

Big in Japan – Robert Cole of U.C. Berkeley on the Japanese Software Industry: What went wrong and what can we learn from it?



At a Japan Society program on February 15 at the San Francisco offices of Morrison Foerster, UC Berkeley Professor Emeritus Robert Cole delivered an insightful presentation on the problems Japanese companies have encountered in deploying and developing software. The strong attachment by management to hardware over software, the marginal role of IT in corporate strategy, organizational practices that rewarded those who worked in hardware, and the low status of IT work in Japan all contributed to weak performance in software in Japan.

Professor Cole explained that in most Japanese companies, software has been viewed as something to enable hardware and not as a solution or product itself. Put another way, Japanese firms were more likely to view IT as a way to *reduce operational costs* while American companies were more likely to see IT as a way to provide value creating goods and services. There are few senior managers in charge of corporate strategy who know IT and the CIO (often less than full time) is typically not involved in strategy.

Business practices also inhibited software application and development in Japan, especially the zero tolerance culture for errors. American companies tend to ship product that might not be perfect, but would soon improve through iterative

feedback with the marketplace, while Japanese companies often hold back product until it is perfect, and thereby they lose first mover advantage in the marketplace. As a result, Japanese companies' competitiveness has declined.

Finally, IT has low status among students, parents and universities. Surveys have shown students are not gravitating to computer science and IT. University policies reinforce this negative perception (in the case of Tokyo University School of Engineering, by keeping IT's low student quotas static), exacerbated by the fact that Japan's shrinking student population means that it is hard to increase total engineering school enrollment. The result is that any increase in computer science students must come at the expense of another engineering department, leading to slow accommodation to market place pressures.

Professor Cole laid out some steps that Japanese companies and government could do to address these challenges. For example, companies should develop more IT in-house capacity instead of outsourcing so much of it. Governments need to provide more support to start-ups. Universities need to develop state of the art curriculum on software. Top business executives need to set the tone from the top making it clear that the survival of the company depends on the ability to efficiently develop and apply information technology. Finally, Japanese companies can look still more to Silicon Valley to further access American software expertise.

Many thanks to Professor Cole for sharing his vast experience and insights!

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