A Better Mousetrap: Business Model
Patents in the Digital Economy

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"If a man can write a better book, preach a better sermon, or create a better mousetrap than his neighbor, though he builds his house in the woods the world will make a beaten path to his door."
(Ralph Waldo Emerson)

The desks of clerks at the U.S. Patent and Trademark Office (USPTO) have long been cluttered with patent applications for wondrous new devices: a light bulb (Thomas Edison), a flotation device (Abraham Lincoln), a new self-guidance system for torpedoes (actress Hedy Lamarr), a compound to help sufferers of depression (Eli Lilly, Inc.) and better mousetraps of all sorts. This is probably the view you have of how things work at the USPTO. Consider, then, U.S. Patent No. 5,443,036, granted in 1995, which is shown below.

No, it's not a spoof. Patent No. 5,443,036 is held by Kevin Amiss and Martin Abbott, who demonstrated the utility and novelty of using a laser pointer to play with a cat. Maybe the applicants and the USPTO were just having fun, and maybe not. But there is something different about this patent either way. It's not a patent for a thing. It's a patent for how to do something. Can you really get a patent for how to do something? Of course you can. Some recent examples: how to find the right bra size (No. 5,965,809) and how to hit a tennis stroke while wearing a knee pad (No. 5,993,366). You may wonder what's going on here. But, it's not a new idea. The USPTO has been awarding 'methods' patents for decades. What has changed is the remarkable increase in the pace of applications and awards in recent years, which brings us...
to the point of this article. Patenting 'business methods' (some of them stunningly obvious) such as using one mouse click to complete an online book order, is a hallmark of business in the digital economy. In this article, we'll take a brief look at how and why business model patents have become so prevalent in the new economy.

The USPTO

The patent law of 1790 created an office that was empowered (by the Constitution) to Promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries. In 211 years, the USPTO has established a proud tradition of rewarding the development of technologies of all sorts (though often for things that might seem at a distance to be trivial, or obvious, or both). The objective has always been to draw out of the collective genius inventions that would promote the good of the nation. It is a Faustian bargain, however. On the one hand, by commercially rewarding the efforts of inventors, we call forth their creative efforts. On the other, we create monopolies with all the evils that attend them.

The patent laws grant an inventor a 20-year monopoly (recently increased from 17) during which they may exploit the commercial potential of their work as they see fit. An appealing view of this is the 'solitary genius' model which appears to underlie the philosophy of the USPTO. Weighed against this is the ambivalence of the Supreme Court, expressed nearly 120 years ago, "It was never the object of patent laws to grant a monopoly for every trifling device, every shadow of a shade of an idea, which would naturally and spontaneously occur to any skilled mechanic or operator in the ordinary progress of manufactures. Such an indiscriminate creation of exclusive privileges tends rather to obstruct than to stimulate invention. It creates a class of speculative schemers who make it their business to watch the advancing wave of improvements, and gather its foam in the form of patented monopolies, which enable them to lay a heavy tax on the industry of the country, without contributing anything to the real advancement of the arts. It embarrasses the honest pursuit of business with fears and apprehensions of unknown liability lawsuits and vexatious accounting for profits made in good faith." (Atlantic Works vs. Brady, 1882.) Those words should resonate with those who see some latter day business model patents as little more than sand thrown into the gears of the digital economy.

Business Method Patents

Patents for business methods are not new. Todd Dickinson, Director of the U.S. Patent Office, offers as evidence a patent awarded in 1867 for a method of registering hotel guests in a book with advertisements in the margins that "looks suspiciously like ... a commercial (web)site." (Internet Society Panel on Business Method Patents, 10/23/00) The idea of patenting a method of doing business is as old as the internet is brand new. Even those completely comfortable with the idea of patenting a 'how to' might still be puzzled by Patent No. 4,744,028, awarded in 1988 to Narendra Karmakar, at the time at Bell Laboratories, for the solution to a mathematical problem (the linear programming problem with large numbers of activities). Aren't equations 'laws of nature'? Apparently not all are, since dozens of patents have been awarded for equations, including, for example, Pierre Duhamel's Patent No. 4,797,847 for the Discrete Cosine Transform, a mathematical result that is used in designing compact storage for video data. In case you've now got an inspiration to patent $E=MC^2$, save your energy. This one is viewed as a law of nature, not patentable. The equation has to be new, and has to have some commercial potential. (Karmakar's solution was new, and it has proved very useful to the airlines in assigning planes to routes and flights.) The Supreme Court has singled out mathematical algorithms for exclusion from patentability. They are unpatentable if they merely represent an abstract idea - abstract ideas can't be patented. But, in Diehr, 450 U.S. 175, 101 S.Ct. 1048, the court left the door ajar; "certain types of mathematical subject matter standing alone, represent nothing more than abstract ideas until reduced to some type of practical application." (Emphasis added.) The link here is that a business model is an idea, an abstract expression. But, one can certainly argue that a business model has a practical application, especially as soon as it is put into use. How are these relevant to our discussion? The something new that ultimately does figure into these digital economy 'business model' patents are patents on software, and to obtain a patent on software, we have to be able to patent an algorithm, essentially an equation. Apparently, this is where the USPTO turned the corner that led to the current flood of business method patents. (This still leaves Patent No.
5,443,036, which appears to have sneaked through this screen. Where is the commercial applicability of a method of playing with Fluffy the cat?)

The Platform

In 1993, designer/inventor Todd Boes created for Signature Financial Services Corp. a data processing system, the 'Hub and Spoke System,' for keeping track of individual mutual fund investments that have been pooled into a single portfolio. Boes created a computer algorithm for doing the computations. At the time, computer programs could be copyrighted but not patented. Boes, however, did obtain a patent for the underlying idea, which was assigned to Signature Financial Services in 1993. State Street Bank and Trust attempted to negotiate a license to use their technology, but the negotiations broke down. State Street took the natural next step, they sued, arguing that the patent was invalid, since it covered a mathematical algorithm, not something physical. The district court agreed, and granted a summary judgment in State Street's favor. It is notable that only 8 years have passed since the presiding judge in the case stated that "as established by a series of older cases, business methods are unpatentable abstract ideas." The Federal Circuit Court disagreed and overturned. The patent held.

State Street forms the foundation of the current environment of business model patenting, a realm in which it seems as if anything goes. Consider, two examples, both obtained by Priceline.com founder Jay Walker's Stamford organization, Walker Digital. (Walker Digital has applied for hundreds of business model patents.) 'Shopping up' is a system in which a customer at a store, such as a Kentucky Fried Chicken outlet, takes their change 'in kind,' in the form of an additional food product. Walker obtained a patent on this form of transaction. Even more striking, and perhaps better known, is Walker's patent on the pricing method used by Priceline.com, which looks like a patent on the English Auction, a device which has been in the public stock of knowledge for decades. And, then, there is the poster child for this entire debate Amazon's patented (and now famous) "1 click" "Method and system for placing a purchase order via a communications network" (U.S. Patent No. 5,960,411).

Why Do We Have Digital Commerce Patents?

State Street opened the floodgates. The number of patents granted for business methods jumped from less than 100 in 1996 to over 500 in 1999. The number of applications for such patents jumped from roughly 700 to 2,600 in the same period. Individuals and groups such as Walker Digital have been emboldened to comb the intellectual landscape for patentable ideas great and small. Their applications seem to have received a welcome reception at USPTO, though sometimes the USPTO makes an obvious mistake. It precedes our discussion, but a good illustration is the 1993 patent awarded to Compton's New Media (Compton's Encyclopedia) which apparently laid a basis for their claim to multimedia itself. The patent was as ridiculous as it seems, and at the instruction of Director Dickinson, Compton's claims were overturned. One element of the current climate has been USPTO's apparent difficulty in handling the avalanche of applications - though, to be fair, they appear now to be catching up. A major problem is that the amount of prior art (existing knowledge) which must be verified for business model applications is vast and the art, itself, is often ambiguous and diffuse.

Why should we have business model patents such as these? By his own account, Jeff Bezos of Amazon has been besieged with correspondence about Patent No. 5,960,411. In an open letter on this subject (http://www.amazon.com/exec/obidos/subst/misc/patents.html), he argues that business model patents are different and should be treated differently by the USPTO. Among his suggestions is a shorter track from application to award and a shorter life for the patent, perhaps five years instead of 20. But, why should we have them at all? Bezos states that "...online, the balance of power shifts away from the merchant and toward the consumer." Reading between his lines, I hear him observing, no doubt correctly, that the heat of competition on the web is greater than in the 'old economy.' Entry is easy, and customers are fickle - branding is difficult and customer loyalty is hard to come by. Putting it bluntly, Amazon's mantra, "Get Big Fast" translates to "get it as fast as you can, while you can." A little sand in the gears to slow down the competition can't hurt. Whether this justifies a fast track to quick monopoly profits before they evaporate is debatable, but this seems to characterize his argument.

One could argue that patent protection provides a crucial role in allowing developers of 'things' such as pharmaceuticals to recoup sometimes huge, sunk research and development costs. We concede the cost and difficulty of designing a truly effective website, but as a general proposition, this hardly seems a
compelling case for patenting methods of conducting business such as shopping up, or a system for providing expertise online (AskJeeves.com, another Walker Digital creation, Patent No. 5,862,223). On the other side of this debate stand thinkers such as law professor James Boyle of American University who feels that "the Patent Office is issuing patents for blindingly obvious things just because they are being done with software or on the Internet." These patents are causing a "chilling effect on electronic commerce." ("Software Patents Tangle the Web," Seth Shulman, Technology Review, March 2000.) NYU's Rochelle Dreyfuss argues forcefully that business model patents "undermine the very basis on which the anti-monopoly argument depends." (State Street or Easy Street: Is Patenting Business Methods Good For Business?) None of the discussion establishes that monopolies on business methods are a good thing. The prodigious volume of entry (and, of late, exit) of new business on the Internet makes it hard to accept the argument that these temporary monopolies are really necessary to give entrepreneurs incentive to try their newly invented hand at business on the web.

But. Standing between the parties in this argument is Director Dickinson, who states that business model patents represent "... a very logical extension of the patent system" we have always had. Dean Alderucci, head legal counsel for Walker Digital, suggests "If you have a new and useful business method, a patent can force the money out of it and benefit the public." The concepts of new and useful are crucial here. Arguably, these really are the only hurdles that the USPTO needs to raise. Ridiculous and obvious are in the eye of the beholder.

Where Is It Going?

Amazon's one click feature was made available to its customers in September, 1997. The patent was granted on September 28, 1999. Three weeks later, on October 20, Amazon sued rival bookseller Barnes and Noble for infringement. Barnesandnoble.com's odd insertion of a second mouse click into the checkout process is explained by Judge Marsha Pechman's injunction, granted on December 14. But, on February 14, 2001, a federal appeals court overturned the injunction. For the time being at least, '1 click' is public domain. The trial at which the issue is supposed to be resolved will convene in Seattle on September 10, but for now, this case suggests at least some are reconsidering the wisdom of a trend toward ubiquitous patenting of every mechanical aspect of internet commerce. Of course, whether or not, echoing Atlantic vs. Brady, the litigation continues. Amazon will defend its recently obtained patent on "affiliate programs." These are used by many internet retailers to link their site to another retailer's catalog - a customer begins a transaction at the website, then is shifted to the retailer to complete the purchase. Affiliate programs are widely used on the web. This is a far-reaching and potentially very disruptive patent that is certain to evoke a cornucopia of lawsuits and countersuits. Perhaps there is justice (and a touch of irony) in cyberspace. On April 12, 2000, Amazon.com was sued by Intouch for infringing patented methods for consumers to preview music samples over the Internet.