

FTC/DOJ Hearings on Competition and Intellectual Property Law and Policy in the
Knowledge-Based Economy

Standard Setting Practices: Competition, Innovation, and Consumer Welfare

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April 18, 2002

In this statement I begin by providing a general context for understanding an individual firm's incentives and actions regarding standard setting activities. Then I discuss how actions of self-interested players can affect the outcome of the standard setting process.

One way to view a firm's objectives when moving towards a new or next generation product is that the firm would like to manage the migration path to these new technologies (Hamel and Prahalad 1994).¹ This effort involves investment in capabilities, building strategic alliances to acquire needed capabilities and to coopt key players, and, sometimes, influencing industry standards. Although firms are likely to have some business dealings with a substantial number of firms in their own and related industries, it is quite common for there to be identifiable groups of firms that are closely tied to one another. Gomes-Casseres (1994), for example, identified four sets of firms that competed with each other over control of a RISC (reduced instruction set computing) standard.² He argues that competition will often be best described as competition among groups rather than among individual firms and notes that some groups created associations to govern their networks (e.g. Power Open Association, Precision RISC Organization) while others were governed by the central player (e.g. Mips).

In industries where standards matter, these small industrial groups may develop and propose their own standard and work towards marketplace acceptance of that standard, or may join in one or more inclusive standard setting organizations (perhaps sponsored by industry trade associations). But even in the latter case, group structure is likely to remain an important determinant in the preferences and the actions of the individual firms. Further, the existence of such groups makes threats of defection from a general standards setting organization (SSO) more credible.

There are a host of advantages offered by a general standard setting organization. For example, market acceptance is more likely because of greater support, if IP disclosure/license rules are in effect larger groups provide more protection against surprise downstream holdups by IP holders, and more inclusive standard setting may

¹ Gary Hamel and C. K. Prahalad, *Competing for the Future: Breakthrough Strategies for Seizing Control of Your Industry and Creating the Markets of Tomorrow*, Harvard Business School Press, 1994.

² Benjamin Gomes-Casseres, "Group Versus Group: How Alliance Networks Compete," *Harvard Business Review*, July-August 1994, pp. 4-11.

appeal to unaligned firms or to the technical people within a firm that sometimes face a conflict between the best technical solution and a solution that might be best for their company. But there are disadvantages to general SSOs as well. Apparently inclusive SSOs may not be so inclusive if committee structures and voting procedures operate as exclusionary mechanisms. The speed with which a standard is agreed on depends on the diversity of interests represented and decision making procedures. Thus, it is easy to imagine circumstances under which smaller, less-inclusive SSOs may perform better from both private and social viewpoints than more inclusive SSOs. When these smaller SSOs are effectively an augmented industry “group,” then decision making may be quite skewed in favor of the central member or members of the group. This is not all bad as the outcome may be relatively more speedy because of a more hierarchical decision process and the greater natural commonality of interest and possibilities for deals. The exchange of technical information may also work more smoothly among firms that have existing and valued business relationships.

This viewpoint presupposes that the firm has an active interest in the standard and that particular SSO. At any given time there are many SSOs to which a firm belongs and the firm may have varying degrees of active involvement in these SSOs.

Now suppose that self-interested firms are participating in a inclusive SSO in which there are major differences in preferences regarding the content of the standard under consideration. To what extent can decision making processes be subverted? There is ample theoretical and empirical evidence that supports the notion that apparently neutral decision making processes are vulnerable to manipulation.³ Much of this discussion falls under the general heading of agenda setting. See, e.g., Anton and Yao (1995) for a discussion in the context of SSOs.⁴

Considerable attention has been directed to subversion of the decision making process by manipulation of information. This discussion has focused most intensely on nondisclosure of patents that read directly on some elements of a proposed standard (e.g. Dell’s alleged nondisclosure of a relevant patent re the VL-bus standard). Undisclosed patents present an obvious problem to the standard setting process, but they are arguably only the most salient of a broader class of potentially undisclosed information that would be material to the standard choice. For example, trade secrets may not be revealed that could give one firm some competitive advantage over the others should a particular standard be adopted by the SSO (and accepted by the marketplace). While potentially competitively significant, this class of undisclosed information differs from the patent category. Suppose that the trade secret involves knowledge that would reduce the cost of implementing the standard. Presumably, the proposed standard is viewed as superior to the other alternatives absent this trade secret information. General knowledge about the trade secret information would then serve only to increase the value of the standard: the group-preferred standard would have been chosen either way. Of course, if relative competitive starting points are considered relevant to the discussion, then the trade secret

³ The origin of this literature is Arrow’s impossibility theorem.

⁴ James J. Anton and Dennis A. Yao, “Standard-Setting Consortia, Antitrust, and High-Technology Industries,” *Antitrust Law Journal* 64:1, 1995, pp. 247-265.

would matter. There is also the possibility that the trade secret information involves negative information about the suitability of the standard, but the informed party would still like the standard to be adopted. In this case nondisclosure may well negatively affect the group's decision.

The degree to which firms are willing to disclose sensitive technical information depends in part on the value of that information for gaining competitive advantage in the direct markets affected by the standard and in more distant markets. Rules regarding disclosure and licensing will, of course, affect the tradeoff between keeping technical knowledge secret and revealing it in hopes of influencing the standard. These rules might also impact contemporaneous decisions about what to patent and what to keep as a trade secret. For example, if a rule requires licensing of relevant patents at reasonable rates, a firm might choose to keep some knowledge in the form of trade secrets that would not (necessarily) fall under the licensing requirement.⁵

The imperative of getting the standard quickly introduced to the market could make the decision making process even more vulnerable to subversion. As an example, suppose that all firms in an SSO satisfy the SSO's rules concerning disclosure of relevant IP positions. The later an IP bottleneck is disclosed, the more the decision takes on a veto-like character in which the decision maker's choice becomes either to accept the bottleneck or to lose considerable time by retreating to an earlier development stage.

The professional training of the people that represent the firms at SSOs will also matter. Typically, firms send technical people to SSOs. Such choices appear to have ambiguous consequences regarding the undermining of the process. Technical people may not be fully apprised of the various business interests of the firms and this may make subversion easier. On the other hand, professional norms may lead technical people to act more cooperatively than might other representatives of the firm.⁶

I close with a cautionary observation. In assessing standard setting situations or the dynamics of technological paths more generally, one should not assume that the best technological solution will ultimately prevail in the market or that the only deviation from the best outcome occurs because of intentional strategic actions by firms. Historians of technology and management scholars offer a number of compelling examples in which the path or view of technology has been greatly influenced by social or political construction. An example that stands out is the 200-year-plus period in

⁵ Strategic action based on rules imposed in R&D consortia are instructive. Lee Branstetter and Mariko Sakakibara ("When Do Research Consortia Work Well and Why? Evidence from Japanese Panel Data," *American Economic Review*, March 2002, pp. 143-159) find among other things that firms in an R&D consortia appear to delay patenting at the end of the consortia's life. They interpret this behavior as consistent with a firm's desire to avoid having its patent assigned to the consortium.

⁶ The importance of underlying profession (lawyers versus economists) on antitrust policy decisions is discussed in James Q. Wilson, "The Politics of Regulation," in Wilson (ed.), *The Politics of Regulation*, 1980. In settings where the interests of the SSO participants are relatively aligned and where professional norms act as a force towards cooperation, an understanding based on a pure noncooperative or strategic perspective on SSO decision making should be augmented with some of the teachings of cooperative or evolutionary games. See, e.g., Avinash Dixit and Susan Skeath, *Games of Strategy*, 1999 for a good discussion of basic evolutionary game concepts.

which Japanese society effectively gave up the use of the gun.⁷ Guns, after all, had the annoying property of allowing unskilled peasants to kill highly skilled members of the warrior class.

⁷ Noel Perrin, *Giving Up the Gun: Japan's Reversion to the Sword, 1543-1879*, 1979.