



What We Can Learn from Steve Jobs

San Murugesan, *BRITE Professional Services, Australia*

Steve Jobs wasn't exactly an IT person—he didn't have a programming or computer science background—yet there's much to learn from this great innovator. He redefined the IT user experience, creating products and services loved by millions around the world. He reshaped not only the IT industry but others as well—the music industry with the iPod; the cell phone industry with the iPhone; the movie industry with his Pixar Animation Studios films; and the computing industry with the original Mac, the Mac OS X, and the iPad. He had also started to transform the publishing industry with his iBooks and media subscription services and the software industry with his App Store. His legacy will be felt for years to come.

A True Visionary

Jobs persuaded millions of people to try technology they'd never before considered. He went against mainstream thinking and followed his intuition and instinct. He could not only see what the future of technology could—and should—be, he could also bring that vision to fruition.

As Georges van Hoegaerden wrote: “He reinvented the business of technology innovation with a passion and an authentic desire to bring it to everyday people everywhere. He did it with the vigor required to keep his many young and cocky technologists in line and focused, and to achieve meaningful innovation that improved all of our lives.”¹

He was “brave enough to think differently, bold enough to believe he could change the world, and talented enough to do it,” said US President Barack Obama in his tribute. Jobs was a technologist, visionary, and innovator, and he transformed consumer culture.

Following his Lead

Jobs turned Apple, on the brink of bankruptcy in 1997, into world's most-valued technology company. He caused “creative destruction” of old norms and business models through his blended understanding of technology and society, business and economics, and markets and corporate power.² He created a new ecosystem that integrates the devices that his company sells with applications and services, driving other companies to follow suit.

Is it possible to emulate Jobs's success? What sort of values and practices would IT professionals and executives have to encompass?

Integrate Technology and Liberal Arts

According to Jobs, “Technology alone is not enough. It's technology married with the liberal arts, married with the humanities, that yields the results that make our hearts sing.” In his products, Jobs provided a compelling user experience in ways not previously provided or even envisaged.

He didn't accept the notion that software and hardware are best designed and engineered separately. While most of his competitors specialized in either hardware or software, he pursued excellence in both. He built systems encompassing hardware and software, closely aligning the device's operating environment with the device itself to optimize system performance—to the benefit, and relief, of customers.³ Building a mobile phone with an Apple OS and creating an avenue (the App Store) for users to obtain a wide range of apps and games that run on it embraces *vertical integration*.²

Jobs led Apple to build technological systems, not simply products.

Foresee the Needs

Jobs had an uncanny ability to foresee and define trends in computers and consumer electronics, and he led the market with must-have products. His dissatisfaction with the status quo made him want to reach for something better. He could anticipate what we wanted before we even knew we wanted it, creating a market for a product where none had previously existed.

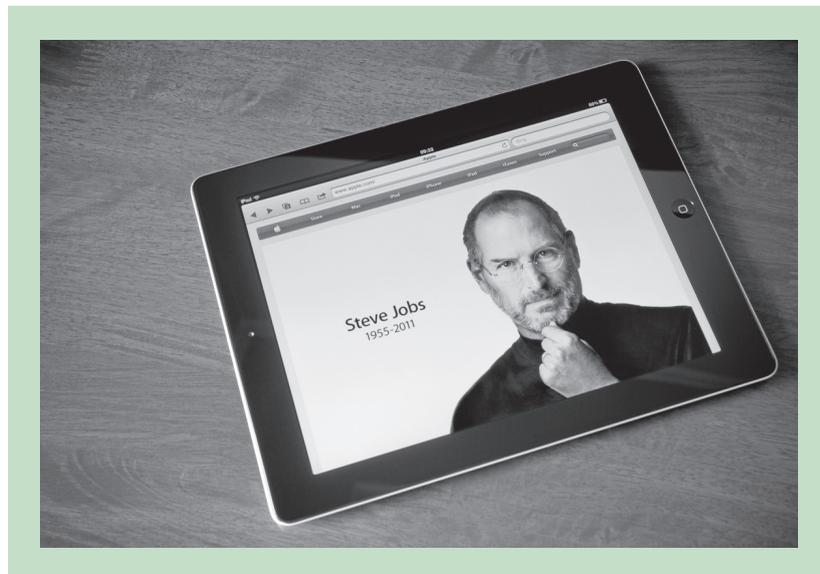
“It’s really hard to design products by focus groups. A lot of times, people don’t know what they want until you show it to them,” Jobs said, explaining why we shouldn’t overly—or only—rely on focus groups. Sometimes the most innovative of products can contradict what the end users envisage them to be. Henry Ford once said, “If I had asked people what they wanted, they would have said faster horses.”

Take the Time to Think Differently

Jobs was able to think differently, and he encouraged others to think differently in solving problems and conceiving new products: “When you first start off trying to solve a problem, the first solutions you come up with are very complex, and most people stop there. But if you keep going, and live with the problem and peel more layers of the onion off, you can often times arrive at some very elegant and simple solutions. Most people just don’t put in the time or energy to get there.”

Make the Right Choices

Jobs possessed the important skill of choosing the right projects at the right time—a skill many executives and professionals lack. He once said, “I’m as proud of



what we don’t do as I am of what we do.” His key decisions irrevocably changed the computing and communications landscapes. Many of the products created under his leadership became models to be copied, creating a demand for high-quality user-centric products.

Adore Good Design

Jobs’s legacy in product development has been clearly established and celebrated. A good design is innovative, emphasizes usefulness, and is aesthetically pleasing.⁴ A good design also makes a product self-explanatory—the product clearly express its function by focusing on user intuition. The design process should respect the users and address their expressed and perceived needs.

Most Apple products are hallmarks of good design. They provide value to users, are easy to use, and engage users like never before. That’s why when we think of the smartphone, we think iPhone; when we think of the tablet, we think iPad; when we think about ease of use, we think Mac OS X; and when we think about digital music, we think iPod and iTunes.

Being the first to launch a new product is less important than being the first to launch a product that embraces good design and is of value to its users.⁵ For example, the iPod wasn’t the first MP3 player—it came four years later—but it quickly surpassed all other MP3 players on the market. The iPod and iTunes Store made it easy for people to discover and buy music and organize it into personal playlists. Jobs effectively harnessed various technological and business options to create such new products and services, which is why he (along with colleagues) holds more than 300 patents. (An interactive display of these patents and further information on them appears elsewhere.⁶)

Sweat the Details

Good design is also thorough to the last detail. To get things right, Jobs paid attention to every detail,³ as no other CEO could. This attention to detail made a huge difference in his work, as his products demonstrate.

Continue to Innovate

Users want to be delighted with new offerings that further enhance their product experience.

Jobs fully understood this. In spite of coming up with widely popular products, likely to maintain the market lead regardless, Apple constantly developed follow-up versions to constantly improve the user experience. IT professionals and business executives must similarly think about potential improvements constantly.

Jobs wasn't an inventor so much as a visionary and innovator capable of understanding other people's inventions and realizing their potential. He could combine the inventions in such a way as to develop better products. Jobs once revealed his strategy as "trying to expose yourself to the best things humans have ever done and trying to bring those things into what you are doing." Furthermore, one of his mantras was "focus and simplicity." He explained, "Simple can be harder than complex: You have

to work hard to get your thinking clean to make it simple. But it's worth it in the end because once you get there, you can move mountains." If we can learn from Jobs and then apply those lessons in our own work, maybe we too can someday move mountains. ■

References

1. G. van Hoegaerden, "How Steve Jobs Proved Venture Capital Wrong," blog, 5 Oct. 2011; http://venturecompany.com/capital/index_files/steve_vc_wrong.html.
2. G.P. Zachary, "Steve Jobs in Four Easy Steps," *IEEE Spectrum*, vol. 48, no. 10, 2011; <http://spectrum.ieee.org/computing/hardware/steve-jobs-in-four-easy-steps>.
3. G. Hamel, "What Makes Apple Apple," blog, 7 Oct. 2011, www.managementexchange.com/blog/what-makes-apple-apple.
4. J. Hiner, "Good Product Design: The 10 Principles of Dieter Rams," blog, 9 Oct. 2011; www.jasonhiner.com/blog/2011/10/9/good-product-design-the-10-principles-of-dieter-rams.html.

5. R. Verganti, "Designing Breakthrough Products," *Harvard Business Rev.*, Oct. 2011; <http://hbr.org/2011/10/designing-breakthrough-products/ar/1>.
6. M. Helft and S. Carter, "Chief Executive's Attention to Detail, Noted in 313 Patents," *The New York Times*, 25 Aug. 2011; www.nytimes.com/2011/08/26/technology/apple-patents-show-steve-jobs-attention-to-design.html?_r=2.

San Murugesan is director of BRITE Professional Services, Australia, and an adjunct professor at the University of Western Sydney. His research interests include cloud computing, green IT, Web X.0, and IT in emerging markets. He's co-editor of the upcoming book, Harnessing Green IT: Principles and Practices (John Wiley, 2012). He's associate editor-in-chief of IT Professional and a fellow of the Australian Computer Society. Contact him at san1@internode.net.

TIMELY, ENVIRONMENTALLY FRIENDLY DELIVERY

DIGITAL EDITIONS

Keep up on the latest tech innovations with new digital editions from the IEEE Computer Society. At **more than 65% off regular print prices**, there has never been a better time to try one. Our industry experts will keep you informed through a format that's timely, easy to search and save, and environmentally friendly.

- Email notification. Receive an alert as soon as each digital edition is available.
- Two Formats. Choose the enhanced PDF edition OR the web browser-based edition.
- Quick access. Download the full issue in a flash.
- Convenience. Read your digital edition anytime—at home, work, or on your mobile.
- Digital archives. Subscribers can access the digital issues archive dating back to January 2007.

Interested? Go to www.computer.org/digitaleditions to subscribe and see sample articles.