

# 11 A Comparative Study of the United States, Japan, and Thailand Laws on Online Business Method Patents<sup>(\*)</sup>

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*This research focused on a comparative analysis of the U.S., Japan, and Thailand patent laws related to online business method patents. The purposes of the research include: (i) to study the concepts and characteristics of online business methods; (ii) to study the current situation of online business method patents, their economic effects on software industry and e-commerce growth, and legal controversy on online business method patents; (iii) to study and compare the U.S., Japan, and Thailand patent laws and judicial decisions related to business methods; (iv) to study the Agreement of Trade-related Aspects of Intellectual Property Rights (TRIPS) and European Patent Convention (EPC) regimes towards business method patents; and (v) to analyze whether a business method patent is the best way to promote innovation for the era of information technology in Thailand.*

*It is found that business method patents are still debated so far. Regarding the U.S., software and business method patents have been recognized for decades. Recently, both the U.S. courts and the Board of Patent Appeals and Interferences (BPAI) of the US Patent & Trademark Office (USPTO) adopt the “machine-or-transformation” test to determine whether the claimed business method is a patent eligible subject matter. In Japan, a “technical feature” is a key element for determining business method patents. To be eligible for patent in Japan, business methods must use computers which provide concrete means in cooperation with software. In Thailand, by contrast, computer programs are excluded from a patent eligible subject matter. Thus, business methods are ineligible for patent in Thailand.*

**Keywords**— *online business methods, patent eligible subject matter, online business method patents, comparative legal study*

## I Introduction

The development of new technologies and techniques has not only influenced on national economics and industry development, but raised some controversial legal issues as well. In particular, in the era of Internet, merchants can use the Internet technology for e-Commerce by selling products or offering services over this open network with many new techniques, protocols and systems. This phenomenon causes the controversy of whether the processes of technology development and techniques, i.e., *online business methods*, should be treated as an invention in the sphere of patent protection.

Methods of doing business are classified as “processes”, because they are not physical objects like mechanical inventions or chemical compositions. So far, business methods have no

precise meaning.

Broadly speaking, a business method usually combines computer software with business methodology. This combination, therefore, is analyzed in term of patent eligible subject matter by considering at its dichotomy between “abstract idea” and “mathematical algorithms.”<sup>(\*)</sup> Accordingly, business methods, unlike other inventions, concern fundamentally on how to use data in doing business.<sup>(\*\*)</sup> This is the reason why business method patents have been controversial so far.

Regarding the legal frameworks of the U.S., Europe, Japan, and Thailand, there are different ways to define and limit the patent eligible subject matters: (i) the U.S. provides the validity conditions; (ii) European Patent Convention (EPC) stipulates exclusions to the subject matter, (iii) Japan gives a definition of the term

(\*) This is a summary of the report published under the Industrial Property Research Promotion Project FY2008 entrusted by the Japan Patent Office.

(\*\*) Dean, School of Law, Bangkok University.

(\*) Edita Petnycyte, “Should Patent Protection be Extended to Business Methods?”, *1 International Journal of Baltic Law* 3 (2004): 118.

(\*\*) Nari Lee, “Patent Eligible Subject Matter Reconfiguration and The Emergence of Proprietary Norms – The Patent Eligibility of Business Methods”, *45 IDEA* (2005): 321.

“invention,”<sup>(\*3)</sup> and (iv) Thailand takes an EPC approach.

So far, the practices of the US Patent and Trademark Office(USPTO), Japan Patent Office(JPO) and European Patent Office(EPO) have shown that acceptance of the patent eligibility of a computer program makes it difficult to deny the patent eligibility of business methods.

## II Historical Background of Online Business Method Patents and their Economic Effects

Business methods are a kind of innovation, which comprise of pure business methods and computer program-related business methods.<sup>(\*4)</sup> Basically, online business methods have two types of goals: (i) to “reduce costs and raise productivity by finding improved techniques for managing processes;” and (ii) to “reduce transaction costs between firms and consumers, largely through the Internet.”<sup>(\*5)</sup>

However, the term “business methods” has never been officially defined by any patent law so far. The term of “business method” is usually interpreted as the methods for commercial activities including the methods or processes of computing or processing administrative, financial and management data, computing technique used for commercial activities, especially, for e-business strategies.

Business methods can be categorized into two types: (i) “administrative methods,” which include “back-office methods that increase productivity or reduce organizational or production costs in a firm”; and (ii) “customer service methods,” which render “services that are consumed by customers or methods related to pricing, advertising or other marketing

concerns”.<sup>(\*6)</sup>

In terms of economic views, online business methods patents are opined that they encourage R&D investment for newer and better techniques for organizing business. Notwithstanding, opponents argued that the patents are not always promote a new invention of online business methods because (i) there are alternative mechanisms, which include being the first to bring an innovation to market (a head start advantage); trade secrets -- also provide enough incentive for inventors to invest in the creation of new and useful business methods; (ii) the market provides enough incentive for these kinds of inventions.<sup>(\*7)</sup>

Regarding the U.S., the USPTO had denied the business method patents for years until in 1998 with the *State Street* decision. With this regard, the USPTO have updated “Manual of Patent Examining Procedure”(MPEP). Moreover, after the Supreme Court in *State Street* validated business method patent as a patent eligible subject matter under 35 U.S.C. § 101, the USPTO has put “business method technology” in Class 705 of the Manual of Classification (MoC) entitled as entitled as ”Data Processing: Financial, Business Practice, Management, or Cost/Price Determination.”<sup>(\*8)</sup> The Class 705 includes sub-categories for industries such as health care, insurance, electronic shopping, inventory management, accounting, and finance.

In 2000, the USPTO announced the “Business Methods Patent Initiative: An Action Plan” to improve the quality of examination in the technologies related to business methods.<sup>(\*9)</sup> The Action Plan was consisted of industry outreach and quality improvement.<sup>(\*10)</sup> In 2005, thank to the Ex parte Lundgren decision,<sup>(\*11)</sup> the USPTO issued “Interim Examination Guidelines” to

(\*3) *Ibid.*

(\*4) Petnocyte, *supra* note 1.

(\*5) Keith E. Maskus and Eina Vivian Wong, Searching for Economic Balance in Business Method Patents. 8 Wash. U. J.L. & Pol’y: 289; available from <<http://www.law.wustl.edu/journal/8/p289Maskusbookpages.pdf>> (accessed August 14, 2008).

(\*6) Michael J. Meurer, Business Method Patents and Patent Floods, BU Law Working Paper 02-02 May 7, 2002; available from <<http://www.bu.edu/law/faculty/scholarship/workingpapers/abstracts/2002/MeurerM050702abstract.html>> (accessed August 21, 2008).

(\*7) Maskus and Wong, *supra* note 5 at 296.

(\*8) The United States Patent and Trademark Office, U.S. Patent Classification System - Classification Definitions (as of June 30, 2000); available from <<http://www.uspto.gov/web/offices/ac/ido/oeip/taf/def/705.htm>> (accessed September 2, 2008).

(\*9) Miku H.Metha and Laura Moskowitz , *Business Method Patents in the United States: A Judicial History & Prosecutor Practice*, AIPPI Japan - April 2004; available from <<http://www.sughrue.com/files/Publication/54011fba-0904-4dfe-83af-e5c4b0d1c538/Presentation/PublicationAttachment/5869b571-51c7-451b-bbd1-ed552fe8edc6/BusinessMethodPatentsAIPPIproprac.pdf>> (accessed August 17, 2008).

(\*10) The United States Patent and Trademark Office, *Business Methods Patent Initiative: An Action Plan*; available from <<http://www.uspto.gov/web/offices/com/sol/actionplan.html>> (accessed September 4, 2008).

(\*11) The Board of Patent Appeals and Interferences (BPAI), Appeal No. 2003-2088.

assist its examiners in determining whether the subject matter as claimed is eligible for patent protection.<sup>(\*12)</sup> Later, in 2007, the USPTO announced a pilot project, The Community Patent Review Project, also known as “Peer to Patent” Project <sup>(\*13)</sup> to request information about patent applications from the public for assessing the claims of pending patent applications.

In Europe, the EPO initially recognized that an invention using a computer program was not excluded from patent eligibility in the *Vicom* case.<sup>(\*14)</sup> The EPO concluded that a process was not excluded from patent eligibility just because of being based on an algorithm. But, even if made of patent ineligibility elements, it might be considered as both an invention and patent eligibility as long as a ‘technical contribution’ was made to the known. In 2001, the EPO Guidelines for Examination were updated to bring the Guidelines into line with EPO Board of Appeal case law concerning the patent eligibility of business methods and computer-related inventions and with current EPO practice on examining such subject matter. The EPO Examination Guidelines also illustrate a list of subject matter that, as such, cannot be patented in Part C, Chapter IV, which explicitly exclude business methods <sup>(\*15)</sup> In 2002, there was an effort to harmonize EU national patent laws and practices concerning granting patent for computer-implemented inventions. The European Commission (EC) published “*Proposal for Directive on the patentability of computer-implemented invention (CII Directive - 2002/ 0047/COD)*.” However, the Directive was rejected in 2005 by the European Parliament during Second Reading. <sup>(\*16)</sup> Still, the uncertainties of interpretation relating to the issue of eligibility of software and business method patent under EPC have led ambiguity to both inventors and patent examiners so far. Accordingly, Brimelow (EPO President)

attempted to get a certain guideline by addressing a number of questions to EPO’s Enlarged Board of Appeal to examine the patent eligibility of software.<sup>(\*17)</sup>

Regarding to Japan, the JPO has recognized business methods as a patent eligible subject matter since 1997. Though, business methods *per se* are ineligible for patent unless they are within the scope of software related inventions and have inventive step. One of the legal criteria of a patent eligible subject matter under Japanese Patent Law requires that inventions be “a highly advanced creation of technical ideas by which a law of nature is utilized.” <sup>(\*18)</sup> The JPO has substantively granted business method patents, On the other hand, the JPO rejects application of business methods if “(1) claims are directed to a business method *per se*; (2) claims are directed to a business method where the computer is utilized as a mere tool; (3) where information processing by software is not concretely realized by using hardware resources.” <sup>(\*19)</sup>

Besides, in June 2000, the Trilateral Offices – the USPTO, EPO, and JPO - agreed on business method patents that (i) a technical aspect is necessary for a computer-implemented business method to be eligible for patenting; and (ii) to merely automate a known human transaction process using well known automation techniques is ineligible for patent. <sup>(\*20)</sup>

However, Thai Patent Act explicitly prohibits computer programs from patent. Therefore, the Thai Patent Office (TPO) has not granted any business method patent so far.

### III Concept of Online Business Method Patents and the Legal Controversy

With a virtual environment, the Internet challenges a new type of doing online businesses

(\*12) The United States Patent and Trademark Office, *Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility*, 1300 Off. Gaz. Pat. Office 142 (Nov. 22, 2005); available from <[http://www.uspto.gov/web/offices/pac/dapp/opla/preognotice/guidelines101\\_20051026.pdf](http://www.uspto.gov/web/offices/pac/dapp/opla/preognotice/guidelines101_20051026.pdf)> (accessed September 2, 2008).

(\*13) Developed by the New York Law School Institute for Information Law and Policy in cooperation with the USPTO.

(\*14) EPO Board of Appeal decision in *VICOM* case, July 15, 1986, T 208/84-3.5.1.

(\*15) European Patent Office, *Guidelines for Examination in the European Patent Office*.

(\*16) IPFrontline, *Computer Implemented Inventions Directive Rejected*; available from <<http://www.ipfrontline.com/depts/article.asp?id=4773&deptid=8>> (accessed September 28, 2008).

(\*17) Alison Brimelow, *Referral under Article 112(1)(b) EPC (patentability of computer programs)*; available from <[http://documents.epo.org/projects/babylon/eponet.nsf/0/B89D95BB305AAA8DC12574EC002C7CF6/\\$File/G308\\_en.pdf](http://documents.epo.org/projects/babylon/eponet.nsf/0/B89D95BB305AAA8DC12574EC002C7CF6/$File/G308_en.pdf)> (accessed November 30, 2008).

(\*18) Article 2 of Japanese Patent Act.

(\*19) Lee, *supra* note 2 at 334.

(\*20) The Trilateral Cooperation, Report on Comparative Study carried out under trilateral project B3b, available from <[http://www.trilateral.net/projects/other\\_project/business\\_method/](http://www.trilateral.net/projects/other_project/business_method/)> (accessed September 17, 2008).

worldwide. Therefore, online merchants have made efforts to create some methods of doing business by using computer software technologies. There are various business methods used for online businesses, such as method of selling new sound recordings, system and method for extension of group buying throughout the Internet, Internet advertising method and system. Accordingly, there is a notion that business methods need a stronger of intellectual property protection because they are intangible ideas that are easily imitated by competitors. Thus, inventors have tried to file for business method patents.

Since business methods (including online business methods) are comprised of methods of doing business and computer software technologies, thus business entities usually keep their business practices confidentially with trade secret protection.<sup>(\*21)</sup> Meanwhile, computer software is protected under copyright regime by Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS)<sup>(\*22)</sup> and WIPO Copyrights Treaty (WCT).<sup>(\*23)</sup> However, trade secret and copyright have some weaknesses for business method protection. Therefore, business entities seek a stronger protection by considering software and business method patents. Notwithstanding, there is skepticism whether it is more pragmatic to grant business method patents. Thus, business method patents have raised a variety of questions including (i) whether business method patents are vital to promote invention and the commercialization of online business strategies; (ii) whether it is wasteful for granting exclusive rights for inventions that would be developed anyway; (iii) whether the monopoly right under patent law should extend to online business methods.<sup>(\*24)</sup> These issues are also discussed for online business method patents as well.

In the meantime, online business method patents also established legal controversy as follows:

### **(1) Whether Patent Is Really Needed to Promote Online Business Methods**

Proponents opined that patenting online business methods will certainly promote innovation, especially small and medium-sized business entities and will increase the growth of electronic commerce.<sup>(\*25)</sup> In contrast, opponents pointed out that “patents could be obtained for nearly every method of doing business merely because it is being practiced on the Internet. In other words, there has been not true innovation, other than applying an already known business method in cyberspace.”<sup>(\*26)</sup> Besides, it is also pointed out that online business method patents “threaten the development of the World Wide Web itself”, since the Internet will be “controlled by a few large corporations who get the most BMP’s (business methods patents) and will monopolize the [I]nternet in the process.”<sup>(\*27)</sup>

### **(2) Whether Online Business Method Patents Have Inferior Quality**

Most opponents argued that online business methods patents “are not novel and are ‘obvious’, and should therefore be barred from patent protection.”<sup>(\*28)</sup> They blamed that “according to the current laws, every method of doing business can be patented just by implementing it over the Internet. Such a broad interpretation generates ‘bad patents’.”<sup>(\*29)</sup> Notwithstanding, proponents argued that there is “no evidence to support the idea that Internet business methods patents were of inferior quality or of lower value than most other patents.”<sup>(\*30)</sup>

(\*21) Steven S. Boyd, Business Method Patents: Adapting to A New Concept, 14th Annual Intellectual Property Law Course; available from <[http://www.lockelord.com/files/News/a1702048-1d5f-4a48-9d63-05daafb8ab26/Presentation/NewsAttachment/88acf714-7653-4605-bed8-065e36ce75cb/Business\\_Method\\_Patentspdf%5B1%5D.pdf](http://www.lockelord.com/files/News/a1702048-1d5f-4a48-9d63-05daafb8ab26/Presentation/NewsAttachment/88acf714-7653-4605-bed8-065e36ce75cb/Business_Method_Patentspdf%5B1%5D.pdf)> (accessed August 16, 2008).

(\*22) TRIPS, Article 10 (1) “Computer programs, whether in source or object code, shall be protected as literary works under the Berne Convention (1971).”

(\*23) WCT, Article 4 “Computer programs are protected as literary works within the meaning of Article 2 of the Berne Convention. Such protection applies to computer programs, whether may be the mode or form of their expression.”

(\*24) Maskus and Wong, *supra* note 5 at 301.

(\*25) Maskus and Wong, *supra* note 5.

(\*26) Cliff MacDonald and Chris Werner, Internet Business Method Patent Issues; available from <<http://www.unc.edu/courses/2005spring/law/357c/001/projects/cmac/criticism.html>> (accessed August 13, 2008).

(\*27) Jwalant Dholakia, Reviewing Business Method Patents (BMP’s): A Strategic Asset For Companies And Inventors. 6 International Business & Economics Research Journal 1: 49-62 at 59; available from <<http://www.cluteinstitute-onlinejournalscom/PDFs/200782.pdf>> (accessed September 7, 2008).

(\*28) *Ibid.*

(\*29) *Ibid.*

(\*30) John R. Allison and Emerson H. Tiller, *The Business Method Patent Myth*, 18 Berk Tech. L. J.: 987, 1003-04 (Fall 2003); available from <[http://papers.ssrn.com/sol3/papers.cfm?Abstract\\_id=421980](http://papers.ssrn.com/sol3/papers.cfm?Abstract_id=421980)> (accessed August 21, 2008).

### (3) Whether Online Business Method Patents Cause Adverse Economic Effect and Social Costs Burden

Proponents commented that “business method patents actually have less potential for adverse effect than other patents and thus impose less ‘cost’”.<sup>(\*31)</sup> However, the opponents strongly convinced that the granting of patents not only incurs social cost, but also incurs administrative costs, which spend for application process and patent licensing.<sup>(\*32)</sup>

### (4) Whether Online Business Methods Are Within the Scope of Patent Protection

Critics stated that business methods have led to the dilution of patent standards, which include: (i) a lack of patent examiners; (ii) the increase of patents to software and business methods clarifies that there may not be sufficient written prior art to reject applications on what might seem to be obvious technologies, coupled with examiners are not adequately trained in those areas. Accordingly, the novelty and nonobviousness standards are weakened applied; (iii) most business method patents, although suspicious, are reinforced by courts and regulation; (iv) the progressive lowering of the utility standard.<sup>(\*33)</sup> On the other hand, proponents contended that it is unfair to exclude business methods from the auspices of patent protection.<sup>(\*34)</sup> Besides, they reasoned that there is no concrete reason to restrict the business methods to be patented under the patent law.<sup>(\*35)</sup> They also opined that “[o]nce the computer software is accepted as a patentable subject matter, it is logically impossible not to expand the scope of patent subject matter to a method of doing business.”<sup>(\*36)</sup>

## IV Statutory Framework and Judicial Precedents of Online Business Method Patents: TRIPS, EPC, and Patent Regimes of the U.S., Japan, Thailand

Regarding the international agreements - TRIPS Agreement and the EPC, Article 27 (1) of

the TRIPS Agreement states that .....[p]atents 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....” Likewise, Article 52 (1) of the EPC also states that “[E]uropean patents shall be granted for any inventions, *in all fields of technology*, provided that they are new, involve an inventive step and are susceptible of industrial application.” However, Article 52 (2) (c) of the EPC excludes schemes, rules and methods for performing mental acts, playing games or doing business, and programs for computers to be an invention according to Article 52 (1) if they are subject matter or activities as such. These two international agreements set the same criteria for patent protection, i.e., any inventions, whether products or processes, *in all fields of technology*.

Among the U.S., Japan, and Thailand, there is no jurisdiction explicitly provides the meaning of business methods in their patent law so far. The U.S. provides the broadest scope of patent eligible subject matter for business methods, but some limitations of patent eligible subject matter by individual judicial cases. Meanwhile, Japan grants business method patents if the claimed are considered as “inventions” under the Article 2 (1) and the claimed inventions rely on the significance of a computer program as a means of implementing this type of information processing. In contrast, Thailand is taking a step to explicitly exclude business method as a patent eligible subject matter.

Regarding the U.S., business method patents have been validated by the U.S. courts for years. With the broad scope provided in 35 U.S.C. § 101, the courts had interpreted the scope of patent eligible process in various meanings. Accordingly, the courts have adopted key tests in considering whether the business methods are eligible to be patented as a process under 35 U.S.C. § 101. Those tests are machine-transformation test, practical utility test (known as “concrete, useful and tangible” – CUT Test), and technological arts

(\*31) Kevin Schubert, *Should State Street Be Overruled?- Continuing Controversy over Business Method Patents*, 90 J. Pat & Trademark Off Soc’y (2008): 461, 465.

(\*32) Mark A. Lemley et al., *Software and Internet Law (Casebook)*, (New York: Aspen Law & Business Publishers, 2000): 318 at 320.

(\*33) Frederick M. Abbott and Carlos M. Correa, *World Trade Organisation Accession Agreements: Intellectual Property Issues*, The Quaker United Nations Office (Geneva, 2007); available from <<http://www.quono.org/geneva/pdf/economic/Issues/WTO-IP-English.pdf>> (accessed August 24, 2008).

(\*34) Robert P. Merges and John F. Duffy, *Patent Law and Policy: Cases and Materials*, 3d edition (Newark: Lexis-Nexis-Matthew Bender & Company, 2002): 254-258.

(\*35) Petnycyte, *supra* note 1 at 114, 119, 129 and 133.

(\*36) Lee, *supra* note 2.

test. Accordingly, the USPTO has updated provided a Manual of Patent Examining Procedure (MPEP) to establish a clear guideline for patent eligibility in Chapter 2100, which includes patent subject matter eligibility (2106). The MPEP clarifies the process of USPTO for determining a patent eligible subject matter within the scope of 35 U.S.C. § 101.

On the other hand, Japan limits the scope of patent eligible subject matter by defining the meaning of “*invention*” in Article 2 (1) of the Patent Act. Therefore, the definition of “*invention*” is a key factor for determining a validity of business method patents in Japan. To be patent eligible, business methods require “a highly advanced creation of technical ideas, utilizing a law of nature”. Thus, pure business methods are ineligible for patent. Notwithstanding, according to the Japanese government’s pro-patent policy, business methods patent claims relying on the significance of a computer program as a means of implementing this type of information processing are eligible for patent. Accordingly, business methods must use computers which provide concrete means in cooperation with software. Besides, the JPO launched in part VII, Chapter 1 (2) of the Examination Guidelines establishing the criteria as the basic concept to determine whether the software-related invention qualifies as a statutory invention.

In contrast, business method patents in Thailand, without judicial cases, are very difficult to be patented. The characteristic of business methods is usually comprised of methods of doing business and computer software, but article 9 (3) of Thai Patent Act explicitly excludes computer program from patent eligible subject matter. Furthermore, the TPO has advised that a “process” refers to a method that can yield a tangible product. Unfortunately, TPO has not provided any examination guideline for patent procedure so far.

## V Findings and Conclusion

In light of online business method patents controversy, they have been criticized in both ways: pro and con. Critics mostly commented online business method patents in terms of chilling effect of the innovation, lower quality, and economic cost. In particular, they blamed that online business method patents would not only jeopardize the prospects of small business entities and open source software developers, but

cause chilling effect on e-Commerce as well. In contrast, the advocates pointed out that online business method patents provide competitive advantage, incentive to innovate, opportunity to recoup research and development costs, attract investors, afford inventors royalty income, and prevent competitors from unfair business practices.

The idea of patenting emerging innovation is crucial, but it must be certain that the standard for protection is unambiguous and does not cause negative effects in a marketplace. Critics proposed that the best resolution for business methods patents is harmonization of international law and patent law and procedural reform. They believe that international harmonization of patent laws regarding business methods are important as business method inventions are mostly used for e-Commerce, which is borderless. Thus, harmonization would allow inventors to file a patent application, and enforce the rights of a patent owner in different jurisdiction. Some also proposed a *sui generis* protection for business methods.

Nonetheless, Japanese patent standards for business method are reasonable in a pragmatic way. At least to be considered as an invention, it needs a standard of “highly advanced creation of technical idea.” This can guarantee a high quality patent.

Still, in case of Thailand’s situation as a developing country, I concur with the TPO that the idea of granting business method patents in Thailand is premature and awkward. The reasons include (i) the methods of doing business, particularly for e-Commerce, should not be monopolized by patent, otherwise it will retard the growth of online business; (ii) granting business method patents, without improving the readiness of prior art search and having sufficient examiners with professional skills in computer software, will not only harm the innovation for Thailand software industry, but may also grant a poor quality of business method patents; (iii) open source software has played a vital role for developments of software and e-Commerce industries in Thailand. Accordingly, granting business method patents will definitely cause negative effects to both the industries and the society as a whole. I think copyright and trade secret regimes work efficiently for business method protection.