

Practical Ideas from Professors: Standards Education in Your Courses

Teaching Standards in Management of Technology



About the Department of Economics of Technology and Innovation at Delft University of Technology

The Department of Economics of Technology and Innovation (ETI) at Delft University of Technology conducts research in, and also instructs about, the economic incentives that lead to responsible technological change, which include values such as safety and risk, as well as ethical and social values. The emphasis is on the interaction of human-technology systems with socio-technical systems and the associated governance incentives that help promote responsible technological change in the fields of, among others, global warming, affordable and safe energy and water infrastructure, and public health. [2]

Using Standards in Management of Technology

The courses in which I am involved are about the strategic management of technological innovation. The courses explore the dynamics of technological innovation, with particular focus on the technological discontinuities that usher in periods of rapid technological change eventually leading to the appearance of a dominant design or technological standard. I emphasize for students the various factors that affect which technology will achieve dominance and become the de-facto standard in a market.

To explain the various relevant economic mechanisms and factors for standards dominance I use practical examples of standards battles, including QWERTY vs DVORAK to explain the phenomenon of path dependency, and Blu-ray vs HD-DVD to explain various strategies that may be applied to achieve standards success. I also incorporate the simulation game "Platform Wars: Simulating the Battle for Video Game Supremacy" developed by MIT Sloan School of Management into my classes. [3]



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Using Standards in Management of Technology (continued):

This game examines in depth some of the various factors of standards dominance, including pricing, network effects, and complementary goods. As a result of being exposed to this information, students actively learn how to apply theory to practical cases.

Also, at the later specialization stage in the M.Sc. Management of Technology program, students can choose to research technology battles and the standards battles associated with them as part of their course assignments. Thus, “inquiry based teaching” [4] is applied. Accordingly, I draw heavily upon the recent research that has been conducted by me and others (including, e.g., [5-10]).

Students who have learned about the factors that affect the market success of standards can apply this knowledge in the companies that they will be working for in various ways. Some of my students have gone on to pursue careers as standardization specialists within large technology firms where they can advise for or against investing in standards. Additionally, some students have entered careers in management consulting where they can apply their insight towards advising other firms on their standardization strategies. Indeed, the choice of investing in particular standards is often accompanied by a large degree of uncertainty. That uncertainty can be decreased by applying the knowledge that students have gained from my courses.

References

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