Why Software Business Models of the Future Probably Won't Come in a Box

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Microsoft's Vista operating system should give the company a revenue stream that will run for years, but that doesn't mean the company can rest on its laurels. Experts at Wharton say the January 30 launch of the consumer versions of Microsoft's flagship software may be among the last of its kind -- a product sold for a flat fee in a shrink-wrapped box. Indeed, many wonder if the software business model that has made Microsoft so dominant for the last 20 years may begin to fade in the decade to come as new software business models -- from open source to advertising supported -- gain increasing traction.

Traditionally, Microsoft and most other software companies deliver software primarily by licensing "shrink-wrapped" products sold through retail channels or arrangements with hardware vendors. While a number of different pricing schemes for software licensing exist, customers typically pay a flat fee for perpetual use.

But new models of software pricing and distribution are becoming increasingly popular. "Open source" software relies on voluntary programmers to build applications that can be distributed freely. Ad supported software includes web-based applications that are free as well, but they generate revenue through advertisements. Also on the increase: "on-demand" software where customers rent software applications when they need them and pay only for what they use.

All of these models pose unique threats to Microsoft, although that is hardly news to CEO Steve Ballmer, who clearly sees the challenges ahead. At a Wharton Leadership Lecture this past December, Ballmer noted that the two biggest competitive threats to Microsoft are open source software and advertising supported applications. "Right now, the emblem of the first one is Linux and the emblem of the second one is Google. But it's not the *companies*, it's the *phenomena*" that present the greatest challenge to Microsoft, said Ballmer.

Wharton legal studies and business ethics professor Kevin Werbach says Microsoft is right to be concerned. "Ten years from now, Microsoft must be weaned from ... license revenue. But it's a long process, because they justifiably don't want to cannibalize a revenue stream that remains phenomenally lucrative."

Meanwhile, it's not immediately clear what the software model of the future will be. Kendall Whitehouse, a senior director of information technology at Wharton, notes that "there probably isn't one model that will win out. Instead, you will have a blend of business models." Kartik Hosanagar, an operations and information management professor at Wharton, agrees that a hybrid business model -- consisting of parts of traditional licensing, on-demand, ad supported and even open source -- will emerge in the software industry. "The winning model of the future is a hybrid," he says. "The only certainty is that the Internet will have a big impact" on whatever that winning model is.

The pressure to find new models, however, rests with Microsoft. "Microsoft has the weight of incumbency and will struggle to switch to an Internet-only model," Hosanagar adds. "And even if Microsoft did move toward Internet delivery, it's not clear that customers will buy it."

If It Ain't Broke...

Don Huesman, a senior director of information technology at Wharton, suggests that Microsoft's traditional licensing model won't fade quickly, and Microsoft's financial results back him up. The revenue streams from the introduction of Vista and Office are just beginning. For the second fiscal quarter ending December 31, 2006, Microsoft reported record revenues of $12.54 billion and net income of $2.63 billion. It announced on January 25 that it is projecting revenues of $13.7 billion to $14 billion for the March quarter, with much of the sales gains coming from Vista and Office.

Microsoft's results show the upside of conventional software licensing, Werbach says. "Licensing has the benefit of stability and predictability: It's a lucrative annuity if you manage it the way Microsoft has with Windows and Office. On the other hand, everything depends on convincing the customer to buy and then upgrade the product. In between those events, you get little or no revenue." According to Huesman, the game for Microsoft is more about experimenting with new models than making sweeping changes. "For Microsoft, licensing isn't slowing down. It also has a diversified revenue stream."

Yet Microsoft's licensing and distribution model typically means that it rolls up features into one all-you-can-eat software product, while online rivals and open source applications can evolve more quickly. Another challenge facing Microsoft is that it may become increasingly difficult to convince customers to upgrade, especially if its new features don't leapfrog advances provided by its competitors. For example, Microsoft included a new desktop search feature in Vista, but Google beat it to the punch with its freely-downloadable Google Desktop Search. "That move clearly gave Google a lead," says Hosanagar.

Software licensing, however, is likely to evolve. Huesman notes that subscription services are likely to converge with traditional licensing schemes -- an arrangement that is already common in the corporate world. "In a corporate setting, you don't own the software as much as you pay for access to it," he says. "You subscribe for routine updates," blurring the line between perpetual licensing and software by subscription.

Companies that offer access to online software through subscription services, such as Salesforce.com and NetSuite, are adding customers at a rapid clip. Microsoft is also dabbling in the subscription-based service market. For instance, Office Live Essentials web service costs $19.95 a month and Office Live Premium costs $39.95 a month.

That effort, however, will probably be a precursor to other subscription services. Wharton experts note that it's likely Microsoft will add more on-demand features to future versions of Windows and Office. "Microsoft will be interested in what the on-demand web applications can deliver," says Whitehouse. One potential scenario for Microsoft: Provide core functionality through a traditional licensing model and allow customers to subscribe to additional features à la carte. "A basic set of applications could be installed, but then [the software would] connect out to the web for enhanced services," he says.

One advantage for the on-demand model for Microsoft is that it could roll out new features in smaller increments instead of waiting to bundle them in a big product rollout. "Microsoft could release functionality on a much tighter schedule," says Whitehouse. "The software could be just as feature rich, but it would be less monolithic. You wouldn't be waiting years for the next version to be delivered to you on CDs." Hosanagar agrees that Microsoft is likely to follow this strategy, noting that "operating systems will get leaner, and more software will be assembled on the fly through downloads."

But the on-demand model isn't perfect, according to Werbach. "Service-based models lower barriers to adoption and make customers dependent on the service provider who controls their data. On the other hand, it may be easier for someone else to offer your service more cheaply or for free."

Can Google Make Ad Funded Software the Norm?

While the on-demand software model may be a natural avenue for Microsoft to pursue, delivering free advertising-funded applications could prove more challenging. Microsoft trails both Google and Yahoo when it comes to search and other advertising-sponsored web content.

In Ballmer's Wharton speech and subsequent comments by executives, it's clear that Microsoft sees Google's mastery of ad revenue as a big threat. At Wharton, Ballmer said Google's search prowess isn't the company's biggest accomplishment. "Getting search right was actually not the hardest part of the issue. They got ad funding -- they really figured that out. And now the rest of us are going to have to learn that game." Advertising is a different model for monetizing software, and the question is, "Will we be as good at ad funded software as we were at paid software?" he asks.

Microsoft may face an uphill battle. On the company's January 25 earnings conference call, CFO Chris Liddell said Microsoft lost more search market share to Google, adding that the software giant is "clearly not happy with that." Using its dominant position in search, Google may be able to monetize additional software through advertising, potentially encroaching on Microsoft's profitable software products. Indeed, Google's recently-launched Docs and Spreadsheets application provides free online word processing and spreadsheet functionality covering many of the basic features in Microsoft's dominant Office applications.

To counter Google, Microsoft has launched Windows Live and Office Live, suites of online services which include search, email, website hosting and other web-based functions. One initial problem: Microsoft's Live brand is muddled. "It's not clear [to most people] what Live is," says Whitehouse. Huesman describes it as "a work in progress" and suggests that Microsoft "has a lot of learning to do" in the area of delivering compelling online applications.

Furthermore, learning how to deliver software over the Internet is challenging when the majority of Microsoft's revenues come from licensing traditionally installed software. For instance, Microsoft's online services business, which includes MSN and Live, had revenues of $624 million for the three months ended December 31, 2006, with an operating loss of $155 million. But Microsoft's "client" unit, which includes its operating systems like Windows XP and Vista, had revenues of $2.6 billion and operating income of $1.88 billion for the December quarter. Microsoft's business division, which includes the Office productivity suite, had revenues of $3.5 billion and operating income of $2.16 billion.

What remains to be seen is whether ad supported software will become the norm. "Ad supported models are great if (a) the ad dollars are there, and (b), you can effectively broker between advertisers and customers," says Werbach. "For Google, this is a financial gold mine, but for many startups during the dot-com bubble, it was a recipe for disaster." Hosanagar agrees that ad supported software has its limits. "Not every type of ad supported software will work. I can't see a Wall Street analyst using a spreadsheet and then having an ad pop up."

Open Source Goes Mainstream

Perhaps the most vexing model for Microsoft to counter is the open source movement. "Will open source do a better job than a proprietary software company -- any software company?" asked Ballmer at the Wharton lecture series. "It's an interesting question -- not just for us, but for anybody who is interested in business: Can paid, commercial people do a better job than unpaid volunteers? The answer, I think, will be 'yes,' but we're going to have to push ourselves."

Companies such as Red Hat make money from open source software, such as the Linux operating system, by selling services and support along with free software. Red Hat's model is one that would be almost impossible for Microsoft to emulate. Why? The success of open source depends on a community of software developers who are passionate about free software and who, in many cases, view Microsoft as the enemy. Huesman notes that open source isn't a business model as much as a social movement.

To date, Microsoft's strategy to counter open source has been to add more features to Windows to convince customers to stay. "Microsoft seems to believe that open source won't provide the same level of quality, judging by Ballmer's comments," says Whitehouse. But if the quality and performance of Windows and open source options are the same, Microsoft is at a disadvantage: "The biggest threat to Microsoft from Linux comes if the functionality ends up being the same," says Hosanagar. "You can't compete with free."

In the corporate world, open source software, notably Linux, is being adopted rapidly but, Hosanagar notes, not to the exclusion of Microsoft Windows. "Open source is more of a minor threat than a major one," he says, observing that open source software and Windows are being mixed by a number of corporate customers.

What remains to be seen is whether open source software moves beyond corporate customers to the broader consumer market. In the U.S., Microsoft dominates the consumer market for operating system and productivity software, but emerging economies may go in a different direction. "If and when the efforts to deploy cheap laptops to the developing world take off, open source operating systems will dwarf Windows in their installed base of users," says Werbach.

What emerges from this new software world order remains to be seen, but Wharton experts agree that Vista may be one of the last monolithic software product launches. Microsoft Chairman Bill Gates told *BusinessWeek* recently that operating systems should be refreshed roughly every three years. And when he spoke at Wharton, CEO Ballmer stated: "I hope that we never have another piece of innovation that takes five years like Windows Vista," and added, perhaps only partially in jest, "I won't be CEO if we do." Indeed, Wharton professors expect the business model behind new versions of Windows to change. "Software as something you buy in a box is going away, because it's more efficient to deliver and update it through the network," says Werbach.

In the end, Microsoft is likely to adopt bits and pieces from many software models as it creates future versions of Windows and Office. "I think we will see most end-user applications divided between those supported through ancillary revenues -- with advertising being the biggest chunk of that -- and those bundled into a monthly fee with other services," Werbach adds. "For businesses, we'll continue to see service-based models involving open source or free software combined with hardware, hosting and customization."

Microsoft's challenge is to find the most lucrative mix of models, according to Whitehouse. "If a company is entrenched in one very profitable model," he asks, "what's the appropriate way to balance [the other approaches]?" That's one reason why Ballmer may not be able to kick back and revel in the launch of Vista this past week.