

# Apple innovation



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An economic crisis can be a crucible that forges new innovations in business operations or they can lead companies to make dumb mistakes that destroy them as they rush blindly to survive.

We're beginning to see corporations move into one camp or the other as the economic downturn gets worse and worse but one company one company stands out for forging ahead on innovation: Apple Computers. Apple's innovation in their new product introduction leads the way and shows how product innovation can deliver superior economic return to a company and its shareholder. Apple Computers Inc. was co-founded by Steve Woznaik and Steve Jobs (known as the "two Steves"). Both of them shared a common idea of assembling a machine and subsequently selling it.

In 1976, they introduced the world the first PC and they called it Apple I. A California-based local computer store, Byte Shop got interested in the machine and gave Jobs and Woznaik an order of 50 computers each at \$500 on delivery. While the parts were ordered from Cramer electronics, an electronics parts distributor, Jobs and Woznaik worked days and nights to assemble the parts. This is how Apple I came into being.

Apple I had a sound design, a philosophy that Apple still maintains today. Apple I had a monitor, unlike any other computers of that age, and it used a bootstrap code on the Read Only Memory (ROM) to speed the computer startup. In addition the machine also had a cassette interface for storing and saving programs. Eventually, two hundred Apple Is were built. With the profits earned from the sales of Apple I, Wozinaik conceived an upgraded model, the Apple II. It was notably different from Apple I.

They were: (a) a completely redesigned TV interface, which in addition to text, also displayed graphics, and colors; (b) much improved case and keyboard. Steve Jobs was looking for finance to help built such a computer. Eventually, Jobs managed a loan of \$250, 000 and Apple computer, Inc was formally founded in April 1976. Apple II was released in 1977 was credited with the creation of the home computer market. Millions of Apple II was sold till 1980s. When the company went public in 1980, it made more money than any IPOs, since Ford Motor Company in 1956.

By the 1980s, Apple started facing competition in the PC business. Its chief competitor was IBM, which through its cheaper version was capturing a chunk of the emerging desktop PC market. Apple III was subsequently introduced to the corporate desktop market, dominated by IBM. Apple III was a market failure. Although it sold even at a very high price yet most of the models had to be recalled and replaced.

The reason for this was that the machines got overheated due to the omission of the cooling fan<sup>13</sup>. An improved version was released in 1983; the initial bad experience discouraged buyers and left the Apple III was largely a market failure. During the same time, Apple started to do pioneering work in building a PC with Graphical user Interface (GUI), computer mouse, object-oriented programming and network capabilities. Jobs's previous exposure to the Xerox Laboratory made him acknowledge that there is a future for such technologies and he started to support such research. Subsequently, the Lisa and the Macintosh teams were formed. Lisa was debuted in 1980 at \$10, 000.

It was acknowledged to be a product ahead of its time. But the price of Lisa did not help Apple to have a strong foothold in the market. It was discontinued in 1986. Apple Computers, despite being credited with pioneering the PC revolution by introducing products ahead of its time never really succeeded in dominating the market.

The computer industry got de-verticalized from late 1980 and early 1990 (with Windows from Microsoft and processors from Intel) making PCs an affordable commodity with Open standards. Apple rejected this trend and continued to promote its Mac OS, and their proprietary and closed architecture. Both Bill Gates (Chairman of Microsoft) and Andy Grove (co-founder of Intel) agreed that Apple's product was technically superior to theirs', consumers were not willing to pay extra for technical superiority, as opposed to machines that fit their bill. While Microsoft with its Windows became the biggest success story in the late 20th century, Apple never gained a strong foothold in PC industry. From the early 1990s Apple lost its market share from 20% to 5%.

By the end of 2004 it was only 3%. Apple continued its technological innovations with the introduction of the Power Book, in the early 1990s. Apple then introduced the Apple Airport which uses wireless LAN technology to connect computers of different brands to the Internet without wires. In 2001 it brought the iBook<sup>16</sup> and Power Mac G4 Computers<sup>17</sup>. Apple concentrated on sleek design and started giving considerations on making PCs more ergonomically usable. In early 2002 they received the Industrial Design Excellence Award (IDEA) award for best design for its iMac G4.

The machine had a hemispherical base and a Flat panel all-digital display supported by a Swiveling neck (exhibit 2). This model was discontinued in August 2004, when Apple came up with the iMac G518, world's thinnest desktop PC that only two inches (5.1 centimeters). This model dispenses with the base altogether, placing the CPU and the rest of the computing hardware behind the flat panel screen.

The i-Macs (both G4 and G5) considerably increased the awareness of Apple Computers. 70 % of i-macs were purchased by previous Mackintosh users, but surprisingly a 12% (which is quite high) of Windows users bought i-Macs. Also 18 % of new computer users purchased i-Macs. This data is summarized in exhibit 4. The downside was that both iMac G4 and iMac G5 had a closed proprietary architecture. In addition the CPU was integrated within a monitor that only works in Apple Systems.

This added a huge switching cost for Windows users who wanted to shift to Apple. These users had to spend heavily on expensive I/O devices of Apple. While the PC industry gradually shifted towards making computers an affordable household appliances (often not technologically elegant), Apple carved its niches in areas such as consumer electronics, retail stores in addition to making the “not so-cheap computers”. Apple introduced the idea of a Personal Digital Assistance (PDA), with the introduction of the Newton<sup>19</sup>.

Newton did not storm the market, yet it opened an emerging market for PDA, which is dominated by quite a few players, but Apple. In response to its declining market share, and poor marketing of its products, Apple in May 2001 announced its own line of Retail stores. Stores were first opened in

USA, followed by Japan in 2003 and England in 2004. While Apple stores were opened in main Cities, Apple opened “ mini stores’ in smaller cities to reach a greater proportion of the consumers. Apple’s technology innovation for the first time translated into a market success with the introduction of the iPod, a portable music digital player.

i-Pod’s initial capacity was 5 GB with easy connectivity to cameras and home stereo systems. On November 2004 i-Pod boasted 87. 3% market share among hard drive based music layers. Apple revolutionized the interface between computers and the music industry by signing five major companies to join its new music download service the i-Tunes music store. The price of download was as low as 99 cents per song and \$9. 99 per album.

This gave users added flexibility for downloading, playing and burning songs into CDs. The i-tunes music store was launched in 2003 reached 2 million downloads in only 16 days. Firstly, all songs were downloaded in Macintosh, later Apple made the songs compatible with windows, allowing windows users to have access to their songs. Microsoft in reaction to this, unveiled its own music download site the MSN music. But unlike Apple it was only windows compatible, i. .

, the songs could not be played on iPods or any Macs (MIT Technology Review, December 2004). Apple has been widely criticized for their vertically integrated business model (according to Wikipedia Encyclopedia, Feb 06, 2005) in the computer industry, and manufacturing computers that were too expensive for most common consumers. From a technological standpoint Apple has been subject to criticism for having a closed proprietary

architecture, and not adopting open standards. This erected switching costs for consumers. Following this Apple adopted hardware standards such as 3 1/2 inches Floppy drive, USB and so on.

Apple also uses an open source HTML rendering engine in its Safari web browser. On January 2005 Steve Jobs surprised the World by announcing the followings: (Economist, January 2005): iPod Mini and Collaboration with Motorola Apple introduced two low-priced models of i-pod, at \$99 (120 songs) and \$149 (240 songs), respectively. Jobs also announced that Mercedes, Nissan, Volvo, Scion, and Alpha Romeo would join BMW to offer iPod controls in their steer-wheels (Economist, January 2005). Apple struck a deal with Motorola to include iPod like music players in some selected Motorola handsets starting spring 2005.

“ One can’t think of a more natural partnership than this one with Apple, the brand synonymous with easy-to-use, legal music downloading, and Motorola, the innovator in mobile technology,” said Ed Zander, Chairman and CEO, Motorola. “ Being able to transfer songs you’ve purchased from iTunes to Motorola mobile handsets expands the market reach for both of us and drives new revenue for customers, delivering an amazing music experience to millions of wireless users. (Apple Press Release, January 26, 2005) “ We are thrilled to be working with Motorola to enable millions of music lovers to transfer any of their favorite songs from iTunes on their PC or Mac to Motorola’s next-generation mobile phones,” said Steve Jobs. “ The mobile phone market—with 1. 5 billion subscribers expected worldwide by the end of 2004—is a phenomenal opportunity to get iTunes in the hands of even

more music lovers around the world and we think Motorola is the ideal partner to kick this off. ” (Apple Press Release, January 26 2005).

Reacting to these announcements John M. Gallaughar, professor of Business, Boston College, USA entioned, “ Today we saw the unveiling of a business strategy that people will be talking about some years to come”. These announcements diluted the belief that Apple operated on the philosophy of making proprietary close architecture systems. The concept of Apple’s collaborating, decreasing price and making computers that are hardware adaptable with other vendor’s stirred debates among the management strategists, and professionals. According to the BBC News (January 12, 2005) and Arthur (January 12, 2005) these new strategies are shifting the company from its traditional focus in design and innovation to a mass-market manufacturer.

Steve Jobs mentioned that the low cost Mac will reduce the switching costs from Window’s user, the iPod in Motorola as well as the low cost i-Pod will give a better reach. While it seemed that Apple was happy with its position as a niche player in sophisticated computers, these new announcements compelled many to think that Apple intends to grab a bigger bite in (a) computer industry dominated by Dell, Toshiba, IBM primarily using the Wintel architecture, (b) electronics consumer industry dominated by Sony, Samsung, Phillips and so on. Job’s who assumed the CEO position in 1997 really pushed innovative ideas forward to make the company very successful and claim back substantial market from Dell, IBM and other PC competitors. As their move towards the new direction as a consumer electronics manufacturer with the products like iPod and iPhone, Apple will continue to <https://assignbuster.com/apple-innovation/>



dominate market with their innovative and cool ideas build into the products.

References 14.

MIT, Technology Review (December, 2004). Innovation News: briefings from the World of Information Technology. Technology Review: MIT's Magazine of Technology. P. 29 Wikipedia Encyclopedia (February 08, 2005). Apple Computer.

Retrieved February 10, 2005 from [http://en.wikipedia.org/wiki/Apple\\_Computers](http://en.wikipedia.org/wiki/Apple_Computers)

Apple Press Release (January 26, 2005). Motorola and Apple Bring iTunes Music Player to Motorola's Next-Generation Mobile Phones. Retrieved March 19, 2005 from <http://www.apple.com/pr/library/2004/jul/26motorola.html>

Economist (January 15, 2005). Crunch Time for Apple. Economist P.

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