

# *Assessing a New Tablet*

## (or any other mobile computing product)

by Geoff Walker

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There's no shortage of opinions about new products. In fact, there's a review of the Apple iPad in this very issue, penned by Editor-in-Chief / Publisher Mark Fihn. I don't want to contradict or amplify Mark's opinion; I just want to explain how I look at new mobile computing products and use the iPad as an example while doing so.

**Key factors for assessment:** I use five key factors to assess a new product, as follows:

1. **Functionality:** Exactly what work does the product let me accomplish?
2. **Hardware specifications:** How well does the hardware support the target functionality?
3. **Applications & content:** What does the product let me run and/or access?
4. **Interaction:** What is the user experience when interacting with the product?
5. **Cost:** How reasonable is the cost in light of the previous four factors?

The order of these factors is important. Many people like to start with the hardware specs when assessing a new product, but I think that's a mistake. You have to start with what the product is intended to do and what it can actually do. The hardware only supports that functionality; it's not an end in itself. (If only most of the 30+ tablet vendors at CES 2010 understood that simple concept!)

For a mobile computing product to be a success, it must achieve at least a base hit on all five factors. A version 1.0 product may be able to get away with a pop fly or strike-out on one or two factors, especially if the track record of the company is good and/or it seems as though the product has great future potential, but it can't last without improving to at least base-hit status on all five.

**iPhone example:** As an example, consider the iPhone when it was first shipped in mid-2007. My assessment of the product is as follows:

1. The original iPhone had two primary functions – making phone calls and browsing the web. While it could do other things such as play music, handle email, take photos and shoot videos, to me those seemed somewhat secondary. It was clearly a great phone and a fantastic way to access the web. If those two functions were important to you, then the functionality was high. It was a good replacement for whatever phone you currently had.
2. The original iPhone hardware supported the two primary functions quite well. The 165-dpi 480x320 TFT-LCD was (and still is) a pleasure to view while browsing the web, and the phone hardware and software was good enough. To me, the choice of AT&T was a no-brainer; if you want a GSM phone that you can use in the rest of the world, that's the only choice there is (T-Mobile, the only other GSM carrier in the USA, is a non-starter for me).

3. The original iPhone had zero ability to run non-Apple software. It was a totally closed system. With 140,000 apps in the App Store two and a half years later, we tend to conveniently forget that fact. The two main kinds of content that could be accessed with the original iPhone were music (via the iTunes store) and the web. The iTunes store transformed the music distribution business, and with the exception of not supporting Flash, web access was great.
4. The user experience of the iPhone is what set the world on fire. The use of multi-touch, the eye-candy (the way scrolling emulated a physical object, the zooming, etc.) and the intuitiveness of operation were all engrossing.
5. The cost of the original iPhone was excessive – another thing we tend to forget now that it's available for \$199 subsidized.

So how did it score? Pretty well for a Version 1.0 product. It had clear primary functions, the hardware supported those functions well, it could access music and the web, and the user interaction was outstanding. At least three, maybe four base hits (I've got to stop with the baseball analogy!)

**iPad example:** Now let's take a look at the iPad, using the same five factors.

1. The problem with assessing the functionality of a product that's trying to create a new category is that everybody has a different idea of what the product should do because needs differ greatly. The functionality rating depends on what you need to get done, and the tools that you currently use to do it.

From Apple's point of view, they don't want to cannibalize iPhone or MacBook sales; they want you to buy an additional ("tweener") device. The iPad is therefore clearly intended to be an information-consumption device rather than an information-creation device. iWork notwithstanding, you're not likely to create a 600-cell spreadsheet without (a) a real keyboard, and (b) a precision pointing device. (iWork doesn't seem to ring anyone's bell, anyway.)

If you're primarily an iPhone user and you don't often carry a MacBook, then the iPad may have high functionality because of its screen size. It is, after all, basically a big iPod Touch, and having a bigger screen can make browsing the web, watching videos and viewing photos quite a bit more pleasant. Even if you already have a Kindle or other e-book reader, a color screen can make reading magazines and newspapers a whole lot more enjoyable. It's also quite a bit easier to do serious email work when you can see more at a time. However, a bigger screen doesn't do much for music, and the calendar & contacts function are unlikely to be as convenient or as accessible as on a smartphone.

If you're primarily a MacBook user, then the attractiveness of the above functionality probably depends on the size of your MacBook. If you've got a 15- or 17-inch honker, then a 10-inch iPad may be a very desirable consumption tool, especially if you have only a basic phone rather than an iPhone. If you have a 13-inch MacBook, the value is less clear. If you have both a 13-inch MacBook and an iPhone, the iPad's functionality probably isn't very interesting to you.

If you're a PC user of any flavor, in my opinion the functionality of an iPad is highly questionable (regardless of how many PC-file-format readers are available for the system). Buying into the Mac world requires either a substantial leap of faith or massive dissatisfaction with Windows. It's a very different world, and there's a reason that the worldwide market share of the Mac OS is under 4%.

2. When evaluating the hardware specs for an information consumption device, the screen specifications must be the starting point. It's clear from the above discussion of functionality that screen size is an absolutely critical factor. If the iPad were a 5-inch (pocketable) device or a 7-inch in-between device, the functionality would be quite different.

Not far behind are all the other display specifications. For example, is 132 dpi enough? It depends on where you're coming from. Going from 165 on an iPhone to 132 on an iPad is a step down in viewing quality (my assumption is that in most situations, higher dpi values are better). On the other hand, going from a 13.3-inch MacBook at 113ppi or (even worse) a 15.4-inch MacBook at 110ppi to an iPad is a step up. A 17.0-inch MacBook at 133 dpi is a wash.

Aspect ratio presents a similar problem. The iPhone is 1.5:1, the MacBooks are all 1.6:1, but the iPad is 1.33:1. This seems to be a good example of a hardware spec that doesn't properly support the functionality. If the device is intended to be a "tweener" between an iPhone and a MacBook, then it should have a similar aspect ratio – especially in 2010 when the trend is towards wider aspect ratios, with 1.78:1 (16:9) becoming the new standard.

The only decent specifications on the display are the viewing angle (178°, as a result of IPS), and the oleophobic (anti-oil or anti-smudge) coating.

The other system specifications don't seem to properly support the functionality either. The lack of a front-facing camera makes video chatting impossible; the lack of removable storage puts a limit on the amount of information that can be consumed; the non-removable battery may result in undesirable interruption of information consumption; the lack of multi-tasking means that you can't do anything else while you're listening to music. I don't think this is a base hit for the intended functionality.

3. Although (according to Apple) "virtually all" iPhone applications run on the iPad, they run either letterboxed in their original size (480x320) or stretched to 213% x 238% -- which is unlikely to look very good. This is a Version-1 problem, however, since it seems likely that many App Store developers will customize their apps for the iPad's screen resolution, as well as developing entirely new apps.

Browsing the web on the iPad should be better than on the iPhone – with the exception that the "empty boxes" caused by Flash not being supported are more obvious and annoying on a larger screen.

4. The operating system used on the iPad is the same v3.2 as on the iPhone, with minor changes needed to support the larger screen. The user experience on the iPad should therefore be similar to that on an iPhone – although that may not be good enough. There are many conventions that have been developed regarding how to make efficient use of more screen real estate when it's available, and simply replicating the UI of a 3.5-inch screen on a 9.7-inch screen may not be the best use of that real estate. In addition, the user experience on the iPhone at 2.5 years old is starting to be in need of a refresh. Android and other new operating systems are starting to make the iPhone UI look a little dated.
5. Assessing the iPad's cost requires determining what amount of storage is required for the above functionality, and determining which wireless capabilities are appropriate. For a consumption-oriented device, more of both is better, so the middle-high-end model at \$729 is probably the most practical choice.

MacBooks range from \$1,200 to \$2,500, so in the Mac world a price of \$729 for a "tweener" device is probably reasonable. But in the PC world, this is an unreasonable price for the level of functionality that's available.

What's the bottom line? Assuming that the user is an iPhone user who doesn't often carry a MacBook (which might not be that large of a market), it looks like a base hit on functionality and cost, and a strike-out on hardware specifications, applications & content, and interaction. That's not very good news. The saving grace is that there's a lot of forgiveness in the Mac world, and Version 1 may be able to survive the "underwhelmed" response until it can be enhanced.