

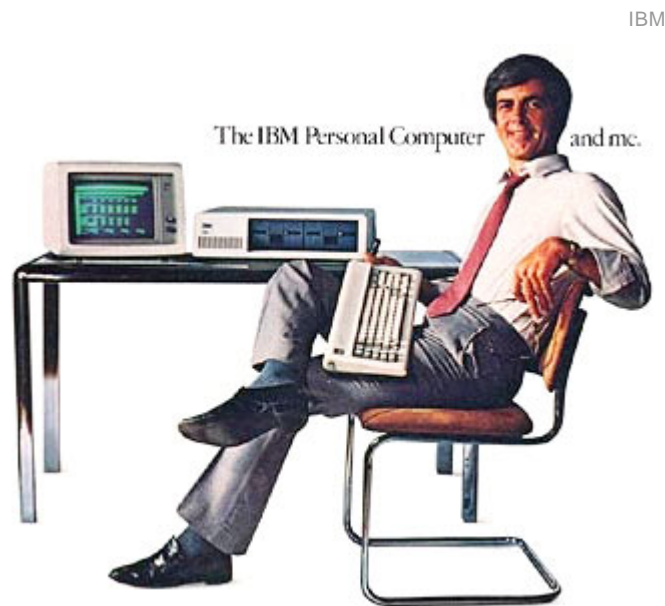
The PC's 25th birthday

Getting personal

Jul 27th 2006

From The Economist print edition

It has had a glittering career. But are the PC's best days now behind it?



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"ENDLESS LOVE" by Diana Ross and Lionel Richie was at the top of the charts. Ronald Reagan was staring down the Soviet Union. And Princess Diana, aged 20, was on her honeymoon with Prince Charles. It was August 12th, 1981—and International Business Machines of Armonk, New York, unveiled the IBM 5150, its new entry in the nascent market for "personal computers".

This beige box, with a starting price of \$1,565, had a mere 16 kilobytes of memory and used audio cassettes to load and save data. (A floppy-disk drive was optional.) IBM's press release trumpeted the screen's "green phosphor characters for reading comfort" and "easily-understood operation manuals" that made it "possible to begin using the computer within hours."

IBM's previous attempts to launch a PC had failed. But today, 25 years on, the IBM 5150 is recognised as the ancestor of the modern PC, a crucial step in computers' evolution from geek playthings to indispensable tools of modern business and, for many people, private life. Roughly one billion PCs are now in use across the world; many office workers spend more time with their PCs than they do asleep or with their families. But the PC's spread has been uneven: in America there are 70 PCs for every 100 people, compared with 35 in France, 7 in Brazil, and 3 in China.

The PC has created wealth on a massive scale. The combined stockmarket values of PC hardware and software firms exceed half a trillion dollars. Cheap computers have boosted the productivity of individual workers. And hundreds of millions of people have benefited from access to word-processing, spreadsheets, e-mail, file-sharing and cheap phone calls—to say nothing of the riches of the web.

The PC democratised computing by making computers cheaper and more accessible than the huge mainframes that came before. IBM's PC was less advanced than some other machines on the market. But it was backed by the most reputable name in computing. IBM did not release a product so much as unleash an industry.

The secret of my success

In many ways, the PC triumphed due to the very un-IBM way in which it was developed. When IBM's previous attempts at a PC failed to sell, being too expensive, a "skunk works" team of engineers was convened in Boca Raton, Florida. The team did not report through IBM's stifling bureaucracy, but directly to the top of the company. It was given a year to devise a low-cost machine. "The people doing that work weren't talking about it, there weren't any business cases done, there wasn't any annual budget review," explains Lewis Branscomb, IBM's chief scientist from 1972 to 1986. "IBM did a lot of radical things—and that proved to be very successful."

To meet its ambitious goals, the team bucked two IBM traditions. First, instead of using only IBM parts, the team chose off-the-shelf components. Second, rather than keep the design a secret, the team made the specifications open, so that independent software developers could flourish. When the PC finally launched, IBM expected to sell 250,000 units in five years. In the event, it had sold nearly 1m by 1985.

Yet the very factors that led to the PC's success inadvertently prevented IBM from reaping all the benefits itself. The PC used a microprocessor made by Intel and an operating system made by Microsoft (led by a 25-year-old called Bill Gates). Neither was exclusive to IBM, and within a year other companies had worked out how to make much cheaper "clones" of its PC. Microsoft and Intel, not IBM, turned out to be holding personal computing's crown jewels.

"This IBM project was a super-exciting, fun project," Mr Gates told *PC* magazine in 1982. Asked what the future would bring, Mr Gates was as blunt as he was prescient: "Hardware, in effect, will become a lot less interesting. The total job will be in the software." He was right. Today, society both benefits and suffers from the PC's flexibility and openness. The magic of the PC is that it is a general-purpose machine to which new functions can be added simply by installing a new piece of software. "The PC is a very fertile device," says Dan Bricklin, the inventor of VisiCalc, the first spreadsheet program. But this versatility comes at a price, since it makes the PC more complex, less secure and less reliable than a dedicated, single-purpose device.

As a result of these shortcomings, many technologies incubated on the PC are moving off it. Functions such as e-mail and voice-over-internet calling that were first rendered in software, just as Mr Gates predicted, are now mature enough to be rendered in hardware. As a result, the PC is no longer centre of the technological universe; today it is more likely to be just one of many devices orbiting the user. You can now do e-mail on a BlackBerry, plug your digital

camera directly into your printer, and download music directly to your phone—all things that used to require a PC.

At the same time, the PC is under threat as the primary platform for which software is written, as software starts instead to be delivered over the internet. You can call up Google or eBay on any device with a web browser—not just a PC. People have been saying it for years, but this could finally allow much cheaper web terminals, or “network computers”, to displace PCs, at least in some situations.

These shifts are affecting the big firms that grew up around the PC. Microsoft has moved into games consoles and set-top boxes, chiefly in case these other devices emerge as challengers to the PC as “hubs” for digital content. This week it confirmed that it will launch a digital music-player, called Zune, in response to Apple's successful march into non-PC markets with the iPod. As for PC-makers themselves, the falling prices and commoditisation that have so benefited consumers have turned them into low-margin box-shifters. IBM got out of the business in 2004, selling its PC division to Lenovo, a Chinese firm.

This does not mean the PC is dead. PC sales, at 200m a year, are at an all-time high. The PC's versatility means it will still be the platform on which new technologies tend to appear first. But with the rise of a plethora of other devices and the emergence of the web as a software platform, the PC now faces a struggle against its own technological offspring.