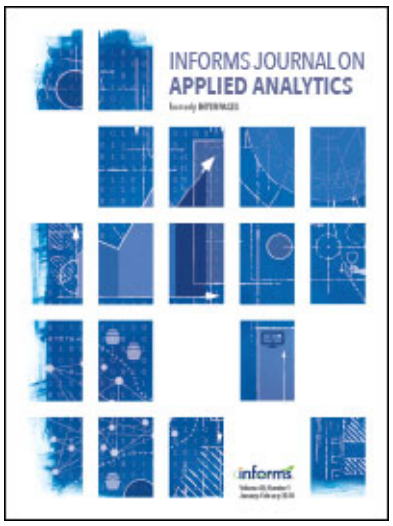

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Introduction to a Special Section on Research Consortia

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Introduction to a Special Section on Research Consortia

One of the functions of *Interfaces* is to increase communication between practitioners and researchers. Research consortia are vehicles that take research ideas from the abstract into reality. For all our work in innovation and new technology management, we have spent little time examining how we can enhance our productivity in developing our new ideas and transforming them into useful knowledge.

Research consortia contribute to the relevance of MS/OR research. Consortia exist because smart companies know that they can spread out the costs of research and be among the first to receive the benefits of that research. Researchers benefit from the companies' financial support and from the immediate feedback that provides meaningful direction to their activities.

I hope this section on research consortia provides ideas for researchers who want to set up consortia and some insights that will encourage more companies to participate. The section contains descriptions of different kinds of consortia doing research in MS/OR and an article that describes a study of the factors that determine the success of a research consortium. Michael Thomas describes the approach Georgia Tech took to start consortia. The sound business principles they have used are a good alternative to the ad hoc approach taken by many universities. Thomas describes an example of a consortium where MS/OR can be an important component, even though it is not the central focus. Von Benda and Radermacher describe a large institute, allied with but not part of a university. The German state of Baden-Württemberg and a group of corporations sponsor the Institute for Application-Oriented Knowledge Processing (FAW). Its research includes such subjects as artificial intelligence, decision support, office automation, and computer managed factories. The institute's support comes from European and American firms, illustrating the declining importance of political boundaries in research.

Consortia exist because smart companies know that they can spread out the costs of research.

Well-managed corporations know where their competitive advantages lie and where they do not. Two consortia described here have sponsors that compete very seriously in the market place but cooperate together in research consortia. Both of these consortia work on aspects of mathematical programming, which is an essential tool in many industries. The supporting companies realize that an important strategic advantage comes from their models improving their operations and planning. They also know that the software they use provides no strategic advantage. Small con-

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sulting firms and universities can either provide a better product or spread the costs of development over several clients.

Gerard Cleaves and Thomas Baker describe a consortium run by Chesapeake Decision Sciences for developing the MIMI modeling system. This kind of consortium has been in the forefront of LP software development; companies get a usable product rather than research ideas and results (see Orchard-Hays [1990] on the history of the development of LP solvers). Harvey Greenberg describes his Intelligent Mathematical Programming System consortium. His consortium has both short-term and long-term goals. He has developed a tool for analyzing LP models and their solutions. His longer-term research concentrates on understanding the form and content of an intelligent mathematical programming system.

Two consortia have sponsors that compete in the marketplace but cooperate in research consortia.

Not all consortia have to deal with the development of techniques. Gary Lilien describes one in the area of marketing that has been working for several years.

Eliezer Geisler, Antonio Furino, and Thomas Kiresuk report on their study of NSF initiated consortia at universities. They analyze the factors that led to successes and failures and give two case studies, one a success and one a failure.

All of the articles offer advice on the ingredients of successful consortia. The most important factors are the basic principles of entrepreneurship: know yourself and your capabilities and know what your market needs. The contributors elaborate on these basic principles in insightful ways.

An essential function of our professional societies is to foster the interactions that lead to productive professional relationships. New technology management has had an important presence in the management science community. We should employ what we have learned to enhance our research productivity and to increase our contributions to solving real problems.

We need to think through what can be done to facilitate the formation of consortia that will keep our research relevant. John LLewellyn at *OR/MS Today* is interested in publishing news items on consortia. I hope to publish more articles that provide insight into the ways we can improve our productivity and relevance through such vehicles as consortia. Let's publicize these activities and generate more action.

Reference

Orchard-Hays, William 1990, "History of the development of LP solvers," *Interfaces*, Volume 20, No. 4, pp. 61–73.

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