The Hardware Companies, Condemned to Evolve
Josep Valor
Expansión
July 6 2001

Network infrastructure companies are now having difficulty surviving after the collapse of the dot coms. Drops of eighty percent in the market price of companies such as SUN Microsystems and CISCO do not allow for optimism in the hardware sector. An important part of the depreciation of these companies is due to the fall of the dot com companies, who were the principal customers of these manufacturers. This downturn has not been compensated by increased demand in traditional companies.

These traditional companies find themselves with two additional alternatives with regards to supply: second-hand material available from failed companies and material which the distribution channels had accumulated in anticipation of what appeared to be an unlimited increase in demand.

In order to analyse the hardware sector we must distinguish between two subsectors, firstly the sector dedicated to equipment, which, over time, has transformed into commodities, such as PCs, and the sector dedicated to products with proprietary elements, such as servers or routers. When the single most important aspect of a PC is that it be able to run Windows, the possibilities to make money through assembly are very slim, and are limited to merely placing it on the market at the least cost within the quality parameters required by the market. Given the situation, we are obliged to compete through the price and to try to add service and differentiation. The only company which, to a certain degree, has managed to add service to a PC is Dell, which, by overriding the distribution channel and reaching the end customer directly, is in a position to know the customer's needs first-hand. Moreover, by following a strategy of assembling computers on demand, it does not have finished products in its factories or accumulated in the channel.

Apart from this efficient assembler, the only companies capable of making a profit from the value which a PC provides to users are those which own a component of the equipment. We have a good example of this at Microsoft.

Software
This company has managed to get software developers to construct their products on Windows because it is the operating system which most users have, and these users buy computers with Windows since it is the platform for which there is most software. We could say that Microsoft has managed to hold the industry hostage and has the biggest margins of all the companies dedicated to computer programming.

Formulae
One of the options which hardware manufacturers have in order to try and break this circle and recover margins is to introduce an intermediary level between Windows and
the programmes, so meaning that the operating system would no longer be the essential stage. Another possibility is to introduce alternative proprietary products on the market. An example of the first option can be found in the programming language Java.

If the development of programmes executed from within the browser become popular, it will no longer matter which operating system the PC has, and consequently the dominance of Windows on the sector would end. It is for this reason that Microsoft is unhappy about the appearance of browsers by other companies and the evolution of the same into free products. The second possibility which companies in the sector have to increase their revenue is through proprietary hardware. An example of this can be found in the struggle to dominate the video games market. Over the next few years, these will become a hugely important way to access the Internet. At the moment the sector is dominated by two companies from outside the PC sector: Nintendo and Sony.

Neither of these two companies uses a standard operating system which allows programmes (games) from one platform to be executed on the other, in other words there is no Windows bringing uniformity to the different consoles as is the case with PCs. Microsoft is fully aware of the situation and has taken the opportunity to try and dominate the video games sector too. Given the impossibility of doing it through existing software, it decided to launch its own video console Xbox, which will run Windows CE. Should a standard operating system for video games be implanted in the future, it will no longer be relevant whether the console is Sony or Nintendo. At that moment the important factor will be the standard operating system which will be able to run programs developed for any video console, and so once again equipment manufacturers would lose power to the operating system.

"Will PC manufacturers ever be profitable again?"

**Douglas Wagner, Director PricewaterhouseCoopers**

There is a saying about none of us being here in the long-term. The same can undoubtedly be applied in the case of the PC. The first consideration should be that the new data processing and communication devices (WebTV or Bluetooth) represent an extension of automatic applications which allow new functions to be carried out, rather than merely being a replacement in the short or medium term for the role of the PC at the heart of the Company. Moreover, the PC itself is constantly evolving. Today’s computer, with gigabytes of storage, colour screen, DVD and a cordless mouse bears little resemblance to the PC of some years ago. Equally, Windows 2000 is far removed from MS-DOS.

This evolution of devices, operating systems and applications shall continue to be based around the PC. If the computer has a future, the profitability of its manufacturers requires a more profound study, given the complex structure and high-level of competition which exists between them.
Sandra Sieber, IESE Professor
Hardware manufacturers have seen their profits decrease over the last few years as its equipment transforms into commodities. For this, a high level of efficiency is becoming more and more important in order to obtain a leadership in costs which allows positive results to be achieved. However, there are few opportunities for differentiation through costs in the production stage of hardware, since there exist a series of suppliers of non-differentiated pieces who usually compete in prices. Hence the cost of assembly of a PC does not differ much from one company to another. For this reason, one must look for possible competitive advantages in the distribution sphere. Given the specific characteristics of the Spanish user, who still requires advice from the large chains specialised in the sale of hardware, it is difficult to imagine anyone in Spain obtaining differential results through distribution, as Dell achieved by establishing direct sales and assembly upon request.