trust Co. V. Signature Financial Group, Inc. 149 F.3d 1368 (Fed. Cir. 1998)**- The subject matter of the issued patent was a data processing system (not a method) for implementing an investment structure (e.g. administering a mutual fund, U.S. patent No. 5,193,056). The system setup a "hub and spoke" arrangement, where each "spoke" represents an investment instrument (e.g. mutual fund), and the spokes "pool" their assets in an investment portfolio (hub) organized as a partnership. The hub provides economies of scale for administration and tax advantages of the partnership. The system calculates and allocates a percentage share that each spoke holds in the portfolio, and calculates gains, losses and year-end income.

The District Court in Massachusetts granted declaratory judgment of patent invalidity. The court found that the subject matter of the patent was software (a computer algorithm), and a business method. Accordingly, the court held that the claims failed to recite patentable subject matter under 35 U.S.C. § 101.

The Federal Circuit expressed the view that a mathematical algorithm is unpatentable only to the extent that it represents an abstract idea that is not "useful." The Federal Circuit found that this system was not unpatentable as a computer algorithm because it produced a "transformation" of data (discrete dollar amounts) through a series of mathematical calculations into different data (a final share price) which "constitutes a practical application of a mathematical algorithm, formula, or calculation because it produces 'a useful, concrete or tangible result'."

Also, this system was not unpatentable as a "method of doing business". The "ill-conceived [business method] exception" was laid to rest. "[B]usiness methods have been, and should have been, subject to the same legal requirements for patentability as applied to any other process or method." "The business method exception has never been invoked by this court... to deem an invention unpatentable."

**Amazon.com Inc. v. Barnesandnoble.com 53 USPQ 2d 1115 (W.D. Wa. Dec. 1, 1999)**- The patent in question is United States patent No. 5,960,411 entitled Method and System for Placing a Purchase Order Via a Communications Network. The 411 patent describes a method and system in which the consumer can complete a purchase order for an item via the Internet using only a single action (such as a single click of a computer mouse button) whose information identifying the item is displayed to the consumer. This method and system is only applicable in situations where a retailer already has in its files various information about the purchaser (such as the purchaser's address and credit card number) and where the purchaser's client system (e.g., the personal computer) has been provided with an identifier that enables retailer's server system to identify the purchaser.

During a preliminary injunction hearing the District Court in Seattle Washington found that Barnesandnoble.com was unlikely to succeed in showing by clear and convincing evidence that the claims of the 411 patent were obvious. "Barnesandnoble.com's reliance on the simplicity of the invention is unavailing. 'Defining the problem in terms of its solution reveals improper hindsight in the selection of the prior art relevant to obviousness...'"

The Washington District Court did not address the issue of business method patents.

The District Court ordered a preliminary injunction against Barnes & Noble impacting Christmas sales on the Internet.

### **III. Opinion of the USA group**

*After having set out the legal situation in their country, the groups are invited to give their opinion on the following questions, giving reasons for their point of view each time.*

*III.1 Do the groups consider that business methods, as defined broadly, taken in themselves, constitute inventions?*

Under the law currently in effect in the USA, business methods, as defined broadly, constitute inventions.

*III.2 In the opinion of the groups, is the exclusion of patentability for business methods in conformity with the provisions of Article 27 of the TRIPS agreement?*

No. Exclusion of business method patents would not be in conformity with the provisions of article 27 of the TRIPS agreement.

Article 27 paragraph 1 of the agreement on Trade-Related Aspects of Intellectual Rights (TRIPS) provides that "patents shall be available for any inventions, whether products or processes, in all fields of technology,

provided that they are new, involve an inventive step and are capable of industrial application..."

Article 27 paragraph 2 of the TRIPS agreement permits Members to "exclude from patentability inventions, the prevention within their territory of the commercial exploitation of which is necessary to protect ordre public or morality, including to protect human, animal or plant life or health or to avoid serious prejudice to the environment, provided that such exclusion is not made merely because the exploitation is prohibited by their law."

Business method patents would appear to fall within the protection of paragraph 1, and not be excludable under paragraph 2.

*III.3 If national legislation does not currently provide for the possibility of protecting business methods, taken by themselves, by invention patents, do the groups think that their patentability is desirable?*

Business method patents are available in the USA.

*III.4 If the answer to a 3 is in the affirmative, can the groups specify whether patentability should solely cover business methods used on the Internet, that is to say which directly implement technical means present on this network or, on the contrary, whether patentability should be accepted for all business methods without distinction?*

Patentability is accepted for use in all business applications, including use on the Internet.

There is no definition of the term "business method" in the statutes, leaving it to the courts to determine which patents may be called business method patents. The Federal Circuit decision in State Street did not specifically provide a definition of business method. In fact the claims at issue were not even method claims. However, it could be concluded, based on the scope of these claims that virtually any kind of patent that refers to financial activity could be considered to be a business method patent, without regard to whether or not the accused product or service is used on the Internet.

It is possible that future cases will determine that it is not necessary to include financial transactions in the claims of a "business method" Patent. Claim 1 of U.S. patent 5,839,112 specifies a method for estimating damage to a vehicle with no transfer of money mentioned. U.S. patent 5,913,204 claims a method for surveying the preferences of listeners to a radio station. U.S. patent 5,920,845 describes a method of running a "date matching" event. U.S. patent 5,851,117 describes a method for training an individual on how to conduct janitorial cleaning activities. Each of these activities can be conducted entirely without any payment of money, separate from any commercial business enterprise and without use of the Internet. Whether or not such patents will be considered to claim "business methods" remains to be seen. Currently, there is no statute or case law limiting "business methods" to use on the Internet.

*III.5 If the answer to 3 is in the negative, the groups are invited to express their opinion on other means of protection of business methods, such as copyright. In this case, it is requested that the groups present the respective advantages and disadvantages of patents and other means of protection of business methods. On this point, the groups may also refer to the Q133 on computer programs.*

Business method patents are available in U.S.

*III.6 If the business methods are the subject of invention patents, the question arises as to the scope of the protection conferred by a patent concerning such methods.*

*Would this be protection limited to the method itself, or would it be necessary, following the example of the process patent, to provide for protection in addition for products or services*

*marketed through such methods?*

The protection afforded business methods in the USA is not limited to the method itself, and can include non-method type claims, including apparatus or system claims. The claims approved in the State Street case were system claims.

*III.7 Should the rules for assessment of the scope of patents covering business methods be the same as for traditional method or process patents or, on the contrary, should specific rules be applied by the courts, and in this latter case, which rules?*

*For example, if the courts of a country generally apply the theory of equivalents, should this theory also apply to business method patents?*

It can be expected that the courts in the USA will apply the traditional rules for assessment of the scope of patents covering business methods, including the doctrine of equivalents.

The District Court in Amazon.com based its award of a preliminary injunction on an analysis of literal infringement and did not have to consider the doctrine of equivalents.

The Federal Circuit in State Street reviewed the granting of a motion for summary judgment on invalidity, and was not presented with an infringement issue.

At this point in time, there is nothing to suggest that the courts would be inclined to dispense with the doctrine of equivalents when reviewing infringement issues raised by business method patents.

*III.8 Do the Groups consider that the inventive activity of an invention concerning a business method may arise as a result of the simple fact of adapting a known method to new means of communication, such as the Internet?*

If a known business method is simply adapted to the Internet in an obvious manner, claims directed thereto should be rejected as unpatentable under 35 U.S.C. § 103.

The District Court in Amazon.com considered this issue of obviousness, and found that the business method patent claims were not obvious, as discussed in Section I, paragraph 6 above.

The United States Patent and Trademark Office announced on March 29, 2000, "a new initiative to insure that patents granted for software-implemented business methods are of the highest quality and benefit to the growing electronic commerce industry." These include "enhanced training of patent examiners; a new second-level review of all Class 705 (business method patents) applications; and the convening of a roundtable forum with stakeholders on the issues surrounding this technological area."

*III.9 With respect to acts of infringement, should the usual rules in patent law be applied: direct or indirect infringement, infringement by incitement, supply of means etc., or on the contrary should special rules be applied to patents covering business methods?*

*Thus, the US Act of 29 November 1999 provided a new defence in the event of alleged infringement of a patent with process claims. And the question arises in interested circles as to whether these new legislative provisions apply to all patents including process claims or only those where the claims concern business methods.*

With respect to acts of infringement, the usual rules of patent law should be applied, including infringement by inducement, contributory infringement and other acts set forth in the statute.

The USA has enacted the "American Inventors Protection Act of 1999". In Section 4302, entitled "Defense to Patent Infringement Based on Earlier Inventor" of the following defense is provided:

(1) IN GENERAL.-It shall be a defense to an act for infringement under section 271 of this title with respect to any subject matter that would otherwise infringe one or more claims for a 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... the term "method" means a method of doing or conducting business;

No definition is provided for "method of doing or conducting business", leaving it for the courts to determine what is included in this term.

Limitations are placed on this defense, including:

a person may not assert this defense unless the invention for which the defense is asserted is for a "method", or if the subject matter was derived from the patentee or persons in privity with the patentee;

the defense is not a general license under all claims in the patent, but extends only to the specific subject matter which the person can assert as a defense;

a person asserting the defense shall have the burden of establishing the defense by clear and convincing evidence;

a person who has abandoned commercial use may not rely on activities before the date of abandonment;

the defense may only be asserted by the person who performed the acts necessary to establish the defense;

upon assignment the defense may only be asserted for locations or sites of use before the filing date of the patent;

failure to prove the defense may result in an award of attorney fees to the patentee; and

a patent shall not be deemed to be invalid under section 102 or 103 solely because the defense is raised or established.

*III.10 Should rules concerning compensation for loss as applied to the infringement of patents covering business methods be the same as are applied to patents covering inventions in traditional fields, or should these rules be modified for the infringement of patents covering business methods, taking account of the fact that these methods are not used, in principle, for the manufacture of products but solely for the sale of products and services?*

Rules concerning compensation for infringement of patents covering business methods should be the same as are applied to patents covering inventions in traditional fields. These remedies include, lost profits if they can be proven or at least a reasonable royalty, and where appropriate an injunction. In view of the absence of any judicial or legislative definition of business methods, it cannot be said in the USA that business methods are not used for the manufacture of products, but are solely used for the sale of products and services.

*III.11 Should the rules of evidence concerning the infringement of a patent covering business methods be the same as those concerning process patents or patents for traditional methods? In particular, do the groups consider that the provisions of Article 34 of the TRIPS agreement concerning the burden of proof should apply to patents covering business methods?*

Yes. The rules of evidence concerning infringement of a patent covering business methods should be the same as those concerning process patents or patents for traditional methods.

Article 34 of the TRIPS agreement is considered to cover business method patents at this time in the absence of

