



Who's the Winner in the Tug-of-War between 'Walled Garden' and 'Open Plain' Strategies?

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In August, less than three months after the introduction of Apple's iPhone, a New Jersey teen announced that he had "hacked" into the mobile-communications device. Thanks to George Hotz's tinkering, the modified iPhones could be used with wireless-service providers besides Apple's exclusive partner, AT&T.

Hotz wasn't just exploiting the hype around the iPhone to grab his 15 minutes of fame, although he certainly accomplished that. He was also highlighting the frustration that many consumers have expressed with Apple for creating a device that works only on AT&T's network. Judging by the iPhone reviews -- which typically fawned over Apple's technology but grumbled about the AT&T deal -- many people had hoped that the iPhone, which combines voice, web surfing and music in one package, would work with more than one network.

Experts at Wharton and elsewhere say Apple fans shouldn't have been surprised that their favorite consumer electronics company did an exclusive deal. Apple has long hewed to a "walled garden" corporate strategy, often restricting consumers' ability to modify its devices or marry them with other firms' products and services. Apple's recently launched Apple TV, designed to play digital video on large-screen televisions, only works with content supported by Apple's iTunes software. Since there is no publicly available software development kit (or "SDK") for its best-selling iPod music player, games and other software are only available for the device from Apple's iTunes store.

"It's a great presumption on Apple's part that it can tell customers what's good for them," says [Peter Fader](#), a Wharton marketing professor. "Partly, these hacks reflect consumers' frustration with Apple saying, 'We'll give you this, but not that.'"

In building walled gardens with its devices, Apple is making a calculated gamble that it can delight consumers enough that they won't opt for products and services that offer more flexibility, says Kendall Whitehouse, Wharton's senior director for information technology. In contrast, firms that take a more flexible approach are often said to be employing what could be called an "open-plain" or "open-architecture" strategy. They are betting that, by allowing their offerings to be extended or customized by others, they will encourage the growth of an "ecosystem" of complementary products and services, thus increasing the size and value of the market for everyone.

"The classic open architecture is the web," Whitehouse says. "You don't need a license or a partnership deal or approval from anybody to launch a website. This is partly why the web took off like wildfire." Companies like PDA and smartphone maker Palm, computer workstation vendor Sun Microsystems and even industry giant Microsoft encourage independent programmers to write software for their devices and software platforms, Whitehouse adds.

Tearing Down Walls



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The tug-of-war between the walled-garden and open-plain strategies is a fundamental tension, not just in information technology, but also in the wider world. The credit card business, for example, began as a fight between Bank of America, with its exclusive card and network, and other California banks, which had a less rigid offering, says Philip Evans, a senior partner with Boston Consulting Group.

Bank of America, then based in San Francisco, introduced its BankAmericard, which began as a walled garden nearly 50 years ago. The bank, as the largest in its home state, had little trouble recruiting California merchants to accept the card. It then rolled it out to consumers; people who wanted one had to have an account with Bank of America. "Bank of America was running away with the market," Evans says. "The smaller California banks couldn't match it individually. So they got together and provided a single standard interoperable card." Their network was open to any of their customers; it was, in other words, an open plain. "They called it Master Charge, which became MasterCard."

Soon, both cards had expanded out of state, and Bank of America renamed its offering Visa. In response to consumers' preference for flexibility, the company opened up its formerly exclusive network. "They fought each other to a draw, and now they're basically interchangeable," Evans adds.

That fight followed a typical pattern in the competition between walled-garden and open-plain firms. An innovator enters a market with an appealing product or service -- such as a cell phone or a credit card -- and wants to squeeze as much revenue from it as possible. So it creates a walled garden. Eventually, consumers start to demand more flexibility. Competitors see an opportunity and seize it. The originator is forced to tear down some, if not all, of its walls.

That happened with Apple's personal computers, says [Kevin Werbach](#), a Wharton legal studies and business ethics professor. The Macintosh began largely as a walled garden, with Apple limiting hardware expansion options and tightly controlling access to features of its operating system. As a result, few programmers wrote software for the Mac, and the more flexible PC architecture running Microsoft's operating system ran away with the desktop computing market. Macs ran smoothly, but they couldn't be customized and -- because of the shortage of software -- couldn't be used for as many tasks as Windows-based PCs.

Apple responded by gradually loosening its grip on its machines. Today, it employs "an operating system that's perhaps the most customizable and open out there," Werbach says. Apple also has embraced industry standards in many areas, meaning, for example, that other firms' peripheral devices can be integrated seamlessly with Macs. That wasn't always the case.

Werbach expects that Apple will eventually loosen the constraints on the iPhone, too. "Ultimately it's self-defeating not to because users want the freedom to customize." But he also argues that people who criticize Apple for not starting with a more open wireless device fail to understand the reality of the wireless market. "In mobile phones, it's by far the norm for operators to provide a closed platform," he says. "And the iPhone is more open than many mobile phones. It's just not as open as many users would like." Unlike some devices, the iPhone doesn't restrict which websites its users visit; in fact, its relatively large screen and its web-surfing abilities are among its selling points.

Plus, given the nature of the wireless market in the United States, where wireless firms sell handsets compatible with only their network, Apple had little choice but to agree to an exclusive deal with someone, he says. "Because they're Apple, they had more leverage than the average handset maker, but they are still dependent on AT&T for access to the network."

European Market

In Europe, by contrast, selling handsets and providing wireless service are separate businesses, notes Evans of BCG. "From the public's point of view, you could argue that the European system is better. It allows competition for devices and for service. But from the carriers' point of view, you would much rather operate in the U.S., which is less competitive and gives you higher margins and longer contracts."

When Apple breaks into the European market, it will probably abandon the walled-garden approach, he predicts. The freer market will give it the ability to do so. "Apple ideally would like to be in the position where its device sells as a device and has the best possible service from all the wireless providers in the world," he says. In other words, Apple, like any smart firm, is an opportunist. When it benefits from

having a walled garden, it builds one, as it has with the iPod. But when it's better off operating on an open plain, it does that, as with today's Mac.

People also should understand that openness, despite all of its benefits for consumers, does have shortcomings, says [Kartik Hosanagar](#), Wharton professor of operations and information management. A walled garden translates into tight control over the customer's experience with a product or service. And while that may sound like Big Brother, it means that a firm's offerings can work better. Apple's iPods, for example, dovetail seamlessly with its Macs and iTunes software.

"If you let go of that control, there's the possibility of two things happening," he says. First, "you mess up your brand's image in the consumers' mind. Second, if other companies are developing applications for your device, you could end up with security [problems]."

Even so, Hosanagar believes that the open-plain approach makes the most sense in the long run. By restricting the ability of others to develop applications, a firm ultimately limits the utility of its product or service for consumers and thus its value. Consider, for example, the iTunes game store. "An outside developer can't develop a game and offer it there, so the offerings are very limited." With few games to sell, Apple makes less money than it might otherwise.

Google, in contrast, has taken an open approach with its Google Maps service. It provides a mechanism by which other outfits can integrate or "mash up" its maps into their web pages. That has encouraged other companies to use the service as a platform for innovation. A website for home and apartment seekers called housingmaps.com, for example, combines Google Maps and Craigslist real-estate listings.

Another current example of the open approach is YouTube, which Google bought last year for \$1.65 billion. With YouTube, "anybody can upload any content and offer it there," Hosanagar says. The customers are the broadcasters, creating a wide open plain. Furthermore, users can easily embed videos from YouTube on their own web sites. Contrast that with a television network, like NBC, which would typically offer its videos online through a centralized, tightly controlled database, he says. There, consumers might only be able to watch, and other firms can't contribute to or extend the service unless NBC authorizes it.

As for the iPhone, Hosanagar isn't as willing as some to give Apple the benefit of the doubt. He's skeptical of claims that the company couldn't have created a more open device. "They could have offered an iPhone for every network in the U.S. The Palm Treo works on multiple networks. I think this was a case of you-scratch-my back-and-I'll-scratch-yours. My understanding is that Apple stands to make a lot of money from both the sales of the devices *and* from the sales of the service contracts. And there's nothing as good as recurring revenue for any firm."

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