

PROTECTING INTERNET BUSINESS METHODS: AMAZON.COM AND THE 1-CLICK CHECKOUT

by

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Maintaining a competitive position in electronic business has become increasingly difficult. Business methods are easily and inexpensively copied by competitors, brand identity is difficult to establish and maintain, and building trust and ensuring security and privacy have proven most challenging. Firms are exploring more complex, integrated strategies to meet these challenges. One of the more controversial strategies has been the patenting of the firm's Internet business methods. Examples of such Internet business method patents include: Amazon.com's 1-Click ordering (storing a customer's billing information so that they do not have to enter it every time they make a purchase); Priceline.com's "name your own price" online purchasing model; Sightsound.com's patent on selling of audio or video recordings in download fashion over the Internet; the Home Gambling Network's patent on remote, live wagering over the Internet; and CyberGold's patent on rewarding customers who receive and view online advertisements. Note that the Internet business method patents are on the business method idea, not the technology to accomplish the business method. These patents create 20-year monopolies over the business methods identified in the patent.

Traditionally, business methods were thought to be unpatentable; indeed, for many years U.S. Patent and Trademark Office (PTO) examiners routinely rejected patent claims which they considered to be directed to a "mere method of doing business." The PTO, however, has recently been granting large numbers of patents for software related business methods -- in particular business methods that relate to the Internet. In the PTO's fiscal year ending September 30, 2000, the number of business-method patent applications rose to 7,800 from 2,821 the year before. During that same period, the PTO issued 899 business. Those numbers can be compared to 1997, when there were 925 applications and 205 grants of business method patents. It typically takes the Patent Office 26 months to rule on a patent application.

Recent court cases have brought the validity of business method and Internet related patents into sharper focus. With respect to business methods, a key 1998 case, *State*

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Street v. First Financial,¹ sanctioned their validity. That case did not involve the Internet, but rather a "hub and spoke" software program for managing an investment structure for mutual funds. The software facilitated the administration of mutual funds (the "spokes") by pooling their investments into a single portfolio organized as a partnership (the "hub"). The software determined changes in hub investment assets and allocated the assets among the spokes. The Federal Circuit Court of Appeals (the highest, and most specialized, court on patent matters besides the Supreme Court) held that software algorithms that lead to business methods, like the one at issue in *State Street*, were patentable. This case reversed a long history of judicial opinions suggesting otherwise. The *State Street* case set the stage for action on a more controversial patent relating to Internet business methods – Amazon.com's single action ordering, more commonly known as the 1-Click Checkout.

Amazon.com and the 1-Click Patent

"We spent thousands of hours to develop our 1-Click process, and the reasons we have a patent system in this country is to encourage people to take these kinds of risks."²

-- Amazon.com CEO Jeff Bezos

"The idea that [Amazon's] 1-Click is so amazing that it deserves a government-granted monopoly is ridiculous.... These patents are going to change what the Internet is right now, which is a place for a broad number of people to play in the innovation game."³

-- Stanford Law Professor Lawrence Lessig

Through its Web site (www.amazon.com), Amazon.com enables customers to find and purchase books, music, videos, and other items over the World Wide Web. Amazon.com pursued a strategy of innovating to distinguish its shopping experience from the competition, and it made substantial investments to build customer relationships and broaden its customer base during the early growth phase of electronic commerce. Creating easy-to-use and easy-to-learn consumer interfaces was a key aspect of Amazon's strategy.

Sometime before May 1997, Amazon.com CEO Jeffrey Bezos conceived of an idea to enable Amazon.com customers to purchase items with a single-click of a computer mouse button. That idea resulted in a system in which a consumer could 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) once information identifying the item was displayed to the consumer. This system was applicable in situations where a retailer already had 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., a personal computer) had been provided with an identifier – or "cookie" -- that enabled the retailer's server system to identify the purchaser. Technologically, the 1-Click was an order fulfillment

¹ *State Street Bank and Trust v. Signature Financial Group*, 149 F.3d 1368 (Fed. Cir. 1998), cert. denied, 119 S. Ct. 851 (1999) (held that business methods are patentable).

² Thomas E Weber, "Patents feuds may damp Web's spirit," *Wall Street Journal*, B1, November 8, 1999.

³ Thomas E Weber, "Patents feuds may damp Web's spirit," *Wall Street Journal*, B1, November 8, 1999.

component of a server system that took the information provided by the databases of user information and inventory, combined those into a shipment order, and then notified the customer that the order was ready for shipment. Amazon.com commercially implemented this idea in September of 1997.

Amazon.com's single-action ordering method addressed an unsolved need that had been long-felt, namely, streamlining the on-line ordering process to reduce the high percentage of orders that were begun but never completed (i.e., abandoned shopping carts.” In the on-line industry over half of the shopping carts started by customers are abandoned before checkout. The single-action ordering invention solved the problem by eliminating the checkout process entirely.

While the 1-Click ordering system may have been an innovative business method for Internet retailing, technologically it was neither too sophisticated nor complicated to replicate. In May of 1998, one of Amazon.com's chief business competitors, Barnesandnoble.com, developed an “Express Lane” checkout system that closely mimicked Amazon's 1-Click. Express Lane allowed customers who had registered for the feature to purchase items by simply clicking on the Express Lane button shown on the product page that identified the book or other item to be purchased. The text beneath the Express Lane button invited the user to "Buy it now with just 1 click!" Barnesandnoble.com described Express Lane as one of its "major enhancements" to its on-line business.

Prior to Barnesandnoble.com's use of Express Lane, Amazon.com took advantage of a recent U.S. Patent Office policy allowing for the patenting of software enabled business methods. Amazon.com filed a patent entitled “Method and System for Placing a Purchase Order Via a Communications Network.” That patent, granted in September 1999, protected the idea of using a single action to order, not just the particular technology to do it.

Method and System for Placing a Purchase Order Via a Communications Network
Issued/Filed Dates: Sept 28, 1999 / Sept 12, 1997

“We claim:

1. A method of placing an order for an item comprising: under control of a client system, displaying information identifying the item; and in response to only a single action being performed, sending a request to order the item along with an identifier of a purchaser of the item to a server system; under control of a single-action ordering component of the server system, receiving the request; retrieving additional information previously stored for the purchaser identified by the identifier in the received request; and generating an order to purchase the requested item for the purchaser identified by the identifier in the received request using the retrieved additional information; and fulfilling the generated order to complete purchase of the item whereby the item is ordered without using a shopping cart ordering model.”

Shortly after the issuance of the patent, Amazon.com went to court to enforce it against Barnesandnoble.com. Amazon.com argued that it would be particularly harmed if its

competitor were allowed to continue using the 1-Click checkout during the upcoming 1999 holiday season. A federal judge granted a preliminary injunction against Barnesandnoble.com from using a one-click checkout. The Federal Circuit Court of Appeals later invalidated that injunction pending the full trial set for fall of 2001. To bolster its position regarding the validity of its patent, Amazon.com entered a licensing agreement allowing Apple Computer to use 1-Click on its Apple Store Web site. The Amazon-Apple agreement was a cross-licensing deal coming at minimal costs to either company. Nonetheless, the action taken by Apple and Amazon.com was expected to dissuade other companies from challenging Amazon.com's patent as the market had now in some sense "accepted" the patent's validity.

Because the 1-Click has a generic use (not just for book sales), it could possibly allow Amazon.com to reach beyond its traditional area of business. Consider the effects upon Escalate Inc., a Silicon Valley company backed by James Barksdale, the former chief executive of Netscape. Escalate builds computer systems to operate online stores on behalf of other companies. The company had developed its own one-click-buying software but decided not to offer it to customers because of the Amazon.com patent.⁴ Amazon.com has also patented other business methods, such as its Web Affiliate Program, which includes the process used to apply to become an affiliate, the technology used to link Amazon.com's databases to the affiliate site, and the billing system used to make sure the affiliate gets its share of the profits.

Amazon.com's pursuit and attempted enforcement of its 1-Click patent brought much criticism from the Internet community. Many believed that business methods such as the 1-Click did not meet the legal requirement that the invention be "nonobvious" to be patented. They argued that many of these patented methods did nothing more than computerize a known business method. Moreover, many of the critics argued that patenting Internet business methods was antithetical to the nature and purpose of the Internet – the free flow of information and ideas.

**Former Amazon.com Developer Paul Barton-Davis Reacts
to Amazon.com's 1-Click Patent**

As one of the founding programmers at Amazon.com, I was very dismayed to learn of the company's legal attempts to enforce its 1-Click (TM) patent. Richard Stallman and many others have already done much to outline why the patent was a bad one to begin with, and why the legal enforcement is even worse. Amazon.com's early development relied on the use of tools that could not have been developed if other companies and individuals had taken the same approach to technological innovation that the company is now following. Tools like the GNU C and C++ compilers, Perl, the Unix mmap(2) call, the Berkeley DBM library: these are all software tools that contain far more innovative and significant ideas than Amazon.com's 1-Click (TM) system, and in turn depend upon ideas and innovations that came before them. If developers of these tools, or the researchers and software engineers who worked on the systems that led to their development, had sought and been awarded patents on the many marvellous computational methods that their tools embody, Amazon.com's early existence would have been a costlier and less efficient one.

⁴ A. Hansel, "As Patents Multiply, Web Sites Find Lawsuits are a Click Away," New York Times, December 11 1999.

When I agreed to join Amazon.com, I required several clauses in my contract detailing techniques that Amazon.com was prohibited from patenting or claiming as proprietary. These included the use of the `path info' component of a URL for state management, since at that time, cookies were not in wide use. I was almost certainly not the first person to have devised such a system, and in truth, there was enough prior art that seeking such a clause was probably unnecessary. However, this was just one example of the way in which the company benefited enormously from the wealth of ideas circulating in the open and/or free software world of the middle 1990's. Both Amazon's patent application and now legal enforcement of the patent is a cynical and ungrateful use of an extremely obvious technology. 1-Click (TM) is a simple, logical and obvious use of the cookie system pioneered by Netscape and others. It did not deserve to be patented, and the patent does not deserve legal upholding, let alone enforcement.

I left Amazon.com quite a long time (relatively speaking) before the 1-Click system was developed. I do not know the motivations of those who sought the patent, nor how connected those people were to the software engineers who developed the technology. But I encourage others to join in calling upon Amazon.com to cease enforcement of its patent. I call upon the United States Patent Office to cease issuing software patents, or at the very least improve its standards for judging software patent applications. I also welcome the use of a boycott to reinforce these points. I wish we had a bigger stick, but we should do what we can.

Paul Barton-Davis <pbd@op.net>
pbd@amazon.com, November 1994-January 1996

Amazon.com was the target of much of the criticism surrounding Internet Business Method Patents. Web sites such as Noamazon.com were set up to encourage boycotts of Amazon.com and to direct consumers to public policy makers with their concerns about Internet Business Method Patents. Amazon.com CEO Jeff Bezos eventually responded to the public criticism in an open letter posted to Amazon.com's Web site.

AN OPEN LETTER FROM JEFF BEZOS ON THE SUBJECT OF PATENTS

I've received several hundred e-mail messages on the subject of our 1-Click ordering patent. Ninety-nine percent of them were polite and helpful. To the other one percent -- thanks for the passion and color!

Before I go on, I'd like to thank Tim O'Reilly. Tim and I have had three long conversations about this issue, and they've been incredibly helpful to me as I've tried to clarify in my mind what is the right thing to do. I had previously known Tim as the publisher of the successful and excellent O'Reilly technical books. He off-handedly proved his narrative and editing skills when he took what was our first rambling hour-long conversation and somehow made sense of it all in a posting on his site. My thinking on the topic of business method and software patents has been strongly influenced by Tim's observations, and especially his ability to ask excellent questions. I also read the first four hundred or so responses to Tim's summary of our conversation -- these too were helpful.

Now, while we've gotten substantially less e-mail on this issue than we have over several other lightning-rod issues in the past, I've spent a lot more time thinking about this one. Why? Because the more I thought about it, the more important I came to realize this issue

is. I now believe it's possible that the current rules governing business method and software patents could end up harming all of us -- including Amazon.com and its many shareholders, the folks to whom I have a strong responsibility, not only ethical, but legal and fiduciary as well.

Despite the call from many thoughtful folks for us to give up our patents unilaterally, I don't believe it would be right for us to do so. This is my belief even though the vast majority of our competitive advantage will continue to come not from patents, but from raising the bar on things like service, price, and selection -- and we will continue to raise that bar. We will also continue to be careful in how we use our patents. Unlike with trademark law, where you must continuously enforce your trademark or risk losing it, patent law allows you to enforce a patent on a case-by-case basis, only when there are important business reasons for doing so.

I also strongly doubt whether our giving up our patents would really, in the end, provide much of a stepping stone to solving the bigger problem.

But I do think we can help. As a company with some high-profile software patents, we're in a credible position to call for meaningful (perhaps even radical) patent reform. In fact, we may be uniquely positioned to do this.

Much (much, much, much) remains to be worked out, but here's an outline of what I have in mind:

1. That the patent laws should recognize that business method and software patents are fundamentally different than other kinds of patents.
2. That business method and software patents should have a much shorter lifespan than the current 17 years -- I would propose 3 to 5 years. This isn't like drug companies, which need long patent windows because of clinical testing, or like complicated physical processes, where you might have to tool up and build factories. Especially in the age of the Internet, a good software innovation can catch a lot of wind in 3 or 5 years.
3. That when the law changes, this new lifespan should take effect retroactively so that we don't have to wait 17 years for the current patents to enter the public domain.
4. That for business method and software patents there be a short (maybe 1 month?) public comment period before the patent number is issued. This would give the Internet community the opportunity to provide prior art references to the patent examiners at a time when it could really help. (Thanks to my friend Brewster Kahle for this suggestion.)

To this end, I've already contacted the offices of several Members of Congress from the committees with primary responsibility for patents to ask if they would be willing to meet with me on this issue. Since some of them have previously expressed an interest in similar issues, I have every expectation that at least some of them will want to talk about it. I've also invited Tim O'Reilly to attend any such meetings with me. Tim and I are also going to try to pull together some software industry leaders and other people with an interest in this issue and an ability to help.

If done right -- and it could take 2 years or more -- we'll end up with a patent system that produces fewer patents (fewer people will bother to apply for 3 or 5 year patents, and fewer patents means less work for the overworked Patent and Trademark Office), fewer bad patents (because of the pre-issuance comment period), and even the good patents won't last longer than is necessary to give the innovator a reasonable return (at Internet speed, you don't need 17 years).

Bottom line: fewer patents, of higher average quality, with shorter lifetimes. Fewer, better, shorter. A short name might be "fast patents."

Many have noted, and I too would like to point out, that given the laws they operate under and the resources at their disposal, the Patent Office and examiners are doing a good job and it's unfair to criticize them.

On a related issue, to further try to help with the prior art problem, I've also agreed to help fund a prior art database. This was Tim's idea, and I'm grateful for it. Tim is poking around to find the right people to run with that project.

On an important meta-level, one thing to note is that this episode is a fascinating example of the new world, where companies can have conversations with their customers, and customers can have conversations with their companies. I've been saying for 4 years now that, online, the balance of power shifts away from the merchant and toward the customer. This is a good thing. If you haven't already, read the Cluetrain manifesto. If you want the book, well...you can get it at several places online...

Jeff

Jeff Bezos and Tim O'Reilly also joined forces to set up the Bounty Quest Web site (www.bountyquest.com). That site allowed companies to offer a reward to individuals who could find "prior art" on Internet Business Methods – something that would invalidate those patents if enforcement were brought in court. Bounty Quest offered a reward for documented prior art related to the 1-Click. While some documentation was offered, and rewards given, the conclusion of O'Reilly was that Amazon.com's 1-Click patent would be somewhat limited, but not invalidated.

Criticism of the United States Patent and Trademark Office

The PTO was also targeted for criticism regarding business method patents. There was considerable debate over whether the PTO was properly reviewing Internet Business Method Patents for prior art. The critics claimed that a major reason so many bad software and business method patents issue was that patent examiners did not have enough time and library resources to adequately consider the prior art. Critics said the PTO approves such patents too readily because its examiners do not understand current technology and Internet practices well enough. This hampers competition and innovation, they argued, by allowing commonplace business practices to be rendered private property, and by restricting innovation by entrepreneurs wary of infringement lawsuits.

In March 2000, in response to the public debate, the PTO instituted a two-stage review for patent applications on business methods – after completing the normal examination process, all allowed patent applications in this category would be subject to a second level of review prior to issuance. The PTO also developed more detailed training materials for examiners who grant business-method patents. In the quarter ending December 31, 2000, the PTO granted just 36% of the business-method patents it studied. That was down from 56% in the quarter ended March 31, 2000, when the new policies were instituted mandating a second review for that patent type. By comparison, the PTO last year granted 182,223, or 72%, of the 252,871 of all patent applications it studied.

Questions

1. Why would a company like Amazon.com patent its 1-Click business method, or other business methods such as its Web Affiliate Program? What enforcement issues are likely to arise?
2. What considerations (inside and outside the firm) must go into a company's decision to patent and enforce an Internet Business Method?
3. Why do software developers care about the patenting of software enabled business methods? How should managers respond to the concerns of software developers?
4. How should a manager respond to a protest site such as Noamazon.com?
5. For what reasons, do you think, did Jeff Bezos post his Open Letter? Is Jeff Bezos' proposal feasible? What would be the advantages or disadvantages of his proposal? Do you believe that Bezos has responded appropriately from a managerial perspective? from a public policy perspective? What has Bezo's to gain in setting up Bounty Quest with Tim O'Reilly?
6. Are Internet Business Method Patents likely to be of greater value to small start-up Internet companies, or will they mostly benefit larger established businesses? Why?
7. Do you believe that the PTO's response to public criticism was appropriate? If not, what pressure could be brought to bear for change?
8. Do the Internet business method patents described in the Appendix strike you as nonobvious at the date of their filing? Are these fair grants of monopoly patents? Are they innovative?
9. If a company decides to patent Internet Business Methods, whose expertise within the firm should be brought to bear on the process.
10. Given the current state of affairs around Internet Business Method Patents, what is a prudent e-business manager to do?

APPENDIX
Recent Business Method Patents
Granted By the United States Patent Office

#5,860,362: Newspaper vending machine with online connection

Filed: Mar. 10, 1997

Granted: Jan. 19, 1999

NCR Corporation, Dayton, Ohio

A system which comprises a self-service newspaper vending machine (2) includes an electronic control means (34) with an on-line connection (36) to a news providing organization (38) from which a newspaper containing up to the minute news can be purchased. A customer is attracted by news stories shown on a display (6). The customer is then given the opportunity of purchasing a newspaper or part of a newspaper. Communication between the customer and the vending machine (2) is by the display (6) and a keyboard (8). The newspaper can be purchased by either inserting a banking or credit card in a card reader (52) or inserting coins into a coin slot (50). The vending machine (2) would then print out the up to the minute news requested.

#6,009,401: Relicensing of electronically purchased software

Filed: Apr. 6, 1998

Granted: Dec. 28, 1999

Preview Systems, Inc., Cupertino, California

The present invention, generally speaking, provides a mechanism for use in conjunction with Electronic Software Distribution (ESD) that provides purchase documentation and that allows for convenient re-download and relicensing of soft-ware, including old software versions. In accordance with one embodiment of the invention, a relicensing manager software utility installed on an end user's machine interacts with one or more of a remote publisher site, a license clearing house and a merchant site to relicense, transfer, or obtain a refund for a software product. The term "software product" is used to refer to both executable software programs and to electronic content (e.g. pictures, recordings, etc.) The role of the publisher site is to archive both current and old versions of software products. The role of the license clearinghouse is to keep a count of licensed installations and to grant or deny permission to relicense based on the count. The role of the product server is to effect a credit transaction and, according to the terms of the end-user license, to refund the purchase price of a recently purchased software product for which the customer has requested license revocation. The relicensing manager refers to a license certificate stored on the end user's machine during installation and, preferably, backed-up on floppy disk or some other permanent storage medium. The license certificate describes license policies and server locations which are then followed by the relicensing manager.

6,009,412: Fully integrated on-line interactive frequency and award redemption program

Filed: Jun. 25, 1998

Granted: Dec. 28, 1999

Netcentives, Inc., San Francisco, California

A fully integrated on-line frequency award program is disclosed. A user may access the program on-line and may browse a product catalog for shopping. The user may electronically place an order, upon which

the program automatically checks the user's credit and electronically issues a purchase order to the supplying company. The program also calculates award points, updates the award account of enrolled users, and communicates that number of awarded points to the user. Enrolled users may browse through an award catalog and electronically redeem an amount of awarded points towards an award. The program then electronically places an award redeeming order with the fulfillment house and updates the user's award account.

#5,999,914: Electronic promotion system for an electronic merchant system

Filed: Oct. 16, 1996

Granted: Dec. 7, 1999

Microsoft Corporation, Redmond, Washington

An electronic promotion system apparatus and method provide promotions across a computer network. The promotion system includes a shopper browser communicating with a merchant server. A shopper places an order using the shopper browser. The order is received by the merchant server. A purchasing pipeline executing in the merchant server process the order. The purchasing pipeline includes a promotion component. The promotion component determines the eligibility of the shopper for each one of multiple promotions using information stored in a promotion table. Furthermore, the eligibility of each item on the shopper order to trigger each one of the multiple promotions is determined. Additionally, the eligibility of each item on the shopper order to receive an award is determined. The awards are then applied appropriately. Each item may be used to trigger only one promotion where awards were granted. Furthermore, each item may only receive one award. Thus, a merchant may offer multiple promotions while ensuring the promotions are applied as intended.

5,903,874: System and method for electronic coupon management

Filed: Jun. 27, 1996

MCI Communications Corporation

A system and method for managing and redeeming a promotional coupon for goods and services. The system provides a link between an operator console and a remote database server having one or more coupon files, each of which contains a plurality of coupon records. A customer telephones the operator and discloses an encrypted coupon number from the coupon issued to the customer. The encrypted coupon number is used to access the relevant coupon record in a coupon file on the remote database server. The status of the coupon is transmitted back to the operator console. If the coupon is valid, the operator console provides the goods or services requested by the customer. The operator console subsequently sends a command to the coupon file to change the status of the coupon in the coupon record.