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Externalities of Microsoft network goods

The case of the US versus Microsoft, dated 1998, was much discussed among economists all over the world. Microsoft was accused of executing a vertical foreclosure after integrating the Internet Explorer (IE) browser on the Windows operating system to compete with the Netscape browser. In 1995, when Microsoft announced that it would distribute its new Internet Explorer browser free of charge, it prevented the success of Netscape's initial business plan to charge consumers for the use of this graphic software.

Microsoft was accused of executing a type of strategy that was based on the exploitation of network externalities and the practice of predatory pricing, which imposed restrictions on original equipment manufacturers (OEMs), Internet content providers (ICPs) and Internet service providers (ISPs).

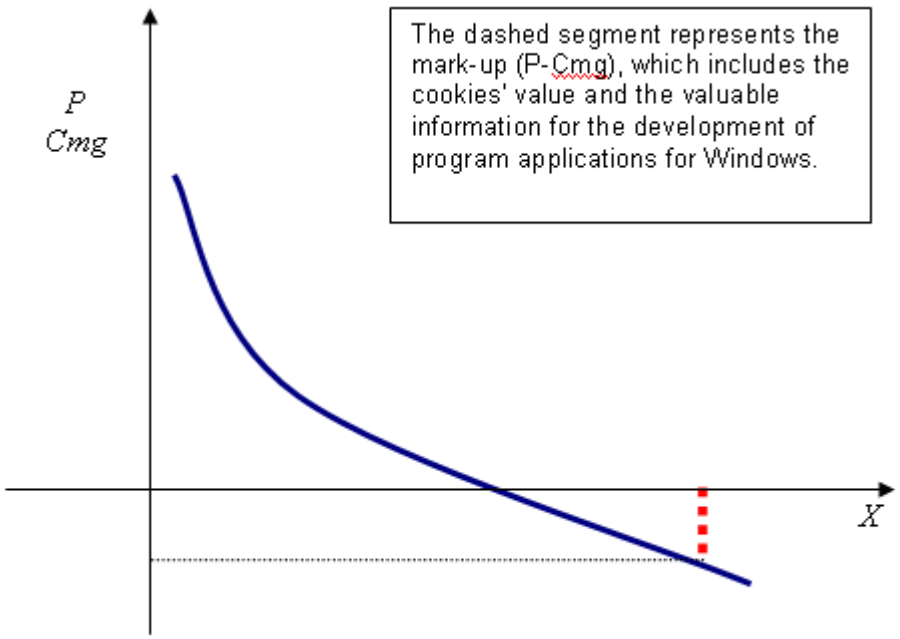
The impact of this strategy was felt on two different levels: on the one hand it ensured that new personal computer users had access to a previously installed version of the IE browser; on the other hand, the Netscape browser could not be installed on new personal computers.

For the sake of this editorial, IE is depicted as an example of what can be called information goods, that is, free merchandise or products. In the present digital context these can be considered as part of public goods. Considering the large number of antitrust cases that have been judged by the US Federal Trade Commission, an analogy can be found for the case of the US versus Microsoft, where it was concluded that IE offered an acceptable mechanism to stimulate demand for Windows. By taking IE as an example, it may be considered that information goods include everything that can be digitalized or codified by a flux of bits.

Information goods establish an interaction between two fundamental, but complementary elements: information (including software) and supporting infrastructure (hardware). This relationship provides the likelihood of strongly dependent utilities that originate from the interaction between the producer's utilities (in a conscious way) and consumer's utilities (in a non-deliberate conscious way), which contribute to a large degree of mutual satisfaction. In fact, a browser has three basic features of typical public goods. Firstly, it is invisible and independent of the quantity consumed by a set of consumers. It is always possible to add additional users, while more users will not reduce the degree of individual or collective satisfaction of the initial set of users. Secondly, a browser makes exclusion impossible, since the quantity produced by these information goods has to be accessible to the additional users who wish to use it. Thirdly, the integrated functioning of the World-Wide Web makes the rejection of this kind of information goods impossible, since there is a certain level of necessity for all the current users of the Web to use a browser.

It should nevertheless be stressed that the marginal cost of an additional copy of IE could be negative, because the production cost of a copy is nearly zero and the cost of the 'Webgrafia' of the consumer profile could save costs for the producer. Costs savings that are caused by the elimination of the costs associated with market research can lead to negative marginal costs.

Figure 1 Pricing of network goods



Furthermore, the information obtained by the process of 'Webgrafia' may create another benefit, as the additional profits that can be achieved could introduce new complementary products. In fact, a negative price may be set, because by setting a price equal to zero, which is above the marginal cost, a mark-up would be obtained that can lead to the development of additional program applications for Windows, taking into account the optimal trajectory of increasing profit.

Another form of vertical restraint that was observed was the use of bundling, which began with the offer of the Windows 98 operating system that included the IE as an integrated component of this version.

The methodology used in the evaluation of the antitrust cases, especially in high technology industries, is based on the observation of producers' market power, in other words, on their capacity of setting prices above marginal cost for long periods of time.

In the case of the software industry, we should take into account that the market boundaries are extremely fuzzy and competitors that absorb other software categories or move to other related industries to capture specific and highly differentiated markets often threaten the leader. There are plenty of possibilities to enter in this industry. However, the temporal question plays an important role, because everything depends on how long Microsoft can maintain the price above the marginal cost.

The software industry only makes sense if it is seen as an integrated and complementary platform that is characterized by the effects of network externalities. We can therefore assume that Microsoft responded by anticipating the present scenario, which is dominated by the known preferences of the consumers. Furthermore, consumers rewarded the Microsoft operating system because it permits them to run all the application programs they want to use in an interface that allows them to reach positive externalities, while it reduces the opportunity costs of using other operating systems.

Nowadays, Microsoft is facing another big challenge with the Xbox games console. Last year, Microsoft's CEO estimated that his company will loose $125 on every console sold. Owing to this situation, Xbox might not break even within five years. Microsoft has therefore been accused of predatory pricing through developing a kind of market foreclosure

that includes only certain software producers in the exclusive pack that is presently offered to the consumer network.

In turn, the retailers are promoting sales of Microsoft games in exchange for a more favourable distribution of consoles and in fact most software bundled with Xbox belongs to Microsoft. The principle is simple: consumers may choose the games they want to include in their Xbox, but they will obviously include the more popular and better advertised games, as well as those that are available via the Web. Microsoft did not choose the games, but induces the consumer to do it. The Xbox's long-term success is guaranteed if Microsoft keeps in mind that the consumer's decision to buy consoles is based on the software. This will result in increasing returns to scale together with a sharp unit cost reduction.

We are in the 'age of access' and therefore the improvement of conditions to access information should not be penalized, since these improvements reduces information asymmetries and lowers the transaction costs associated with any kind of operation established between two interdependent economic agents.

Presently, when we launch new information goods onto to the market, we have to consider that information is a real productive factor. We also have to clarify the nature of the induced benefits that may be generated by the individual satisfaction of the consumers, but which is more and more expressed by a collective consumer network.

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