Summer 1996: Managing Emerging Technologies

Speaker:

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Synopsis

Innovation researchers have known for some time that it is possible for anew technology to be widely acquired but only sparsely deployed among acquiring firms. The burden of organizational learning surrounding software process innovations (SPIs)—and complex organizational technologies in general—can create a "knowledge barrier" that inhibits diffusion. While it has suggested that many organizations will defer adoption until knowledge barriers have been sufficiently lowered, this leaves open the question of which organizations are better candidates for early adoption and what strategies they should follow. An empirical study using data on the assimilation of object oriented programming languages (OOPLs) by 608 US business sites provides quantitative evidence about which organizations are likely to be most successful in the assimilation of OOPLs. These data are complemented by a small number of in-depth case studies of the strategies (and outcomes) of early OO adopters.

Overview

1. Failure of software process innovations (SPIs) to deliver on their promise
2. Failure of organizations to assimilate the SPI technology
3. Framework for identifying likely dominant technologies
4. Report on survey of adoption of object oriented programming languages (OOPLs) - characteristics of successful organizations
5. Report on longitudinal case studies of early adopters of OO - suggestions on how best to adopt

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Dr. Chris F. Kemerer is the David Roderick Chair in Information Systems at the Katz Graduate School of Business, University of Pittsburgh. Previously, he was on the faculty at MIT's Sloan School of Management.

He received the B.S. degree from the Wharton School at the University of Pennsylvania and the Ph.D. degree from Carnegie Mellon University, where his dissertation topic was "Measurement of Software Development Productivity".

His current research interests include management and measurement issues in information systems and software engineering, and he has published articles on these topics in a number of professional and academic journals, including Communications of the ACM, IEEE Transactions on Software Engineering, Information Systems Research,

Management Science, Sloan Management Review, and others. He has been invited to address audiences in Australia, Canada, Chile, Denmark, Germany, Italy, Japan, Singapore, Switzerland, the United Kingdom, and numerous cities throughout the United States.

He is a former Principal of American Management Systems Inc., the Arlington, Virginia-based software development and consulting firms.

Dr. Kemerer serves or has served on the editorial boards of the Annals of Software Engineering, Communications of the ACM, Empirical Software Engineering, Information Systems Research, the Journal of Organizational Computing, the Journal of Software Quality, and MIS Quarterly, and is a member of INFORMS, ACM, and the IEEE Computer Society.