

Recent Alliance Roundtable meetings have been broadly concerned with effecting cultural change in organizations to achieve such desired goals as increased innovation. Take-aways from two recent meetings are included in this issue, along with articles on changing culture in industrial and academic organizations.

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## Organization Change in an Academic Environment: Development of the Wesley J. Howe School of Technology Management

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During the Fall of 1994 the Faculty of the then Department of Management and Engineering Management at Stevens Institute embarked on a strategic planning effort to determine the future of the organization. This process dealt with a broad range of issues including customer requirements, graduate attributes, faculty and curriculum development, research, financial support, organization, facilities, competition, accreditation, market segments, marketing, core competencies, and critical success factors. Individual faculty teams addressed each of these issues and involved extensive discussions with people from industry, government, and academia. The result of this activity was to define the vision for the

first school dedicated to Technology Management and to prepare a plan to accomplish that vision. The major elements of the plan defined the requisite curricula, faculty development needs, research directions, facilities, and a five-year business plan. The plan also anticipated significant changes to the direction and culture of the proposed School relative to the status quo. This included introducing new programs, expanding and improving existing programs, and having a much more aggressive commitment to research. The primary consequence of this direction was the understanding that a much larger faculty was required with experience and dedication to

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new research objectives.

With the generous assistance of Mr. Wesley J. Howe and his family who provided an endowment to support some of the operational needs of the proposed School, implementation of the plan evolved and culminated with the dedication of the Wesley J. Howe School of Technology Management ( WJHSTM ) in September of 1997. The Howe family support and existing funding provided by Mr. Steve Shulman accommodated important investment needs defined in the plan that were concentrated in the areas of faculty development, research support, and marketing. As a result, the faculty has grown from about one dozen full-time faculty members to over thirty during the past five years, several new research programs have been initiated, and a strong marketing activity has assisted the outstanding growth of the School's various programs.

The WJHSTM is dedicated to perfecting outstanding educational programs that address the needs of companies, government activities, and individuals in shaping the future of management for technology-dependent organizations. The WJHSTM is primarily a graduate school that principally involves full-time working professionals. However, it has supported a small but very prestigious undergraduate program that leads to a Bachelor of Engineering degree in Engineering Management. This undergraduate program is one of only three in the nation that is accredited by ABET (Accreditation Board for Engineering and Technology). During 2000 this program has been transferred to the School of Engineering (SOE) to better integrate it with the overall engineering program and to further compliance with ABET directions. In addition, the WJHSTM has just embarked on a new undergraduate degree in Business and Technology that is the first of its kind in the country.

The activities of the WJHSTM are organized into five programs, four in support of graduate degree programs and the new B.S. in Business. The four graduate degree programs are Master of Science in Management with concentrations in technology management, information management, project management, and general management; Executive Master of Technology Management; Master of Science in Information Systems; and Master of Science in Telecommunications Management. These graduate programs are offered at a large number of company locations as well as at the Stevens campus.

### Master of Science in Management

The Master of Science in Management is grounded in a variety of analytic and administrative skills drawn from

the fields of economics, applied psychology, and quantitative methods. It focuses on blending these basic areas of knowledge to identify and solve organizational problems. This degree is designed to accommodate the needs of working professionals having two years of experience.

The program in project management has recently been significantly enhanced and features both the theory and practice of project management and the human side of projects. This new program enjoys extensive demand from students and their organizations and is held in high regard by the Project Management Institute (PMI).

### Executive Master of Technology Management (EMTM)

The EMTM degree is an executive-level program designed to educate future technology and business leaders. It was developed with the active guidance of Alliance for Technology Management Sponsor organizations, and features a number of novel courses including Emerging Technologies and Corporate Venturing. A Capstone course integrates the knowledge developed in the other courses in the program via a computer-based business simulation. This program also includes a comprehensive teaming thread designed to optimize team performance throughout the entire EMTM curriculum.

### Master of Science in Information Systems (MSIS)

The MSIS degree is designed to meet the needs of information systems professionals facing the challenges of rapid advancements in technology, dynamic markets, shorter product life cycles, and ever increasing competition from new business models. This degree provides students with the flexibility to concentrate in specific career tracks including information management, project management, computer science, and telecommunications management. The reception of this diversified master's degree has been excellent, and its format is now recognized as a model for all Masters in Information Systems degrees on a global basis.

### Master of Science in Telecommunications Management (MSTM)

The MSTM degree is an interdepartmental program involving the WJHSTM and the Computer Engineering Department of the SOE. The program addresses the broad needs of managers in the telecommunications

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industry. Accordingly, it offers a set of core courses coupled with specialized courses that in combination accommodate either a Business Management Track or a Technical Management Track. This degree features a number of novel courses including Knowledge Discovery and Data Mining, Information Technology and Law, and the Socioeconomic Implications of Information.

### Bachelor of Science in Business

This undergraduate program is a unique integration of business and technology that exposes students to real-life work situations and provides them with skills and understanding to manage the business of technology. In this program, students prepare an entire business plan and follow through from start to finish with marketing, economics, manufacturing, accounting, management, engineering, and design. Many major companies have not only applauded the introduction of this new degree program but have indicated an eagerness to provide summer internships to its students and to recruit the initial graduates.

### Research

As indicated earlier, a major commitment of the WJHSTM is to research activity in the area of technology management. To that end a new Center for Technology Management has been formed with the mission to promote research endeavors within the WJHSTM. The Center's activities involve awarding grants, assisting with external funding, publishing working papers, and providing information services related to research.

The major focus of the WJHSTM's research programs is in the area of new product development, with emphasis on idea generation, innovation, new product team practices, technology transfer, and innovative project management. In addition, research activities in information systems management include the use of information technology to provide workplace flexibility to increase efficiency and effectiveness, organizational design modeling, and advanced internet design.

In line with the School's research objectives, a research seminar practice has been established to promote greater faculty and Ph.D. student interaction on a regular basis. These seminars have attracted a number of speakers from major universities and industry to address a wide variety of topics including innovation, foundations of technology management, project management, entrepreneurship, and others.

### Alliances

The principal strategic direction of the WJHSTM is to maintain strong working relationships with industrial and governmental organizations. To this end, the School has developed a number of strategic alliances. Several visiting committees involving people from business and government oversee the individual programs and regular interaction with these groups provides for a strong customer orientation to our programs of teaching and research. As a result, the satisfaction with the programs is very high. The most beneficial alliance has been that of the Stevens Alliance for Technology Management (SATM). This group of industry and government organizations has over the years not only provided valuable guidance to our various programs but has also engaged in evaluating our research projects, providing financial support for our research, accommodating exceptional access to industry and government activities, encouraging student participation in our academic offerings, and assisting our faculty to maintain a leading-edge understanding of technology management issues through their involvement with the Roundtable discussions.

### Recent Developments

With the generous financial support of Stevens' Chairman, Mr. Lawrence Babbio, and with the concerted development efforts of its President, Dr. Harold Raveche, the WJHSTM will soon be the beneficiary of a new facility to house its faculty, their programs, and the future program expansion into Executive Training.

### Summary

Through the dedicated efforts of its faculty, with the generous support of its benefactors, with the thoughtful involvement of many industrial and governmental organizations, and with the continued encouragement of the Stevens community, the WJHSTM has emerged as the premier school in the field of technology management.

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