Technology accessibility is improving, but big challenges lie ahead

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When the iPad debuted two years ago, there was lots of talk about whether people beyond the iPhone and Mac faithful would use such a thing.

But it became very clear to a particular group of people - advocates for those with autism spectrum disorders - that the device could be a new tool for communication and education in that community, something perhaps even Apple didn't foresee. Some autism-related apps aid conversation between parents and children, while others help with learning words or social skills.

In fact, there are now so many autism-related apps for the iPad and other iOS devices that there's "Autism Apps," an app that provides a comprehensive list.

Kel Smith, a blogger, consultant and founder of Philadelphia-based technology accessibility company Anikto, LLC, has been studying technology shifts like this one for a book he's working on, "Digital Outcasts: Moving Technology Forward Without Leaving People Behind."

It revolves around "accessibility," the idea that websites, apps, hardware and other technology should be designed in ways that do not shut them out to those with disabilities, from blindness to hearing loss to other physical limitations.

But the concept of the book is changing as Smith works on it. "I went in with the premise that there's entire populations of people who are being left behind; they're not being considered. Then I realized - they're the ones driving the innovation and moving it forward. They're forming their own solutions at this very grass-roots level."

Smith's company Anikto (the word is Greek for "Open") has for years been advocating more accessible web design, hardware and software. In recent years (he's been blogging on the subject since 2004), he's finding that the somewhat broad concept is becoming readily adopted as companies realize they're leaving money on the table by not making their websites or tech products accessible.

"Ten years ago, I was being laughed out of boardrooms for bringing up that we should make things accessible," Smith said. "Now, there's a greater recognition that there's a market for this type of stuff and it's not just what we do on a secular level."

The idea that designers should think about accessibility because it's in their own best interests in addition to being altruistic makes a lot of sense.

For companies selling products online, for instance, "You have to understand that people who have a disability that prevents them from leaving the home will be shopping from home. You don't want to have barriers for that purchasing decision," he said.

The cost for individuals and nonprofits to create their own web design tools and apps and has also fallen, making it easier than ever for technology for the disabled to be distributed and for communities online to get the word out about them.

Another big shift is that for years, accessibility was largely focused on

how the web is viewed on computers, how the online world interacts with computers and mice and text-to-speech assistive devices.

But now, much of people's web browsing is moving to mobile devices like smart phones, which have much smaller screens. We're also being introduced to personal tech like Microsoft's Xbox 360 Kinect, which relies on gestures and movement. Â

Smith said that these new interfaces can be a double-edged sword. They provide "a whole new array of possibilities and a whole new array of problems.

"Making a website accessible isn't so tough. These new things, these new forms, it starts to transcend the 'should we do it' into the 'how do we do it?'" Smith said. "We're almost back to square one in terms of web accessibility."

The improvements in accessibility are likely to benefit an increasing number of people. Smith says that the aging population of baby boomers is going to widen the definition of what constitutes a disability. That will increase the need for products that are mindful of people with limited motor skills or hand-eye coordination, those who have problems reading text that's too small or anyone who is hard-of-hearing.