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Tech's feminine side

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For years, men drove the design of our gadgets. But they're evolving fast as women wield more influence.

By Carolyn Y. Johnson, Globe Staff | February 18, 2008

No one would make the argument that megapixels are masculine or that gigabytes have a gender. But as gadgets and websites become an integral part of everyday life, a high-tech world that has been largely built and engineered by men is getting the feminine touch.

Digital cameras, cellphones, and online social networks appear unisex - but social scientists argue that every product is hardwired in subtle ways that reflect the cultural assumptions of its makers.

In a technology world that has been dominated by men, a growing number of companies are realizing that "feminizing" their products - essentially, by putting style and functionality on an equal footing with power and speed - is good for business.

"Women say, 'Listen, I always have demands on my time - kids or husbands or in-laws or my parents . . . I don't want technology that requires me to fiddle around with it,"' said Genevieve Bell, an anthropologist at Intel Corp. who has over the past decade helped push the company to consider consumers in its engineering choices. "It makes women really interesting bellwethers or benchmarks for usability."

Traditionally, women haven't been thought of as the first audience for most tech firms. But Bell says women may be the original early adopters - they brought some of the earliest machines into the home, used automation in their daily lives, and were gatekeepers for the television, the telephone, and the radio.

NPD Group found that women outspend men on things like calculators, cordless phones, and digital cameras, and are inching up to nearly half of all MP3 players.

That spending is helping to reshape the products.

The world's dominant cellphone company, Nokia Oyj, released a study recently that called one of the four forces in technology "G tech" - technology designed with girls in mind.

At the Consumer Electronics Show in Las Vegas, Microsoft included a PC fashion show to highlight style in a category of products known for their beige boxes, not their bling. The mobile phone industry, one of the first to see its devices evenly adopted by men and women, according to Bell, is full of examples of devices made with an impulse to do more than cover up a circuit board - whether it's diamond-encrusted couture phones or slim flip phones that fit easily in a purse.

Nokia's consumer studies show that if a technology or product appeals to women, it has a better chance of appealing to a broader audience, as well. "In terms of the fable that the geeks shall inherit the earth and he'll be male - it's completely wrong, because if you do design a product for a woman, a man or teenage boy will increasingly buy that and enjoy it better," said Tom Savigar, trends director at The Future Laboratory, which carried out the Nokia study.

An emerging field of social science also examines the subtle gender biases that may be built into the very architecture of technology.

Studies have found that men outperform women in navigating 3D virtual environments, for instance, but Microsoft researchers discovered that by tweaking the hardware and giving people a larger field of view, the gender differences were significantly reduced.

Giving users a more flowing 3D experience with visual cues meant that women's performance improved more than men's, giving a new direction for design recommendations, one paper found.

Laura Beckwith, now at Microsoft, found during her doctoral research at Oregon State University that women's confidence levels seemed to determine whether they used spreadsheet debugging tools that were the key to correcting formula mistakes, such as in a payroll or grading spreadsheet.

But she also discovered she could reshape the software so that such uncertainty was not an obstacle. By tweaking the software tool to allow users to choose not only "right" and "wrong," but also more tentative options such as "seems right maybe" or "seems wrong maybe," she found that women tended to use the tools at least as often as men did.

"There's a possibility that if you don't consider gender when you're designing your software, you are unintentionally designing for one and not both genders," said Beckwith. "In the early studies that I did, some people never thought the computer would be wrong - they had no notion of blaming the computer for things it had done. That's a pretty serious consequence we really have to take into account."

A recent study by Hugo Liu, a researcher at the MIT Media Lab, used analysis of 150,000 blog entries to create GenderLens, a news filtering system that created "men's" and "women's" news feeds.

In four of five categories, the newsfeeds were able to accurately predict which stories would be preferred by men and women, providing insight into ways that user interfaces could be improved.

"In broadest strokes, we drew the conclusion that females express more vividly, are detail and event driven, while male expression gravitates toward the hierarchical, abstract, and utilitarian," Liu wrote in an e-mail. "It's certainly possible to apply these results to understand gender bias that may be baked into websites."

A fellow at the Berkman Center for Internet and Society at Harvard Law School, danah boyd, believes those show up every time people log on.

While women and men both use online social networks, for instance, she says they bear the imprint of the people who design them and the users who adopt them first. For instance, a news-ranking website like Digg.com would appear to have a gender-neutral concept - people choosing and identifying interesting news stories - but is dominated by content that would appeal to a techy, usually male crowd.

But technologies that become popular with women can escape their design in some ways, she said, noting that women who use social networks tend to use them as a form of self-expression, whereas men are more likely to use them to collect a bucket of friends.

As technology takes a cue from its consumers, and as more women have entered the tech industry, that means more and more companies may be thinking outside the beige box.

Still, it would be a mistake to think that designing for women simply means adding sparkles.

"That doesn't mean we're making a pink phone," said Tero Ojanperä Nokia's chief technology officer. "It's more social, more human."

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