

# Encouraging Global IS Collaborative Networks with a Knowledge Portal

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## INTRODUCTION

This article describes the proposed design, development, implementation and evaluation of an extensive interactive knowledge portal to support the global IT management community. The portal will provide universal access to a knowledge database and online collaborative tools, including a research lab and online educational materials and pedagogical tools. Specific objectives include support and facilitation of an ambitious program of collaborative research; a shared facility for storing large datasets; a platform for student use; tool development collaboration; interface with community leaders; a share data archive for course projects; supporting the complex, collaborative, and international network of academic and industrial global information technology communities. The objective of this article is to provide a template for those who are considering submissions to funding agencies for similar infrastructure development.

## BACKGROUND

The Global Researchers Academic Sharing Portal (GRASP) is designed to be highly adaptive and Web-based for the purpose of advancing discovery and understanding of research and education in the GITS community. GRASP will contribute three major resources to the GITS community:

- A shared facility for storing and disseminating research papers and large datasets provided by the GITS community.
- Datasets, papers and group collaboration tools to enable academics, practitioners and students to build the infrastructure for GITS research and education.

- A collaborative online platform facilitating the development and support of a program of global IT management research.

Issues arising from the design, development and implementation of global IT/IS remain a source of concern for the global IT community of practice (researchers, educators, industry and government). To date, information sources for these constituents remain fragmented and difficult to find. Global IT research needs collaborative tools and access to shared data to address global IT systems management.

It is widely acknowledged that collaboration allows organizations to leverage scarce resources, reduce costs, link complementary competencies, and increase productivity. In the traditional scientific disciplines, social networks have evolved to enable scientists to communicate findings and share them with practice (Barabási, Jeong, Nédá, Ravasz, Schubert, & Vicsek, 2002). Generally speaking, it has been reported that these research collaborations have increased research quality and citation impact (Frenken, Hözl, & Vor, 2005), and Adams, Black, Clemmons, and Stephan (2005) report evidence that scientific influence increases with team size and institutional collaborations. Recent research shows that networks underlying collaborative knowledge production serve as vehicles of knowledge diffusion (Breschi & Lissoni, 2002; Singh, 2004). Thus, collaboration networks not only contribute to quality of knowledge, but also to its diffusion, enhancing their importance from a “community of science” perspective. Collaboration also provides division of labor and the opportunity to realize economies of scale, such as the costs of training and research infrastructure (Katz & Martin, 1997).

Research networks span institutions and, increasingly, geographical boundaries among countries as well as institutional boundaries (Patton, 2005; Preece, 2000).

According to Wagner (2005), this trend is leading to a blurring of the traditional boundaries and reflects knowledge production that takes place within “international epistemic communities sharing codes of communication and practice,” rather than in geographically localized communities or institutionalized contexts (academia, industry, and government) as previously suggested by Nelson (1994).

Despite the fact that global IT research often requires integration between different knowledge bases, and different people at different institutions around the globe, collaborative tools to support creation of evolving complex networks in the IS research community are few and limited in functionality. For example, the principal provider of information and knowledge to the IS research community is ISWorld ([www.isworld.org](http://www.isworld.org)), a primarily static Web site that provides basic information to the IS community.

GRASP will complement the existing infrastructure of ISWorld by utilizing next-generation collaborative tools to enable the formation of emergent work groups and a more productive integrative approach to research collaboration by providing broad academic and educational support in the following ways:

- **Enhance Infrastructure for GITS Community:** GRASP will enable identification/creation of boundary-less collaborative groups among academic institutions, industries and governments, enabling synergy, relevance, and quality seamlessly through the provision of a central repository for data and collaborative research tools.
- **Broaden Participation of Underrepresented Groups:** GRASP will enable diverse research teams using transnational paradigms and methodologies enabled by boundary-less teams. It will promote IT research in underrepresented areas (e.g., Africa and South America) and regions where IT services and infrastructure are rapidly emerging (e.g., India and China) and supplement limited resources of smaller colleges, universities, minority population segments, and underdeveloped countries.
- **Enhance Infrastructure for Global IT Research and Education:** GRASP, while providing diverse, international resources and information tools for use in course development and content at graduate and undergraduate levels at academic and research institutions, will foster integration of research and education projects using a participative approach designed to lead to ownership and increased use by the community.

## DEVELOPING GRASP

The aim of this project is to develop a user-centered global IT knowledge portal that goes beyond basic functions to

include a sophisticated, dynamic database of global IT resources (data, calls for papers, upcoming conferences, conference proceedings, published journal articles, researcher contact information, research interests, news, emerging technologies, etc.), online seminars and workshops and a collaborative space to conduct and assess a program of research on global IT management in the form of an online collaborative research laboratory.

GRASP will customize and personalize information provided and group participants by role to encourage joint group projects and cooperation through the following collaboration tools:

- E-mail
- Virtual meeting environments
- Instant messaging
- Chat rooms
- Bulletin boards
- E-conferencing (audio and video)
- Online seminars/workshops

The system will provide a central resource for collaboration among international researchers that will enable them to post and share:

- ideas by topic,
- raw data and results from research projects,
- working papers,
- conference papers, and
- published papers.

The vision of GRASP is to provide a single portal for worldwide researchers, educators, industry professionals and governmental agencies with:

- single sign-on,
- extensive customization (roles and workflow) and personalization,
- ease of adding channels—local and global, and
- object oriented, reusable, standard modules.

To realize this vision, the project team will:

- utilize appropriate hardware and services;
- develop back-end databases and repositories;
- develop an advanced knowledge management system;
- analyze and develop unique and customized user interfaces;
- utilize middleware needed to interact with the back-end functions;
- develop methods and tools to make knowledge sharing more productive; and

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