

ICASIT

INTERNATIONAL CENTER FOR APPLIED STUDIES IN INFORMATION TECHNOLOGY
School of Public Policy, George Mason University

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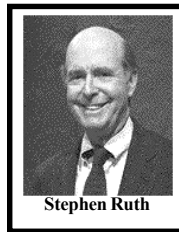
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Check out the ICASIT Web site to learn more about ICASIT projects.

ICASIT Research Agenda Broadens

ICASIT's mission has always focused on implementation and delivery issues. Our work is nourished by theory and informed by practice. In the early days of the center, the emphasis was on a small number of broad, technology-focused diffusion issues, like Microcomputers in Developing Nations or Expert Systems in Agriculture. In recent years, though, we have been able to broaden the agenda, partly because of the increase in topics that link Public Policy with Technology, and also due to the explosion of analytical techniques that facilitate the spanning of disciplinary boundaries.



Stephen Ruth

Some examples of our current work may be useful before mentioning some samples of the projects we have on the drawing board. Technology diffusion is difficult to predict in spite of the best efforts of governments and multilateral organizations. A major investment in technology in region A does not automatically produce a profusion of Internet Service Providers, new start-up companies, and increases in living standards. What factors can predict the diffusion of technology and what is the evidence? This area of research has been of considerable interest in ICASIT in our teaching, grant activities and research. We have prepared a massive data base with over 50 different technology indicators for nearly 200 countries. Its purpose is to assist in formulating theories and testable hypotheses about technology diffusion. Elaboration of these theories and predictor variables can be very useful in setting national and regional policy agendas and financing decisions. In the United States, for example, is funding for the "Digital Divide" going to provide a higher yield than, say, added budgets for broadband deployment—or should these two issues be considered as similar? Governor Warner recently described plans for a significant public policy agenda for greatly improved band width development across Southern Virginia, an expense that must be balanced against medical, welfare and other public expenditures; clearly a public policy decision.

Here are some examples of the kinds of issues that we expect to examine in 2003-2004. 1. How effective is telemedicine deployment in developing nations? TM is one of the most highly touted applications for leveraging the global Internet to improve the lives of people U.S. rural areas and poor nations,

yet it is seldom clear whether the real payoff will be in high end or low end applications. Our current research indicates that for all but a few of the wealthiest nations, the use of lower levels of technology often has the highest yield. We will test this idea with experiments in Nepal and El Salvador. 2. Why are the technology statistics of China and India so different? Both nations have over one billion inhabitants yet by most of the static indicators, like telephony, band width, cell phones, PC's and, especially, the number of Internet users, China seems to have a significant lead. Yet by using more dynamic indices, like Electronic Commerce or business linkages, India is well ahead. It's a very interesting issue, one we hope to examine closely.

Two more examples of our future directions may be interesting, since in both, we would be glad to welcome any scholar with a shared interest. (We're always looking for collaborators on our projects.) In Africa and South America, the two Internet-poor continents of the world, what are the predictors for technology diffusion? We have published several papers on this and it seems that two of the leading predictors are form of government and per capita expenditures on education. In general, the freer the country the greater the Internet diffusion. But the world's major exception to this, as mentioned, is China, by no means a free country, but second now only to the US in Internet users and growing at a faster pace. The final example is the diffusion of technology in the Middle East region. Why is it that Israel and the United Arab Emirates, with a combined population representing about 3 percent of the region's, have close to half the Internet users and look almost identical in other measures, like telephones per thousand, PC's, band width, etc.? This is a fascinating topic and we have the data and the funding to examine it over the coming two years.

I haven't mentioned Knowledge Management so far and there's not enough space to add it now—but ICASIT continues to have an active, continuing interest in the subject, and several grad students are already pursuing studies in specific aspects of KM. All in all we look forward to a busy research agenda in the coming years and I hope that some of the GMU community will find it in their interest to join us. □

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ICASIT Assisting in Strategic Plan for a Secure University in Virginia

As interdependent computer networks have become a critical part of the way business is conducted today, it is clear that cyberspace poses a major vulnerability concern for the United States and its infrastructures. In response to this concern, the Commonwealth Information Security Center (CISC) formed by the governor of Virginia Mark R. Warner, and the GMU Critical Infrastructure Protection Project (CIPP) have been tasked to lead the Secure University Initiative. The goal of the Initiative is to conduct research on cybersecurity on a university level and offer support to Virginia's universities and state agencies. To support this goal, the team was formed by Kevin Thomas, an associate director of the CIPP to be responsible for analyzing requirements for a secure university environment at a national, state, and university level and producing relevant research papers. The team consists of Dr. Edgar Sibley who has been assigned to work as the Principal Investigator of the project, Pamela J. Hawe, a senior graduate research assistant, and Sarasin Booppanon, a graduate research assistant at ICASIT. Currently, the team is working on the first stage by producing a strategic plan. The strategic plan will address the critical issue of the balance needed between the openness expected by faculty and students in a modern university as opposed to the legal and social requirements of the university administration and state agencies. Through a review of various government policies and strategies and assessment of current university environment, the strategic plan will define a secure university environment, determine the feasible cyberspace security requirements and provide high-level recommendations on how to implement a secure university for those institutions operating within Virginia, which could extend to other institutions at later stage. □

ICASIT's KM Central Made More User-friendly

The Knowledge Management section has always been a dependable resource for

practitioners and academics of all levels of Knowledge Management (KM), thanks to its extensive and in-depth information on the topic. As a dynamic source, every section in the KMCentral such as KM Companies, KM Practitioners, and KM Publications gets updated frequently to ensure the most benefits to customers. Those involved in the industry, such as software companies or KM solution vendors, can have their information included in the site after prompt review by ICASIT's staff members. Recent changes include thorough reviews and updates of the site to provide up-to-date information, as well as minor changes in page design to help users find what they are looking for more quickly and see the latest additions to the site.

KMCentral also hosts reports and materials from the KM Roundtables, the quarterly events aimed at addressing subjects of interest to KM practitioners in the metropolitan DC area. The presentation materials from the latest KM Roundtable, which focused on expertise management, will soon be published. In addition, KMCentral regularly produces high-quality papers beneficial to KM professionals, such as a list of doctoral dissertations on KM from 1991-2002. □

The website can be viewed at <http://www.icasit.org/km>

ICASIT Students' Publications

During the past five months, ICASIT staff members Jiwan Giri and Ming Li authored articles.

Giri's article on "Technology Transfer in Developing Countries: A Telemedicine Framework for an Assessment of Healthcare Needs and Proper Technologies" was presented at a regional virtual conference organized by the International Research Foundation for Development. The final paper will be presented to the UN World Summit on Information Society (WSIS) in Geneva, Switzerland, on December 10-12, 2003. His paper presents a telemedicine framework that assists in identifying basic healthcare needs, assessing ICT infrastructures, investigating restraining and enabling factors, and exploring viable technological solutions to improve the delivery of health services in both urban and rural settings in any developing country. His proposed framework empowers

decision makers to identify the best telemedicine practices and technological solutions that address the healthcare needs, telemedicine technologies, and ultimately improve access to healthcare services to bridge widening health gaps in the developing world.

On April 12, 2003, Ming Li presented his paper, "Digital Divide and Muslim: Country Groups and Cross-Country Analysis" at The Local and Global: Contexts in Science and Technology, a graduate student academic conference sponsored by George Mason University, George Washington University, and Virginia Polytechnic Institute and State University. In his paper, Ming analyzed the issue of the digital divide for Muslim countries from two perspectives: the digital divide between Muslim countries and other part of the world, and the digital divide among Muslim countries. The basic finding is that income level is the most important factor in explaining the digital divide both between Muslim and other countries and among Muslim countries. In addition, press freedom and Muslim religion also have some influence on the diffusion of the Internet. □

Snapshots

ICASIT Says Goodbye To...

Cory Nishi

Cory Nishi who has been with ICASIT and responsible for the graphic design, web development, research in emerging technologies, and the ICASIT newsletters for two years, will be graduating with BS in Decision Sciences and Management of Information Systems from GMU this semester. He will be greatly missed at ICAIST, and all the members of ICASIT wish him the best.

Akintunde L. Lawal

Akin who has worked for ICASIT for one year in graphic design and web development, will be graduating with a degree in Management Information Systems. We wish him well in his future endeavors.

~ Editor ~
Sarasin Booppanon