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Making Sense of All Those Apple Sensors

By **Thomas H. Davenport**

[Apple](#) Inc.'s announcement yesterday of the new Apple Watch with various health sensors and functions prompted me to think about what the heck we are going to do with all the different sensors we will soon have at our disposal. Apple was smart to announce the HealthKit app standards before the device, and to partner informally with a health-care organization, the Mayo Clinic, that is exploring health applications of the watch and the iPhone.

But Apple's sensors for health functions are far from the only ones available in the Internet of Things pantheon. There are sensors to monitor your physical activity (steps and the like), heart rate, galvanic skin response, skin temperature, blood pressure (it requires a small cuff), body glucose level (in contact lenses, no less), sexual performance (the Passion app), and sleep. Since wrist or belt-based devices can only measure so much about the body from outside it, many of these bodily functions, like sleep and sex, can only be dubiously inferred from the accelerometers and other sensors that are contained in activity trackers and health devices.



Stephen Lam/Reuters

Apple CEO Tim Cook shows off sensors on the Apple Watch at the Flint Center in Cupertino, Calif., Sept. 9, 2014

Let me go out on a limb and say that if you wear even a majority of these sensors, you are likely to drive yourself and your doctor crazy. If you feel you really need all that information, perhaps you should just check into the hospital, where they have plenty of health sensors that are probably more accurate than yours at home.

From a technology standpoint, this proliferation of devices raises the question of whether there will ever be a dominant device or standard for the IoT, and just how difficult it's going to be to integrate all the information to analyze and use it effectively. Even from Apple alone, there are now competing sensor platforms in the iPhone and Apple Watch. If you're going for a jog, should you strap on your Apple Watch, or strap your iPhone to your armholder? If you're going on a long bike ride and would like to measure your speed, which device should accompany you

(hint: the iPhone battery runs out pretty quickly—and nobody knows about the Apple Watch battery yet). And there are many other specialized devices that can do each of these things better.

Which raises the old question: will consumers choose best-of-breed sensors, or will they go with the ones embedded into an existing platform like a phone or watch? Based on other existing sensor sectors (say that quickly several times), I would bet on the platforms. We all know, for example, what has happened to dedicated cameras and car GPS systems. The platform version won't be as good, but it will be good enough.

The more important question for me is who is going to provide the standards and integration approaches to pull together all this information and make sense of it? The obvious candidate is someone like Apple or [Google](#) Inc.—a dominant player in some aspect of the information or IT industry. We know that Apple is relying on HealthKit and HomeKit to give it some traction in this regard. But given the number and variety of sensors for health and home that already exist, I think it's unlikely that they will all move under Apple's wing. Their vendors may develop an app, but they won't put all their eggs in the Apple basket.

More likely, I believe, is that a company like Google—actually Google itself—will develop a sensor integration platform (or a variety of them) that is available to anyone who wants to use it, as long as they are willing to make the information available to GOOG. This would be an Android-for-sensors that each sensor or device manufacturer could use to combine and integrate various forms of sensor data. It will be free, I'm guessing, and will take off as rapidly as Android did.

Probably a lot of people won't be enthused about Google getting access to yet another aspect of their information. However, I think this would be better than many of the alternatives. Google has a predilection for analytics that many hardware companies like Apple and Samsung Electronics Co. lack. We may worry a bit about the ads that Google sends to our health devices, but we'll at least be able to get the health equivalent of Google Analytics or Google Trends from the Google sensor platform.

As I wrote a few weeks ago on this site, [it's not going to be a rapid ramp-up for the IoT](#). Apple's recent announcements are likely to accelerate the progress, but I expect that we will see some other important ones from additional vendors. If you're planning your own company's direction in this regard, don't do anything rash after yesterday's Apple announcements.

Thomas H. Davenport is a Distinguished Professor at Babson College, a Research Fellow at the Center for Digital Business, Director of Research at the International Institute for Analytics, and a Senior Advisor to Deloitte Analytics.