

MEASURING THE RETURN ON INVESTMENT IN INFORMATION SYSTEMS

Funding for this study is provided by the first Corporate Partners Research Award

Associate Professor Vijay Gurbaxani has been named as the first recipient of the Corporate Partners Faculty Research Award for his proposal to measure the performance of the Information Systems (IS) function. The \$15,000 three-year award is sponsored by Corporate Partners and is designed to foster research projects relevant to management practices, which also meet the academic criteria of the University. Corporate Partners is an alliance of the Graduate School of Management and the business community which supports numerous GSM programs.

Using an extensive background in economics, Gurbaxani hopes to establish measures and benchmarks to assess the payback on investment in information systems through his research efforts. "It is important for businesses to question the value of information systems because the investment is so large. They need to check to be sure that the systems they are employing actually deliver the anticipated benefits," he explains.

Gurbaxani has considerable experience in the area of management of information systems. His book, *Managing Information Systems Costs*, published in 1990, was a byproduct of his 1987 prize-winning doctoral dissertation and focuses on understanding and managing corporate IS budgets. Gurbaxani received his M.S. and Ph.D. degrees from the William E. Simon Graduate School of Business at the University of Rochester after coming to America in 1980 to continue his education. Prior to that, he received the M.S. degree in mathematics and computer



Associate Professor Vijay Gurbaxani

science from the Indian Institute of Technology in Bombay.

Gurbaxani bases the need for his future research on the fact that most American companies spend millions of dollars on their information systems and yet, to date, have no good means of measuring the system's effectiveness and efficiency. "Although 50% of all net corporate capital investment in the United States is related to information technology," he says, "American companies have found it difficult, if not impossible, to effectively evaluate the return on investment in their computer systems. There are few established norms and benchmarks in industry that measure the business value of information systems and there is little research in academia to guide practice." Gurbaxani

suggests that evaluating information systems is made particularly challenging due to three integral factors: rapid technological change, the fact that they produce intangible outputs, and uncertain demand.

The two main dimensions of measuring the performance of the information systems function are effectiveness and efficiency. The key issue in measuring IS is that of effectiveness — of gauging the contribution IS brings to the company in terms of business value. The few previous studies on effectiveness have usually been in terms of user satisfaction, not payback on investment. Further, there has been little research attention paid to IS efficiency, or how to deliver information services for the least cost. The delivery of these services consists of two major activities: applications development and operations. Since every company is different in its structure and business processes, its applications development and operations also tend to be firm specific. This corporate uniqueness and the lack of market prices for similar services make it hard to evaluate performance. The project is therefore aimed at identifying the "best practice" among organizations, and the factors contributing to that performance. The results can then be used to inform others so that "best practice" becomes "common practice."

Another research area that interests Gurbaxani is the impact of IS on organizations and markets. "Information technology has made new structures and strategies for business viable," he says, "and these require new coordination and control systems to manage their

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