**Does R&D capability justify Microsoft’s monopoly?**

By Ivan Png

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To what extent does Microsoft’s investment in research and development (R&D) justify the higher prices and inefficiencies associated with monopoly power?

LIKE other high-technology companies, Microsoft consistently spends heavily on R&D. In the years 2008, 2009, and 2010, it invested US$8.16 billion (S$10.5 billion), US$9.01 billion, and US$8.71 billion, which amounted to between 13.5 per cent and 15.4 per cent of revenue, on research and development.

Microsoft’s R&D has contributed to a stream of innovations that have transformed business and the home. Most notable are the MS-DOS (Disk Operating System) for IBM-compatible PCs, the Windows operating system, the Office suite of business PC applications, and the Xbox game controller.

While Microsoft’s R&D has produced some stunning successes, it has also produced many duds. Just to name a few – the Bob user-interface (number 7 in PC World magazine’s list of the 25 worst technology products), Windows ME operating system (with “ME” representing the Millennium Edition but nicknamed the Mistake Edition), MSN Smart Watch, and MSN Search.

It’s the same Microsoft that developed and launched both the Xbox and MSN Smart Watch. Evidently, R&D is a risky business.

Microsoft is a public company, listed on the Nasdaq exchange. It invests billions in R&D (its annual R&D expenditure easily exceeds the whole of Singapore’s) to increase sales and profits for its shareholders.

While R&D is risky, the products that Microsoft makes are relatively easy to copy. Microsoft would have less incentive to invest in R&D if other businesses and individual users could simply copy any successful products.

So, society provides innovators like Microsoft with the protection of intellectual property – patent, copyright, trademark, and trade secrecy.

Intellectual property rights give innovators a period of exclusivity to earn a reasonable return on their investment.

To the extent that businesses and consumers see value in the innovator’s products, the exclusivity provides the innovator with market power. Then, the innovator can raise prices. And, indeed, Microsoft earns an impressive gross margin of about 80 per cent on selling its goods and services.

When innovators use exclusivity to raise prices, they can increase their own profit, but they also reduce the usage of their products. If Microsoft was to cut the price of Office by half, many more people would buy the software.

From society’s viewpoint, innovation is good, but limiting usage is bad. Hence, the key policy issue is the appropriate trade-off between stimulating innovation and limiting usage of innovations that have already been produced. In turn, society needs to know the extent to which intellectual property rights do stimulate new innovation.

On the empirical issue – the impact of intellectual property rights on new innovation – there has been limited economic research, and, surprisingly, the results have been quite weak. Various economists have studied the effect of patents and only a few (my NUS colleague Albert Hu and I being among them) have found that stronger patent rights have led to more R&D or faster economic growth.

Relatively few economists have studied the effect of copyright (which is the main protection for Microsoft’s software products). The studies to date have not found any effect of copyright on new innovation.

To conclude, the jury is still out as to whether investments in R&D justify the higher prices and inefficiencies associated with monopoly power.

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