

One of the most critical aspects of the overall value of research relates to the transfer of results to practitioners. Kingsley et al. (1996) discuss the processes of technology transfer and technology absorption based on a set of 31 case studies of research development and demonstration (RD&D) projects. They define technology transfer as the use of technology or technical information outputs by a party external to a project. Technology absorption is described as the use of output by contractors, sub-contractors, or co-sponsors participating in an RD&D project.

Branscomb (1992a) indicates that technology is the single most important factor driving the evolution of global competition and that over the last 40 years government policies have focused on increasing the supply of new technologies primarily through the funding of defense-related research and development. He indicates that what is important in the global economy is not necessarily the creation of new technologies but the ability to absorb and apply new innovations rapidly. To this end, government should stimulate the demand for innovative ideas in industry by encouraging collaborative research, investing in technological infrastructure, and helping organizations improve their capacity to adapt innovations to specific business needs.

Bozeman and Coker (1992) discuss assessments of the effectiveness of technology transfer from US Government R&D laboratories. Three success criteria are discussed, two of which are based on self evaluations. The self-evaluations focus on two different types of effectiveness- getting technology out the door, and having a demonstrable commercial impact. The third criteria discussed is the number of technology licenses issued from the laboratory. The authors conclude that multi-faceted, multi-mission labs are likely to be most successful in technology transfer.

Kahin (1994) discusses new opportunities for managing and communicating scientific and technical information arising from the advance of computer and network technologies. He indicates that there are however, substantial costs and risks associated with the development of effective knowledge management systems and that it is difficult to organize potential users for cost-recovery. Inter-institutional cooperation and standards development are suggested and a proposal for an organization that would support cooperative efforts in specialized areas is described.

Government funding and collaboration in research and development

Bozeman and Crow (1992) discuss the need for a system that more equitably allocates federal science dollars to university-based research centers. Branscomb (1992b) indicates that government support for research has shifted from a mission-oriented policy to one that focuses on the generation of commercially viable spin-offs. Bozeman and Pandey (1994) compared the cooperative technology policies of the U.S. and Japan to determine the extent, structural patterns, motives, and consequences of cooperative research and development. Schorr and Stolfo (1997) contend that government agencies at all levels are striving to meet citizens' rising expectations for fast, secure, and accurate technology-enabled transactions in environments of shrinking budgets and staff resources. Recent failures in widely publicized large-scale government efforts have tempered the hopes of many governments that these expectations can be made. They argue that government agencies often procure costly and complex information systems without the benefit of sufficient interaction with each other or with the research and development (R&D) community. In order to move toward the vision of a Digital Government that will allow public access to government information and services, and group participation in discussions at any time and from anywhere on the globe, it will be necessary for government to work with the R&D community and information service providers from all sectors to define a new research agenda.

IT Research Centers

Most of the participants in this workshop participate in larger research initiatives that have very broad agendas addressing the development, application, and assessment of information systems in government and society. Some of these initiatives include:

- the program on Strategic Computing and Telecommunications in the Public Sector at Harvard University's John F. Kennedy School of Government (Jerry Mechling), which "seeks to help public managers and policy makers understand and appropriately use the strategic potential of information technologies,"
- the Center for Technology in Government at the University at Albany (the host institution), which merges technology, management, and policy perspectives in conducting specific prototype projects designed to support innovative applications of technology to the practical problems of government, (1)
- the research group at the Copenhagen Business School (Kim Viborg Andersen), which focuses on organizational and social purposes of information systems at varying levels of analysis,
- the Instituto RSO (AnnaLaura Cubello), which engages in multidisciplinary research on such issues as

- organization design and development, service management, and human resource management,
- the program on Electronic Commerce, Law, and Information Policy Strategies (ECLIPS) at the Ohio Supercomputer Center (Jeffrey Ritter), which “conducts research concerning the legal and regulatory barriers that inhibit the rapid acceleration of electronic commerce,”⁽²⁾
- the Informatique Droit Linguistique at the Université de Paris (Danièle Bourcier) which conducts research on law, computers, and information systems, and
- the Centre for Management of Technology at the National University of Singapore (Poh Kam Wong), which conducts multidisciplinary research on innovation management focusing on Singapore and the Asia-Pacific region.

These research initiatives, bringing in a broad array of perspectives from multiple disciplines, help magnify the importance and effectiveness of the research discussed in this paper.

Copyright

Another issue related to technology transfer is that associated with copyright protection laws. In particular, research has been conducted that focuses on copyright issues in an electronic environment. Kahin (1988) for example, discusses copyright issues in the digital environment with respect to computer software copy licenses. Two models for copy licenses for the faculty examination of software are proposed. Kahin (1992b) also discusses intellectual property rights associated with software patents. Galvin and Mason (1991) discuss copyright law in the context of video and present legal- and library-related issues associated with video copyrighting including clarifications of the law for both users and copyright holders.

(1) <http://www.ksg.harvard.edu/stratcom/>

(2) <http://eclips.osc.edu/eclips/intro.html>