



Will Microsoft's New 'Ultra-Mobile' Computer Fly or Flop? Past Experience Offers Some Clues

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Although Microsoft recently unveiled an 'ultra-mobile personal computer,' or UMPC, in a move to fill a market niche between laptops and handheld computers, it remains to be seen whether this latest innovation from the software giant will be a hit or flop. While Microsoft is following a "build-it-and-it-will-sell" strategy with the UMPC, technology history is littered with innovative products that never found a market, say experts at Wharton. As Wharton professor of operations and information management [Eric K. Clemons](#) puts it: "Build-it-and-it-will-sell strategies are a mixed bag."



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Regardless, the initial reaction to the UMPC, announced by Microsoft on March 9, will become clear in just a few months. The first UMPCs -- small computers with 7-inch screens that are designed to occupy a niche for consumers who want a device larger than a handheld yet smaller than a laptop -- are expected in the second quarter ending June 30 from electronics manufacturers such as Samsung, Founder and Asus. UMPCs, priced between \$599 and \$999, promise to run all the applications that a Microsoft Windows desktop computer does.

On the plus side, products like cell phones and the iPod didn't initially strike consumers as must haves, but became big hits. On the other side of the ledger, products like Apple Computer's Newton, a handheld computer that debuted in August 1993, was a commercial flop in large part because its handwriting recognition software didn't perform well. Microsoft, for its part, has attempted to create new categories of computers before, as with its Tablet PC, which analysts say has yet to be a big seller beyond select industries such as health care and financial services. However, even commercial flops can be deemed a success if they blaze a path to new categories of products. For instance, Apple's Newton was an early disappointment, but forged the way for handhelds like the Palm Pilot 1000, launched in March 1996.

So what will be the fate of Microsoft's UMPC, formerly codenamed "Origami"? According to Clemons, there is potential for the devices, but he won't know how much until he gets to play with one. Kendall Whitehouse, senior director of advanced technology development at Wharton, says the UMPC is a good way for Microsoft to spread its software into all forms of devices as they begin to converge. Wharton marketing professor [Eric Bradlow](#) suggests that Microsoft has a sales challenge convincing consumers they need another device that is a "tweener" between a laptop and a handheld. [Jagmohan S. Raju](#), also a Wharton marketing professor, predicts that the UMPC will have a tough time competing due to its high price. And Robert Shelton, co-author of *Making Innovation Work* (Wharton School Publishing), describes the UMPC effort as another attempt by technology companies to use innovation to create new markets by finding just the right mix of size, functionality and price.

In any case, it may still be early in the UMPC's evolution. Research firm Gartner notes that the UMPC may not reach its potential for another two years -- when battery life improves and prices come down to \$400 from the \$599 to \$999 estimated sales price today.

No matter how the UMPC fares, it could turn out to be a worthwhile experiment for Microsoft, which can

afford to tackle new markets with the UMPC and Xbox 360 video game console because it had \$34.7 billion in cash and short-term investments as of December 31, 2005. "In some ways it's not atypical of Microsoft to invest a lot in a technology that may not deliver an immediate return," says Whitehouse. "It has been pouring resources into the Xbox for quite a while."

Microsoft's UMPC effort may not need to be a short-term financial success to be a long-term winner, adds Raju. "To propagate its software, Microsoft has to have some control over hardware. Eventually there will be one portable device that is more user friendly than a cell phone masquerading as a computer."

The Sales Pitch

According to Bill Mitchell, corporate vice president of Microsoft's windows mobile platforms division, the UMPC is targeted at consumers and businesses that don't want to compromise computing power but want mobility. Windows-based UMPC devices will generally weigh less than 2 pounds and have a 7-inch screen size that can be navigated with a touch screen, keyboard or handwriting. Battery life is estimated to be at least 2.5 hours with a 30-60 gigabyte hard drive.

The UMPC will be able to play videos, video games and music, and can operate all the software a consumer would on a home computer. "We believe that UMPCs will eventually become as indispensable and ubiquitous as mobile phones are today," says Mitchell in a question and answer session on Microsoft's web site.

Microsoft's first challenge is targeting a market that could be hard to define, notes Bradlow. "Microsoft is trying [to attract] those people who want the benefits of a PC, but the portability of a handheld device. Microsoft is relying on its brand and product equity to draw consumers from both segments." If Microsoft can't convince these consumers, the UMPC will fail. "When products like this fail -- and they commonly do although this one may succeed -- it is because they don't deliver desirable benefits to either segment and it gets caught as a tweener product," says Bradlow.

His concerns were echoed by research firm Gartner. In a report from analysts Leslie Fiering, Van L. Baker and Brian Gammage, Gartner noted that the UMPC is "neither PDA (too large to be pocketable) nor notebook (too small to be a useful PC)." Gartner also said that hardware limitations, notably the cost to build the device and battery life, means "it isn't possible to produce compelling UMPC products."

Whitehouse, however, notes that Microsoft could be on to something in the long run with the UMPC. Microsoft's concept -- that consumers and workers want a portable device that runs the full spectrum of PC software -- has potential. "Traditionally, people make compromises to be mobile. What if you can have full-blown Windows in a small form factor?"

The big question is whether Microsoft can convey those benefits to gain wide scale adoption. New technologies that offer clear benefits can create new markets, Bradlow notes, adding, however, that "these benefits need to be substantial, easily understood, and knowable without actually trying the product."

According to Raju, the big hurdle for Microsoft will be convincing buyers that they should pay more than \$500 for a device. Ultimately, the UMPC will compete with lower-cost rivals targeted at developing markets, such as the Simputer, a computer that costs about \$200, says Raju. The Massachusetts Institute of Technology is also trying to create a \$100 laptop for developing countries. These devices differ from the UMPC because they will rely on a network to store digital files, but, he adds, "you don't have to have storage as long as you are connected to the Internet."

Playing the Convergence Game

Whitehouse argues that Microsoft's primary goal with the UMPC is to establish its software in as many markets as possible. Viewed in that context, the Xbox is a way to put Microsoft into the living room. Windows Mobile, a version of Windows for handheld devices, puts the software giant into the mobile phone market. The UMPC devices would make the full version of Windows more mobile and fill a niche between handhelds and laptops. "It's clear there are multiple paths to convergence," says Whitehouse. "And Microsoft wants to be in all of them."

He suggests that the trend toward device convergence may be driven from three different starting points:

- The cell phone moving up to become more like a computer;
- The personal digital assistant (PDA) adopting more of the features of both a computer and a phone;
- The PC becoming more mobile via ultra-lightweight laptops and devices like the UMPC.

"This contraption gives Microsoft a foothold in all three," he says. "You can debate about which device will ultimately win, but if you are Microsoft, you don't care. In the short term, it's not clear there will be any demand for this. But in the long run, this is a bet that no matter how convergence plays out, Microsoft will be there. Part of this is about Microsoft seeing a trend and putting its stake in the sand."

Clemons agrees that Microsoft's goal is to get its software into every possible computing category as they converge. But he adds that Microsoft's UMPC will have to offer the utility of multiple devices in a smaller space to be successful. For example, Clemons has two Apple laptops, one with a 12-inch and one with a 17-inch screen. The 12-inch works well when Clemons is stuck in the middle seat on an airplane. The 17-inch works better if Clemons is less mobile. If the UMPC can perform better than the 12-inch laptop in a tight spot, Microsoft could have a hit, he says. "I would have to hold one and see if it is dramatically easier to use than my 12-inch laptop in a tight space and if it offers dramatically better functionality than my cell phone computer. If it falls in between, it's doomed. If it offers tremendous improvement in portability over the laptop and functionality over the cell phone, then at least some segment of the market will be all over it in a hurry."

For now, however, the UMPC may be a product without a market. "We wonder if the device isn't a little heavy when compared to the Blackberry and phone/PDA devices people already carry in their pockets," says Laura Lederman, an analyst at William Blair & Co. "At this point in time, we do not know if there is a large market for this mid-sized multifunction device."

Defining Success

Determining whether the UMPC is successful will take more than a few quarters, says Shelton, adding that the time frame to judge success could take years. "There's a lot of jockeying going on [in the device market] and it's really about finding the right mix of size, price and functionality." Indeed, Microsoft's Mitchell notes that the UMPC is the company's "first step toward achieving a big vision."

According to Bradlow, one way to gauge the success of the UMPC will be to look at different time frames. If the UMPC doesn't sell well initially, yet leads to further computing advances, Microsoft could have a short-term failure and a long-term success story. "Microsoft may, and probably does, have short-run and long-run reasons for entering this market," he says. "Even if the product fails at some level, there may certainly be other benefits to consider."

For instance, Shelton says one long-term benefit from the UMPC experiment would be to determine what size screen is needed for fully functional mobile computing. "Obviously it will come down from a computer and up from a phone. To drive further UMPC innovation, Microsoft says it is enlisting partners, such as Samsung and Intel, to improve the devices. This approach would mean that Microsoft could "look to focus on a problem and then figure out the marketing," says Shelton.

Such an approach toward new products has worked before. Shelton notes that when Procter & Gamble created Pringles potato chips, the product initially struggled. Once P&G began marketing Pringles as a snack food and not a potato chip alternative, the brand did well. In a similar fashion, Microsoft could create a product category and then find a new market for it.

Bradlow, however, says there are dangers to creating new products without considering the market first. In fact, Microsoft only has to look at its Tablet PC to see the risk. "It failed because it did not solve an underlying need," says Bradlow. "People were quite satisfied with the products that they had. The additional benefits that the Tablet PC offered at its price point were not particularly attractive."

What's clear is that Microsoft will have to keep innovating with the UMPC to make it smooth and easy to use for consumers if it's going to be successful in the long run. "Innovation is hard," says Shelton. "Apple worked on the iPod night after night. There are 100 ways to do it wrong, but only one or two ways to do it right."

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