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Knowledge Management Nets Big Rewards

An organization that captures and exploits the collective knowledge of its employees and business units can be a winner in the global marketplace.

By Rosemary Faya Prola

It's more valuable than manufacturing plants and office space, than IT systems and cargo ships. It's the collection of information and knowledge possessed by your organization. This knowledge base defines your business and differentiates you from competitors. If it sounds like your most important asset, that's because it is.

"In most cases, competitive advantage does not rest on tangible resources," asserts Anil

Gupta, professor of strategy and organization in the Robert H. Smith School of Business. "Competitive advantage rests on superior know-how and competencies that are much more difficult to imitate or neutralize."

Why Manage Knowledge?

"Strategists characterize managing a diverse firm as managing the challenge of leveraging competencies across multiple lines of business, " Gupta says. "And managing a global enterprise is viewed largely as managing a global knowledge network." Gupta and Vijay Govindarajan of The Amos Tuck School of Business Administration, Dartmouth College, have written a book that examines the characteristics of global competitive advantage, The Quest for Global Dominance, to be published this year by Harvard Business School Press.

In their book, the authors describe two types of knowledge: declarative knowledge (that is, information such as last year's sales figures), and procedural knowledge (that is, know-how, skills, or competencies such as the formula for a drug or proficiency at e-commerce). Combined, these two forms of knowledge comprise a firm's intellectual capital.

"Every company is a knowledge-intensive company," Gupta continues. "It is a fundamental mistake to believe that companies like consulting firms or e-commerce firms are knowledge-intensive whereas companies that make steel or do retail are not. To convert iron ore or scrap steel into sheet steel for Ford cars is an extremely knowledge- and technology-driven process. That know-how is no less impressive than for Amazon to sell a book over the Internet, merely that the Internet phenomenon is the most recent development in creating a new industry rooted in knowledge management."

Ken G. Smith, professor of management and entrepreneurship, and Cindy Stevens, associate professor of human resource management and organizational behavior, are studying the antecedents and consequences of knowledge creation in organizations. They define knowledge creation capability as the organization's ability to exchange and combine ideas into new knowledge. After a year of data collection in which they interviewed CEOs and other top management team members in 80 high-tech companies in the Baltimore-Washington, D.C.- Northern Virginia area, they have some preliminary observations.

"We can explain what factors facilitate the development of knowledge creation capability for firms," Smith says. "For example, having an up-to-date information system and having employees use it is critical. Of course, it also helps to have bright people who are willing and able to share ideas. Within this context, we found that the role of human resource systems, especially incentive systems that encourage the exchange of knowledge, appears to be crucial."

Now, the two researchers, assisted by doctoral students Chris Collins and Kevin Clark, are examining how this knowledge creation capability leads to organizational outcomes, such as profits and innovation. Initially they have found, for example, that higher levels of knowledge creation capability are associated with greater levels of firm creativity. "In other words," Smith says, "firms with this capability are more effective and efficient at bringing new products and services to the marketplace."

In every organization, employees are constantly creating knowledge and information. Knowledge-generating activities can range from meeting with a customer to solving a complex supply chain problem. Perhaps the biggest challenge an organization faces is capturing this diverse knowledge. Overcoming this hurdle can lead to a number of benefits.

Protect knowledge assets. Employees may carry around in their heads (and on their laptops) critical operational and competitive information. It may be the elusive "tacit" knowledge that individuals develop through their experience on the job. When they leave your organization -- and they will --you don't want this information to walk out the door. Systematically capturing this knowledge is your best insurance policy.

Identify experts. Tackling current business challenges and exploring new opportunities often requires assembling a team with the mix of skills appropriate to the task. A good knowledge management system, one that captures not only information -- the "know-what" -- but the source -- the "know-who" -- can help you identify these individuals.

Make knowledge accessible. Knowledge management also is about ensuring that employees have the latest information on products and services and the best approaches to usual or unusual problems developed by individuals across the organization. For example, Xerox Corp.'s Eureka system electronically collects and shares solutions from thousands of customer service representatives worldwide.

Create economies of expertise. "There is a certain amount of cost involved in creating a business solution," says V. Sambamurthy, associate professor of decision and information technologies at the Smith School. "One of the advantages of being a global company is the opportunity to bring knowledge developed in a local office to the rest of the organization." Other business units can adapt this knowledge to their particular situation, saving the organization time and money.

Generate new knowledge. Using information and know-how to create competitive advantage is critical to survival today. In a dynamic, technology-enhanced environment, Gupta and Govindarajan state, "static intellectual capital by itself represents ephemeral advantage … competitive advantage must be recreated everyday. Doing so requires a much greater focus on creating and mobilizing new knowledge faster and more efficiently than competitors."

Sambamurthy cites computer manufacturer Intel Corp. as a prime example of an organization that builds on "old" knowledge to innovate. "By the time its competitors are able to manufacture cheaper versions of an Intel component, the company already is at work developing the next generation of the product," he says.

Smart Organizations are Created, Not Born

How do you begin your company on the path to managing knowledge and turning it into a renewable source of competitive advantage? Patricia Wallace, executive director of the Smith School's Center for Knowledge and Information Management, offers a few suggestions. In creating a knowledge management system, "work backward," Wallace advises. "Determine the knowledge you need to capture to work well, and give employees the tools to accomplish this."

One of the first projects she initiated as chief information officer at University of Maryland University College was creating an online version of the administrative desk reference manual developed by the institution's finance department. "It made the information people needed to do their jobs instantly accessible and easy to update," she recalls. "We were losing time as an organization without this."

Monsanto, a worldwide company that produces agricultural products, pharmaceuticals, and food ingredients, realized that it was missing the opportunity to take advantage of its global knowledge creation capability, Sambamurthy relates. The company created a separate group within the organization whose sole responsibility was to identify relevant organizational knowledge, catalog it, store it within information technologies, and build tools for enabling managers across the firm to access this knowledge and deploy it in their business activities. This knowledge management capability is helping Monsanto transform itself from an organization with three separate businesses to an integrated life sciences company.

Wallace notes that, "it's important to focus on knowledge sharing." In "Building a Learning Organization," an article she wrote for KMWorld, Wallace stresses the knowledge-sharing capacity of corporate intranets. "Best practices, lessons learned, and team experiences can be archived and indexed relatively easily." Organizational cultures and practices must also promote knowledge sharing, especially when it involves projects gone awry that people might prefer to forget, she says. Their experiences can be a valuable source of knowledge.

In their study of global organizations, Gupta and Govindarajan cite Nucor as a model for effective knowledge management. The American steel manufacturer has created an exemplary knowledge-sharing environment. For example, individual bonuses depend on group performance: for shop-floor employees, it's the performance of the workgroup; for department managers, it's the performance of the plant; and for plant general managers, it's the performance of the whole company.

Nucor's effectiveness at knowledge management has helped the organization attain an annual compounded earnings growth rate of 17 percent per year for nearly three decades in a highly competitive, mature industry.

The Influence of Information Technology

In less than a decade, the Internet has created the linkages that enable communication and knowledge sharing by individuals, within organizations, and among business partners. Today's business environment is increasingly characterized as "netcentric," with networks at the center of business processes, organizational structures, commerce, and communications.

Sambamurthy studies strategic IT management and how an organization can use technology to leverage its unique competencies into business success. One way is by "wiring" people and units together. "Networked organizations are much more competitive," he says. "Companies that 'manage by the wire' move faster, are more efficient, cut costs, and can customize solutions developed in other business units."

He illustrates this point with a hypothetical situation. "In a global organization such as Andersen Consulting, there's 80 percent probability that a problem faced by an Andersen client in Chicago is similar to a problem seen and a solution created in another Andersen office. With an electronic network linking global office locations, the solution is readily available, making the organization more effective and efficient."

Embracing a knowledge management mindset usually requires refinements to an organization's IT infrastructure. Providing access is a first step: software that enables online analytical processing (OLAP) allows users to conduct information searches and to ask questions of data. Linking employees via intranets and business partners through extranets or another online connection helps facilitate knowledge exchange and acquisition. A company's link to all sources for knowledge creation, both internal and external (including the Internet), is known as a "portal" which can be configured according to the user's information needs.

To support knowledge management, information technology must also help capture context, for example, the source of the data and the project it was gathered for, according to Gerry Murray, director of knowledge management research at International Data Corporation. Establishing a context adds greater meaning to information, facilitates cataloging, and promotes knowledge creation. Writing in *Computerworld* Business Enterprise Solutions, Murray says that to achieve a true knowledge focus, an IT system must be able to monitor contexts as they develop in real time. In such a system, when a salesperson enters a client meeting in an electronic calendar, all of the pertinent information on the relationship is automatically sent to the salesperson's desktop.

As computing power has increased, the amount of data collected has grown exponentially, and new computing techniques have created the ability to add meaning through analysis and synthesis. Companies have compiled huge data warehouses that function as a central repository for the organization's data.

Data mining is a relatively new computing technique that seeks to create meaning from large collections of data. In the Smith School, professors Bruce Golden, Shreevardhan Lele, and S. Raghavan of the decision and information technologies (D&IT) department, assisted by graduate students from D&IT and the university's applied mathematics department, are working on a commercial data mining application. Using data from a large car rental company, the researchers are studying how data mining can be used both to predict outcomes and to discover knowledge. The car rental company provided more than a half-million records for the researchers' study.

"In data mining, you let the data do the talking," Lele says. "With huge amounts of data, it's just not possible to formulate all of the questions you could ask. Data mining looks for interesting patterns." In their current study, the researchers are looking for patterns or combinations of demographic and past usage information (frequency, transaction date, transaction revenue, discounts, insurance details, type of account, etc.) to detect unusual subsequent usage.

Not by IT Alone

Whether they have an IT or a management focus, business scholars agree that a crucial component of a successful knowledge management system is building a corporate culture that recognizes the strategic importance of knowledge and rewards knowledge creation and sharing. "How effective and efficient a company is at functioning as a knowledge machine depends not merely on the sophistication of the IT infrastructure, but also (and perhaps more critically so) on the social ecology that drives the behavior of people and teams," write Gupta and Govindarajan. They define social ecology as the complex of relations among individuals as well as among sub-units in an organization. Its determinants include culture, structure, systems, processes, people, and leadership.

Based on their study of global organizations, the authors propose guidelines for converting any company into an effective and efficient "knowledge machine" that creates, captures, and exploits information and capabilities. These include encouraging knowledge creation by creating "stretch" goals, empowering people to innovate, and creating a market for ideas within the company. In addition, their guidelines for knowledge sharing include maximizing use of information technology; creating a corporate culture that forbids knowledge hoarding and makes knowledge sharing the norm; relying at least partly on group-based incentives, and investing in the codification of tacit knowledge. Another knowledge-sharing guideline is to provide a variety of mechanisms for knowledge transfer including conversations and coaching and transfer of people within the organization.

To cite only one success story, Nucor's effectiveness at knowledge management has helped the organization attain an annual compounded earnings growth rate of 17 percent per year for nearly three decades in a highly competitive, mature industry.

Developing and implementing an effective knowledge management system is a complex endeavor, but in the net-paced business environment, your organization's success depends on it. Utilize intellectual capital and reap the rewards of innovation.

NSF Grant Supports Supply Chain Study

Industry partners include Sun Microsystems, Oracle, and EDS.

The National Science Foundation has awarded the Robert H. Smith School of Business a three-year, $945,239 grant to study supply chain infrastructures (SCIs). SCIs include software systems used to support enterprise requirements planning (ERP) and supply chain management (SCM).

Titled "Scalable Supply Chain Infrastructures: Models and Analysis," the research is aimed at "improving efficient SCI implementation in large organizations," says Michael Ball, the Smith School's director of research and a professor of decision and information technologies (D&IT). "We have pulled together a diverse research group to apply a cross-disciplinary approach to this project, reflecting the cross-functional orientation of industry in the supply chain area."

Ball brings expertise in operations research and modeling to the NSF-funded project. D&IT associate professors V. Sambamurthy and Louiqa Raschid are contributing their knowledge of behavioral and technical information systems. Sandor Boyson, co-director of the Smith School's Supply Chain Management Center, brings his expertise in supply chain management. In addition, three graduate students and a post-doctoral fellow from the Smith School's D&IT department and the University of Maryland's computer science department will participate in the research.

During the past few years, organizations have increasingly become aware of how systems and models that support activities across major organizational components and across supply chain partner organizations can yield substantial benefits. For example, ERP systems can enable the one-time entry of a purchase transaction to trigger automatic updates to accounting, manufacturing, inventory, and distribution databases. SCM systems can provide a manager with a demand forecast along with information on current inventory levels and manufacturing plant status to support a decision on next month's production plan.

The implementation of such systems is very expensive, however, creating financial barriers to effective and efficient use across large global organizations. Accordingly, the NSF-supported project is focused on the following three major areas.

Decision Modeling and Effective Organizational Structure:
This work will analyze the effectiveness of SCIs for improving organizational efficiency and decision making, including how organizations should be transformed to take advantage of SCIs, and how SCIs should be modified to better support decision making.

Scalability Issues in Supply Chain Infrastructures:
This work will access how SCIs should operate in a Web-like setting to allow efficient network implementation across a broad range of organization sizes.

Case Study of Enterprise Software Integration:
This work will monitor and analyze the process used to create, maintain, and evolve a supply chain test bed to understand the requirements of integrating various SCI components. The Smith School has enlisted Sun Microsystems, Oracle Corporation, and EDS as industry partners who are contributing hardware, software, and systems support toward the development of the project's test bed. "In brief," says Ball, "we are first gathering information from organizations on how they use SCIs, what problems they encounter, and what solutions they employ to improve supply chain management.

"We will then feed this information into simulations and models to figure out how these processes can be improved and how organizations should change to transform themselves based on the SCI technology.

"Next, we will adapt the models from the simulation so that they can be used in the decision support systems embedded in SCIs. And we will conclude our research by developing implementation strategies.

"The end result will be fresh and new ideas that will enable organizations to benefit more from the use of supply chain infrastructures."

For more information on this research project, contact Ball at: mball@rhsmith.umd.edu or 301.405.2227.

By All Accounts, Dando is School's Champion

Gary Dando set his career aspirations early on. There, under his photograph in the high-school yearbook, is his goal: to become a CPA.

The choice was the right one. Today, Dando is a successful accounting and auditing consultation partner with the national office of Ernst & Young LLP, the global audit, tax and consulting firm, in Washington, D.C. "My career has been more than I ever envisioned or dreamed," he says.

Dando also is a husband and father who is "very proud" of his family: his wife Marilyn '64, HUEC, a commercial arts major; their daughter Karin, an art educator in New York City; and their son Keith, a mechanical engineer, who lives in Cleveland with his wife Maureen.

Dando received his degree in accounting in 1964 from the Smith School of Business. Along the way, Dando, a man who holds high the ideals of professionalism, ethics, and loyalty, has become an active supporter of his alma mater. "It is my way of giving something back to an institution that helped prepare me for my career," says the Hagerstown, Md., native.

The business school provided Dando with two important mentors: Howard Wright, former chair of the accounting department; and Roger Hermanson, an accounting professor. "Roger was a fundamentally nice person who made you appreciate the practicality of life in accounting," says Dando. And, "Howard, who was so distinguished with his white hair, and always impeccably dressed, taught you to appreciate your integrity and creditability to do what's right. Sometimes doing what is right is not the easiest decision to make."

Shortly after graduation, Dando went to work for Ernst & Ernst in Baltimore. The firm would later become Ernst & Whinney and finally Ernst & Young. He recalls being immensely impressed with the firm's relaxed atmosphere. "Back then the accounting profession was viewed as stuffy - white shirts, dark suits, hats and wing-tip shoes," he says.

But, Ernst & Young was different. "I remember talking to the partner in charge of the office, and he corrected me when I referred to him as 'Mr.' He said, 'I know this is hard to get used to, but please call me Charlie.'"

Dando, ambitious and eager, quickly moved up the professional ranks. He was transferred to the mid-Atlantic region office in Washington, D.C., in 1975, and was admitted to the partnership the following year. From 1978 to 1982, he was the mid-Atlantic regional director of human resources. He transferred to the national office (then, in Cleveland) in 1982 as national director of professional development, directing education and training for all U.S. Ernst & Young offices. And he returned to the Washington-area offices of Ernst & Young in 1993.

"I have enjoyed and cherished relationships that I developed in serving clients, employees, executives, and members of the board of directors, as well as members of the business community generally," says Dando of Ernst & Young's clients, many of whom are recognizable names on the Fortune 1000 list.

In the early '80s, Rudolph Lamone, then dean of the business school, sought to attract more outside funding to the school. He turned to Ernst & Young with its numerous business school alumni, including: LeRoy Herbert '50, who was the firm's international chief executive partner; Jim Flick '62, who was a partner in charge of the Baltimore office; Fran Contino '68, who was a partner in the Baltimore office; as well as Dando. "I remember it like it was yesterday, sitting down to dinner at the Rossborough Inn (at the University of Maryland) with Rudy, Roy, Jim, Fran and Steve Loeb, who was chair of accounting, and talking about a named professorship in accounting," says Dando. "There was this idea that if we stepped up to do this first, that other entities would follow."

The result was the establishment in 1982 of the Ernst & Young Professorships, now grown to over $500,000 in funding. Loeb and fellow accounting professor Larry Gordon continue to hold those professorships today.

But the involvement and investment didn't stop there. During the early 90s, contributions totaling $250,000 established the Ernst & Young Classroom in Van Munching Hall. The more recent Ernst & Young Excellence Fund was created with a gift of $250,000; its endowment supports scholarships for undergraduate and graduate students, as well as faculty and technology needs.

Annual contributions from the Ernst & Young Foundation and alumni have also supported: the annual alumni gala; annual alumni golf tournament; the Mayer Fund, which was created to give Smith MBAs hands-on investment management experience; and the University of Maryland President's Fund.

With each activity, Dando has assumed a leadership role. Before being approached by Lamone, Dando had been a member of the Terrapin Club, which supports the university's athletic programs. Now, he also is a member of the board of directors and president of the Business and Management Foundation and co-chair of the committee formed to lead the school's participation in Bold Vision · Bright Future, the university's $350-million, fund-raising campaign. His three-year term on the University of Maryland Foundation board began last November.

In 1992, Dando was honored as the business school's distinguished accounting alumnus by Beta Alpha Psi, the national professional and honorary accounting fraternity. This award was later named the Howard W. Wright Distinguished Alumnus Award, in honor and memory of one of Dando's mentors.

At the fraternity's initiation banquet, Dando told the students: "As you prosper in your career it will become easy to write a check payable to the university. It will be much more difficult to give a part of your time, energy, and talent. However, in the great scheme of life, your time, energy, and talent as a 'thank you' for your education will be of equal importance to this campus."

Dando has proven this time and again.

Entrepreneurship to Reach New Heights at Smith School

Dean Howard Frank

The key strategy of the Robert H. Smith School of Business is to differentiate the school around knowledge and information management, global business, continuous change, and entrepreneurship. This column looks at our progress in entrepreneurship.

The Smith School of Business has made remarkable strides in stimulating the growth of entrepreneurship in the Baltimore-Washington region. For five consecutive years, *SUCCESS* magazine ranked the Smith School as having one of the nation's top 25 entrepreneurship programs. In the magazine's most recent rankings, our MBA curriculum in entrepreneurship ranked third, while our overall program ranked 13th.

Now we're raising the bar. We want the Smith School of Business to go from being "among the best" to "THE BEST" in providing opportunities in entrepreneurship.

This semester (spring 2000), we launched the undergraduate Entrepreneurship Citation Program, a curriculum focused on starting, managing, financing, and developing growth strategies for new ventures. About 30 percent of the program's students are business majors, while the rest are majoring in engineering, computer science, and other disciplines.

Beginning in fall 2000, some of these undergraduates will be admitted into the Hinman Campus Entrepreneurship Opportunities Program, the nation's first living-learning program of its kind. A joint venture of the Smith School and the university's A. James Clark School of Engineering, this innovative program will enable the students to live and work together in a specially equipped dormitory and provide opportunities for them to create start-up businesses. The program was initiated with a $1.7-million gift from Brian Hinman, a Clark School alumnus.

To jump start a vigorous entrepreneurship research program, we have created a director of research position within our Dingman Center for Entrepreneurship. We attracted Scott Shane, a bright young scholar from MIT, to this position. Shane is the first in a group of exceptional entrepreneurship scholars whom we're recruiting to join our strong core faculty. Also this academic year, we recruited Robert Baum, Ph.D. '95, a successful entrepreneur, to teach and to lead our academic programs to entrepreneurship.

Our successful outreach programs in entrepreneurship include the Dingman Center's networking events and the nation's largest mentoring program. The center also facilitates the raising of millions of dollars in equity investments for early-stage companies through its management of the Baltimore-Washington Venture Group.

Now we're ready to advance to the next level. Our strong entrepreneurship research program will provide tremendous resources for the school, the university, and the business community. Our robust academic programs, taught by top-notch scholars and practitioners, will benefit our students. And our outreach programs will continue to both meet and anticipate the needs of our clients in one of the nation's fastest growing regions for entrepreneurial ventures.

In the years ahead, we expect the Robert H. Smith School of Business to be recognized as the foremost leader in entrepreneurship.

Time to Bury Knowledge Management?

A look at the healthcare industry may hold the answer.

by Daniel Swedberg

In the late 1980s, an exciting new performance improvement strategy worked its way through the hospital industry. The strategy was called patient-focused hospital restructuring. It involved a team-based approach to care and the establishment of patient-oriented "mini-hospitals" within the hospital. Early results showed improvements in hospital operational efficiency and effectiveness.

Within two years, this new strategy was an afterthought as managed care and integrated delivery networks became the improvement strategy focus of health-care executives. Operational restructuring gave way to business restructuring among hospital, doctor, and insurance businesses. What began with such fanfare faded as a significant performance improvement strategy for the health-care industry.

Given this scenario, a look at knowledge management (KM) as a performance improvement strategy of the late 1990s gives one a feeling of déjà vu. The KM label is intriguing, the theory is promising, and early results have been impressive. So why do observers want to "bury" KM?

One reason may be the difficulty practitioners have had in establishing KM's value. Real costs in software development, training, groupware, and repository development are required to implement KM. The payoff has generally been in the softer areas of improved responsiveness, greater sharing of information, productivity improvement, and innovation. While some KM initiatives have been able to link these benefits to cost reduction and/or revenue enhancement opportunities, the reality is that KM, as implemented, has focused on operational problems that only indirectly affect the bottom line.

The difficulty in developing a convincing value proposition is typical of operational performance improvement initiatives. The more successful improvement initiatives are those that, from the start, build in ways to capture bottom-line benefits. With patient-focused hospital restructuring, this meant restaffing with fewer people based on pre-design calculations of potential efficiencies. With KM initiatives, a similar approach may be required to establish convincing value propositions.

A second, and probably more compelling, reason why establishing KM's value is so difficult may be the emergence of more powerful performance improvement strategies. E-commerce has emerged as the preferred performance improvement strategy for most organizations. Even before KM practitioners agreed on terminology, the allure of e-commerce's immediate benefits have made KM somewhat irrelevant. As e-business strategies advance, it is hard to imagine that KM will continue to capture executives' "mindshare" and move forward as a mature performance improvement strategy. Patient-focused restructuring giving way to managed care and integrated delivery networks is a good example of this potential outcome.

Does this mean it is time to bury KM? Looking back at the health-care industry's recent history, a couple of signs may indicate it is not. One sign is the continued restructuring of hospitals based on patient-focused principles as a component of broader integrated delivery networks implementation. This indicates that that strategy may, in reality, have been a key tactic required to implement the broader integrated delivery network strategies. In like manner, KM initiatives, focused on building linkages within the enterprise, may be necessary "tactics" to fully implement future "e" strategies that link the enterprise with external partners and customers. Rather than KM initiatives being self-contained performance improvement strategies, they may be better viewed as a "means to an end" of e-business.

Another sign is the prominence of the customer-centric principle in both patient-focused restructuring and managed care and integrated delivery network initiatives. This indicates that the core principle of patient-focused restructuring was right; the problem it addressed may have just been too small.

The principles behind knowledge management - sharing and collaboration - seem to have the same power and can be seen at the heart of successful e-business initiatives. Lessons learned about the application of these principles through KM initiatives may help us understand this discipline as the underlying engine for future performance improvement. From this perspective, burying KM prematurely could indeed come back to haunt those interested in building high-performance organizations.

Daniel Swedberg is a principal with the E.solutions Consulting Practice of EDS, a professional services firm that applies consulting, information, and technology to enable clients to improve their performance. Swedberg leads the company's human resource management, e-communities, and knowledge management consulting service lines.

E&Y Taps MBAs to Assist Entrepreneurial Practice

Ernst & Young LLP initiated a new partnership with the Smith School of Business in fall 1999, signing on a team of MBA students to review business plans for new high-tech ventures.

Seeking to expand the involvement of the Big Five consulting firm with the business school, alumni and Ernst & Young partners Chris Kubasik '83 and Gary Dando '64 came up with the idea last summer. (Kubasik has since left E&Y to join Lockheed Martin.)

E & Y partner Jon Shames, the company's mid-Atlantic industry leader for the Technology, Communications and Entertainment Practice, was responsible for the development of the program. He worked with the Smith School's Leila Collins, director of MBA corporate marketing; Bob Krapfel, chair of marketing; and Rudy Lamone, professor and chair of the Dingman Center for Entrepreneurship Board of Advisors.

"A major focus of our entrepreneurial services practice has been the technology start-up market," Shames says. "Our goal is to provide a variety of services to these small companies and to work closely with them to get them to the next level." A business plan review service is an important part of developing relationships with the start-ups, Shames states, but the company had difficulty meeting demand. This need was met by the new partnership between Ernst & Young and the Smith School.

"The Ernst & Young Business Plan Review Program shares elements of the school's MBA Consulting Program," Collins says. "They're both hands-on, team projects. However, the business plan review program will span the academic year instead of a single semester like the consulting projects." Handpicked by Lamone, the team members are second-year MBAs Gregory Branch, Matthew Brach, Lynda Brooks, Julie Dyce, Steven Hutchinson, and Amit Patel. Robert Baum, director of academic programs at the Dingman Center, serves as faculty advisor, and Scott Griffiths of Ernst & Young helped develop the program and serves as company liaison.

The Smith students conduct the business plan reviews with the assistance of a template they developed with input from Baum, Ernst & Young, and two active venture capitalists. Midway through the fall semester the students had completed 12 reviews, on track to meet their goal of completing 30 by January 2000. A similar goal is set for the spring semester.

"Ernst & Young is receiving excellent advice from six conscientious MBA students," relates Baum, a Smith School alumnus (Ph.D. '95) and entrepreneur. "They bring broad knowledge and experience to the process."

"We look at how effective a company's plan is in selling its idea and try to pinpoint a company's strengths and weaknesses," says Brach, an entrepreneurship and marketing major. Before enrolling in the MBA program in 1998, Brach worked for Ernst & Young in the consulting and auditing areas. "This is good experience in seeing how venture capitalists and investors look at businesses," he notes. "It has helped me to think strategically about my own business ideas."

Julie Dyce, studying for a joint MBA/MS in finance, is a CPA with experience in public accounting. She would like to work in the venture capital community following graduation. "I think I'm getting the experience I'll need in the program," Dyce says, "and Scott (Griffiths) has expressed a willingness to help us gain employment in this area."

In addition to being a cost-effective way to serve clients, Griffiths says, "the program gives us an advanced crack at talented students interested in the venture capital field."

"The students we are working with have exceeded our expectations and the ability to partner with a prestigious business school like the Smith School of Business is exciting to us," says Ernst & Young's Shames. "We continue to get the word out about the business plan review service and the University of Maryland relationship is of great interest to many of our contacts in the technology community."

MBAs Pave the Way for Organizational Change

Today's dynamic business environment creates a special set of organizational challenges that can range from integrating workforces and cultures following a merger to retaining talented employees in a competitive job market. Smith MBAs began to help organizations deal with some of these issues five years ago through the organizational change consulting projects, a component of the graduate course in organizational change.

As the "Maryland Consulting Associates," teams of Smith students have consulted each spring with a variety of organizations including Provant, Adoptions Together, Inc., Black & Decker, Freddie Mac, Aetea Integration, and Charles E. Smith Realty Companies. The first half of the semester is spent in the classroom, analyzing business cases in organizational change and developing consulting process skills, including project management, communication, and teamwork. Beginning in March, the teams are in the field, working with clients to address issues of concern. At the end of the semester, the teams report their findings and present a series of recommendations that can help facilitate organizational change.

The experience is valuable for a number of reasons, according to Susan Taylor, professor of human resource management and organizational behavior and chair of the management and organization department. "A lot of the students in the class are either first-year or part-time MBA students," Taylor says. "This is an opportunity for them to learn what it's like to walk into an organization cold, work with people to scope out a problem, and sell a solution that's feasible." A growing number of Smith MBAs are making consulting their career choice: a recent survey revealed that 30 percent of the 1999 graduating class had accepted positions in the consulting field.

"I'd like to work as a consultant after graduation, either with one of the Big Five companies or with a high-tech consulting firm," states Brian Thompson, an MBA student from Richmond, Va. Thompson was a member of the team engaged by Freddie Mac to evaluate its employee orientation program. "They hire new employees constantly, and recognized that they were not doing a good job of orienting them to the company," Thompson says.

The team gathered data in a number of ways: by researching human resources literature, surveying new employees, interviewing managers, reviewing Freddie Mac employee handbooks and guides, and observing orientation sessions. Its final report focused on five main areas: climate, speakers, materials, structure, and content.

"We were very pleased with the students' work," states Kathy Brokesh, Freddie Mac staffing specialist. "We were able to implement some of their recommendations right away, such as communicating our employee-friendly corporate culture with name cards for every participant and a 'Welcome' sign outside the meeting room door. We also incorporated their suggestions on program structure into our revisions of the day's agenda."

Employee compensation was the focus of a consulting project for another client, Charles E. Smith Realty Companies (CES) in northern Virginia. "Our team studied the feasibility of a pay-for-performance program for non-exempt personnel," says MBA student Leilani Craven. "Currently, bonuses for secretarial and administrative personnel are based on longevity. The company was interested in replacing it with a merit-based plan."

Team members surveyed similar companies, gathered information on industry benchmarks, and searched the Internet and trade publications for trends in compensation plans. They also catalogued CES employee positions, salaries, and previous bonuses, and reviewed exit interview questionnaires. After six weeks, the students had designed a non-exempt bonus plan based on individual performance and provided recommendation for implementation.

"The students did a very good job," says Sarah Pickerall, director of compensation and benefits at CES. "They had a clear idea of what we were looking for and lots of enthusiasm for the project." The company is considering adopting a version of the students' plan in the future.

The consulting experience helps to reinforce concepts discussed in class. Michelle Salob's MBA concentration is human capital and organization consulting and she was a member of the Freddie Mac consulting team. "The project showed me that you need a collection of skills and input from other functional areas to design an effective solution," she says. "It's also important, when considering alternatives, to take into account an organization's openness to change." Salob subsequently interned at Freddie Mac in summer 1999 as an organizational effectiveness consultant.

The projects may even help students gain post-graduation employment. Notes Thompson: "I'm now seeking a full-time position, and I've found that interviewers ask a lot of open-ended, behavioral-type questions. Looking back on my experience in the consulting project, I usually can provide good answers. The experience was that comprehensive and that valuable to me."

For further information on organizational change consulting projects, contact management and organization professors David Lepak or Paul Tesluk at 301.405.2320.

IT: It's Not Just a Service Provider
V. Sambamurthy

It wasn't too long ago that companies viewed their IT units strictly as service units. The IT staff were at the companies' beck and call "today, tomorrow, whenever someone wanted them," says V. Sambamurthy, "rendering the IT structure very fragmented in focus."

However, in the complex and high-speed Network Economy, that view of IT is outdated and counterproductive. Smart companies are implementing changes based on information technology's vital role in nurturing organizational success.

An associate professor of decision and information technologies at the Robert H. Smith School of Business, Sambamurthy has studied issues related to chief information officers (CIOs) and information technology for more than a decade. With Carol Brown of Indiana University, he co-authored "Repositioning the IT Organization to Enable Business Transformation" (Pinnaflex Educational Resources, Inc., 1999), an exploration of the CIO's role in corporate strategies, capabilities, and competencies.

The book details three transformational business strategies occurring at the firms studied by the authors:

- Process integration, built around leveraging economies of expertise across the business units through common global business processes;
- Agility, built around the ability to quickly deliver products and services to customers;
- Knowledge leverage, built around the ability to integrate dispersed knowledge and enhance organizational intelligence.

During their research, Sambamurthy and Brown found that the CIO of each firm was repositioning the IT unit to either support or shape these strategies.

Repositioning the IT Organization to Enable Business Transformation also demonstrates that successful firms align their IT investments with business competencies and capabilities. In addition, a "recentralization" of the IT group is occurring, Sambamurthy says. "CIOs are pulling their organizations together to ensure that they are focused and flexible."

The driver of this transformation is no surprise. Says Sambamurthy, "today's e-business environments are dictating this new structure as companies realize that knowledge is more important than other assets and understand that a strong IT organization is required to protect that knowledge."

The push to protect knowledge is leading to another change related to IT. Sambamurthy points out that the first half of the 1990s was a period of total outsourcing of the IT function. Now, companies engage in more selective sourcing to keep knowledge in-house. "Less and less are companies going to IT consultants, who may be sharing their clients' knowledge with others."

Given this transformation of the IT unit, what are the attributes of successful CIOs? They need both business and technology knowledge. They should be full members of the company's top management team with responsibilities for business decisions, reporting directly to the CEO or president. Furthermore, Sambamurthy says, "they must be "viewed as trusted business leaders who know how to manage costs; know how to find, develop, and retain top IT talent; and know how to make business decisions."

Sambamurthy continues to explore the changing roles of the CIO and IT. In early 1999, he and Ritu Agarwal, also a Smith School associate professor of D&IT, began a study titled "The Organization of the IT Function," funded by a $50,000 grant from the Advanced Practices Council of the Society for Information Management. Together, they are defining the best structures for the IT function, given today's e-business demands. When they conclude their study later this year, the researchers plan to produce an executive guidebook on the best IT organizational practices.

Says Sambamurthy: "Today's CIO runs a business, manages finances, knows where the competition will come from, and knows how to prepare for the future.

"The smart CIOs are saying 'we're not just a service. We're a business with responsibilities for protecting company assets and competitive advantages.'"

Tourney Scores Fun and Funds

Scratch golfers and duffers alike turned out September 23 for the Tenth Annual Robert H. Smith School of Business Alumni Golf Tournament at the University of Maryland's newly renovated golf course in College Park. While it lacked a dramatic USA victory, the tournament surpassed the Ryder Cup in terms of spirit, sportsmanship, and fun, according to enthusiastic participants.

The tournament is a fund-raising event for the business school's alumni chapter. Proceeds have helped to fund scholarships, the Van Munching Undergraduate Business Career Center, awards for outstanding faculty and staff, and various programs for students and alumni. Proceeds from the 1999 tournament also will support alumni chapter programs.

As in past years, corporate sponsorships generated most of the revenue for the fall 1999 event. For the second consecutive year, Ernst & Young LLP was the tournament's host and a generous financial supporter. Other major sponsors included Allfirst Bank, American Express Financial Services, GEICO Direct, and Outback Steakhouse. A live auction, silent auction, and raffle raised additional funds. *(pictured above, the Winning Team from E & Y: Barry Spector; Phil Bundy '89, MBA '91, Charles Heller; Bill Cole '71)*

Celebrity auctioneer Johnny Holiday led golfers' bidding on a wide range of items, including stays at choice vacation spots and a framed, signed print of Arnold Palmer's "Farewell to St. Andrew's, British Open, 1995," compliments of Charlie Zink '71, executive vice president of the PGA Tour.

Outback Steakhouse catered the tournament's festive banquet, thanks again to Bob Basham'70, Outback's co-founder and COO. Basham; Michael Dering '74, CEO of Bell & Howell Messaging Service; Hewlett-Packard, thanks to Lanta Evans '86, MBA '88, a financial operations manager for HP; the Maryland Book Exchange; the Inn and Conference Center at University of Maryland University College; and other Smith alumni and friends and local businesses donated auction items and raffle prizes.

Tamara Maull, the Smith School's director of alumni affairs, and Barry DesRoches '80, tournament committee chairman, coordinated the tournament planning. "Working with Barry and the tournament committee for the past nine months to organize the tournament was a joy," says Maull. "The business school, campus, and community relationships helped to make the 1999 tournament one of the university's best events."

After eight years, DesRoches '80, northeast regional vice president for Baxter Perfusion Services, is stepping down from the tournament chairmanship and passing the baton to

Bill Van Dyke '79, president of Paradigm Mortgage Services, Inc. "The tenth-anniversary tournament was the best yet," says DesRoches. "We had wonderful weather, and the new facilities at the University of Maryland course are tremendous."

MBA student volunteers also deserve credit for the tournament's success. Greg Lantz and John Snead, second-year Smith MBAs, supervised the many student volunteers. Dave Covington '73, president of the Smith School alumni chapter, presented a $1,000 check to the Smith School MBA Association on behalf of the tournament committee.