

# Preface

Many people have a stereotypical view of the university as an “ivory tower” of scholars who keep to themselves and are not involved with the day-to-day activities of the communities around them. In reality, most universities have multiple partnerships through which they make an immediate impact in the local communities. Community partnerships cross all boundaries within the university – faculty, staff, and students; academic departments; administrative departments; student affairs; and athletic departments – all can make a difference in their surrounding communities. Many universities even have offices of community service, or offices of community partnerships. The relationship between universities and their communities is a living, breathing relationship.

Academic departments of information technology can play a major role in these community partnerships. While these academic departments may have a variety of titles (Information Systems, Management Information Systems, Computer Information Systems, Information Sciences, Management Science), and may fall under multiple academic units (Colleges of Business, Engineering, Mathematical and Natural Sciences, Library Sciences, etc.), these departments all have an important role to play, and important resources to share. As the importance of information technology increases, there are many technology needs in the community that go unfulfilled. Information technology must be not only for those who are economically privileged. Information technology must be used to improve the quality of everyone’s life.

The chapters in this book provide a sampling of the many different types of partnerships taking place between communities and academic departments of information technology. The partnerships described take place in different universities, large and small, with different missions, in many different countries. They demonstrate the wide range of partnerships that have taken place, and they can provide a base of literature with which to build future partnerships.

I have organized the chapters along four major themes: course partnerships, educational partnerships, business partnerships, and digital divide partnerships. Although these themes, and the related partnerships, are not mutually exclusive, they provide a conceptual framework in which to present these partnerships. For instance, many of the course partnerships involved partnerships with local primary and secondary schools. Some of the business partnerships involve course curricula. Some of the business partnerships involve the educational system—local primary and secondary schools. Some of the course partnerships involve the digital divide. These different types of partnerships should not be viewed as individual solutions;

rather, combinations of all of these partnerships should be sought to best meet the needs of the university and the community.

The first chapter, “Service-Learning Partnerships in the Information Systems Curriculum,” by Lazar and Lidtke, provides a background on service-learning courses within the information systems curriculum. Service-learning courses involve students taking part in community service that is structured in a way to build on the classroom curriculum. In this chapter, the advantages and disadvantages of service-learning are discussed, and the infrastructure needed to successfully operate a service-learning class is presented. The major courses in an information systems curriculum are then presented, with corresponding information on how to present the class as a service-learning class, and where possible, examples of how service-learning has been successfully utilized. From personal experience and the published literature, the lessons learned can assist those attempting to implement service-learning in their classes. Finally, important issues that impact on the information systems curriculum, such as cheating and accreditation, are presented in the context of service-learning.

“Active Learning in Higher Education: A Model and Roadmap,” by Venkatesh and Small (Chapter 2), continues the discussion on service-learning and other experiential learning processes. The chapter provides an excellent discussion of the educational theories that inspire experiential learning in universities. The authors discuss their experiences with field projects at Syracuse University, including a number of design and networking-related courses. Venkatesh and Small also provide a discussion of the infrastructure at Syracuse University that has allowed their experiential learning programs to flourish.

In Chapter 3, Ruppel and Ruppel describe in detail a service-learning class that has worked with the same community partner for five semesters. In this Systems Analysis and Design class at the University of Toledo, students have helped a small K-8 private school with their computer networking needs. In the different semesters, the student groups assisted with the planning, design, and wiring of the computer network for the school. The students also assisted with grant writing, cost-benefit analyses, and web site development. This chapter provides an interesting view of a service-learning class, because students and faculty worked with the same non-profit organization over five semesters. Ruppel and Ruppel discuss the benefits of this course to both university students and the local school, and present their lessons learned, to be applied in courses that focus on networking or systems analysis and design.

Roberts and Boyle present the partnerships at the University of Leeds, a large university in the United Kingdom, which is surrounded by economically disadvantaged neighborhoods. This chapter, entitled “University/Community Partnerships: Capstone Projects that Make a Difference,” describes the final-year projects that have benefited the community. All undergraduates are required to take part in capstone projects that last a minimum of 300 hours, and students can choose to do things such as perform research or develop new informational systems. Many of these final-year projects have been structured to assist local schools in meeting their

information technology needs. These students have helped local schools with tasks such as infusing information technology into the curriculum, developing summer school programs in technology, organizing student clubs for those interested in technology, and building web sites. These projects have made a positive impact in the local community, and have also generated positive press for the university. Roberts and Boyle discuss the problem of evaluating these student projects for quality, given the variation in topics and location.

New methodologies for developing informational systems are increasingly focusing on more user participation in the development lifecycle. In participatory design, the user becomes a true member of the design team, to determine the outcome of the systems development, rather than playing only a minor role in systems development. Chapter 5, “Building Educational Technology Partnerships Through Participatory Design,” by Carroll et al., presents a participatory design partnership between researchers at Virginia Tech and local public school teachers in Montgomery County, Virginia. The human-computer interaction researchers at Virginia Tech were interested in learning more about how participatory design practices could apply to building educational technology to be successfully used by teachers and students. Based on their experiences over a five-year period, Carroll et al. describe the infrastructure, as well as the challenges and successes, of developing a design partnership with local schools and teachers. A model is presented that discusses the different and changing roles of the teachers over the course of the technology development. To assist in those forming similar design partnerships, Carroll et al. discuss some of the lessons learned from this type of educational partnership.

In Chapter 6, Hawley presents a university/community partnership to help meet the technology needs of schools in Ohio. State and federal funding was increasingly available for the purchase of computer equipment and service for primary and secondary schools; however, there was a lack of school staff experience in using and managing the information technology. A partnership was formed through the University of Cincinnati to help meet the technology training needs of Ohio’s schools. A summer camp program was developed in which separate groups of teachers and students would come to the university campus and take part in intensive training on the effective uses of technology in education, standard software tools (such as word processing and spreadsheets), the Internet, and maintenance of technology. The partnership grew from the university and the K-12 schools to now include other community organizations and corporations.

Coakley and Tyran present the Corporate Partnership Program at Oregon State University in Chapter 7. This partnership between Oregon State University and businesses and non-profit organizations in the Pacific Northwest offered numerous benefits. The development of the partnership program over 10 years is presented within the framework of a “stages of growth” model. At a critical time in the development of the information systems program at Oregon State, the business community was instrumental in preventing the elimination of the program. From this point, the partnership between the IS program at the university and the business community grew, and has been mutually beneficial. The business community assisted

with curriculum suggestions, encouraged the university administration to increase funding for the IS program, and helped to increase the visibility of the IS program. Coakley and Tyran discuss the internship program and placement activities that help both the business community and the student population. Guidelines are presented for successful development and management of industry advisory councils.

Universities may differ based on their mission, their location, and their size, and partnerships that are appropriate for a large research university may not be appropriate for a smaller teaching university. In Chapter 8, Borton and Lassila present the “Partners in Excellence” program at the University of Southern Colorado, a regional university with fewer than 5,000 students. The program started as an industry advisory board in 1977 to help develop the curriculum and increase enrollments in the Computer Information Systems program. The partnership program grew to include partnerships with local K-12 schools for student tutoring, career counseling, a web design contest, and a summer camp program. In the summer camp program, local high school students can experience college-level courses in CIS. Business partnerships include the industry advisory board for curriculum input, a guest lecture series, job placement services, and internship programs. In addition, students in the senior capstone course assist regional for-profit and non-profit organizations in the development of information systems. Borton and Lassila postulate some of the future possibilities for the “Partners in Excellence” program, such as visiting professors from industry, a new web-based program in CIS for working professionals, a student-faculty-industry research program, and a student IT consulting center.

“Adaptive structuration” is a theory relating to organizational change through the influence of technology and social processes. In Chapter 9, LeRouge and Webb extend adaptive structuration theories to the area of IT/community partnerships. This provides an interesting theoretical framework for forming community partnerships, but LeRouge and Webb also explain the theoretical framework through university/business partnerships involving enterprise systems software, also known as enterprise resource planning or ERP. ERP software consists of modules that relate to the traditional business functions (marketing, accounting, human resources, etc.), and can be easily modified and integrated to track processes within a company. Through the adaptive structuration framework, the challenges of implementing partnerships involving ERP software are discussed. LeRouge and Webb present issues such as the technology infrastructure, educational structure, and curriculum approaches necessary for successful ERP partnerships, and the resulting beneficial outcomes.

As previously stated, different types of universities will be able to offer, and will require, different types of partnerships. In Chapter 10, Navarrete and Pick describe the need for industry advisory boards at universities in developing nations, through a case study at the Universidad Iberoamericana (UIA) in Mexico City, Mexico. Through the assistance of the industry advisory board at the UIA, the number of IS faculty was increased, IS faculty salaries increased, technical training was offered to faculty, and IS students had access to superior computer equipment, as well as industry

internships. However, years later when the industry advisory board was not as active, IS faculty salaries dropped, fewer IS faculty members were employed, the IS curriculum was not being updated, student enrollment in IS programs dropped, and the IS graduate program lost accreditation status. Navarrete and Pick describe some of the challenges of successfully running an IS program in a developing nation, and how the industry advisory board can assist in overcoming those challenges. From their experiences, Navarrete and Pick provide success factors for industry advisory boards.

In Chapter 11, Pinkett presents an interesting partnership between the Massachusetts Institute of Technology (MIT) and Camfield Estates, a low-to-moderate income housing development. Researchers at MIT were interested in the role of technology for assisting those who are in low-income communities with building community, empowerment, and self-sufficiency, to help bridge the growing “digital divide.” A number of foundations and companies provided funding and/or computer hardware, software, and network service, and a partnership was formed with four research groups at MIT and the Camfield Tenants Association. Among other roles, the researchers at MIT have developed software specifically for community-building, administer and maintain the computer resources in the community, and provide training sessions for the community. While research and evaluation is taking place, the Camfield Estates community and the residents of the community are becoming empowered. Pinkett presents recommendations for universities that want to take part in partnerships relating to community networks.

Digital divide issues are not limited to North America. In Chapter 12, Harris discusses some of the digital divide issues in Malaysia. After providing a background on rural economic development and community informatics, Harris focuses on the rural Malaysian state of Sarawak. A partnership between the university, the business community, and the state of Sarawak is currently under development, with the hope that providing access to technology will assist in the economic development of Sarawak and improved economic conditions. The infrastructure required to create such a partnership is presented along with the many organizations involved in this effort and the role of the university in such a complicated effort. As a part of this process, research is being performed to determine success factors, and new approaches are being developed for bridging the digital divide in rural areas.

In the final chapter, Lazar and Norcio present an agenda for service-research. In service-research, academic research is structured in a way that some sort of service is immediately provided to the local community as a part of the research process. We investigate the ways in which digital divide challenges can be addressed as a part of the data collection required for serious research. Service-research can help recruit larger numbers of subjects for research studies, and can possibly help lower the expenses to researchers of recruiting subjects. Possible applications of service-research are discussed in the context of research in areas such as: user training, interface usability, user behavior, documentation, information systems management, and design processes. Two examples of service-research are briefly discussed.