

Virtual Team Science: Reflections on Kirkman's Paper

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Distance Matters

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ABSTRACT

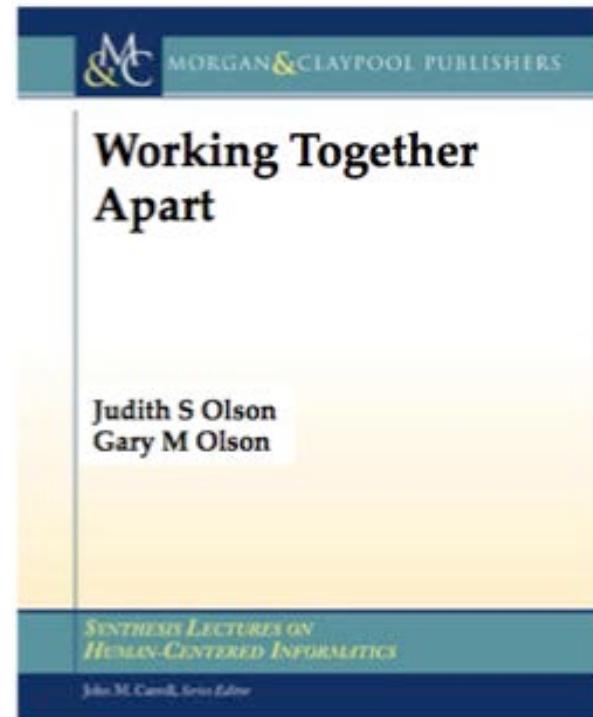
Giant strides in information technology at the turn of the century may have unleashed unreachable goals. With the invention of groupware, people expect to communicate easily with each other and accomplish difficult work even though they are remotely located or rarely overlap in time. Major corporations launch global teams, expecting that technology will make "virtual collocation" possible. Federal research money encourages global science through the establishment of "collaboratories." We review over 10 years of field and laboratory investigations of collocated and noncollocated synchronous group collaborations. In particular, we compare collocated work with remote work as it is possible today and comment on the promise of remote work tomorrow. We focus on the sociotechnical conditions required for effective distance work and bring together the results with four key concepts: common ground, coupling of work, collaboration readiness, and collaboration technology readiness. Groups with high common ground and loosely coupled work, with readiness both for collaboration and collaboration technology, have a chance at succeeding with remote work. Deviations from each of these create strain on the relationships among teammates and require changes in the work or processes of collaboration to succeed. Often they do not succeed because distance still matters.

Gary Olson is a psychologist interested in computer supported cooperative work; he is Professor in both the School of Information and the Department of Psychology. **Judy Olson** is a psychologist interested in computer supported collaborative work; she is Professor in the School of Business Administration, the School of Information, and the Department of Psychology.

2000



2008



2013

It's a Good Paper

- Good extension of Kirkman, Gibson & Kim (2012) to team science
 - Adds many useful perspectives about comparison of business teams to science teams
 - Especially Table 1 (though some quibbles)
- Particularly like Table 2 and its associated discussion
- Good points made by Hinnant

Literature Considered

- Focus is on journal publications
- Two important omissions
 - In most fields of computer science, conference proceedings are first-class publications
 - Large literature on team science
 - In the field of Social Studies of Science, many major publications are books
 - Especially relevant to long-term studies “in the wild”

Variety of Kinds of Science

- Routine vs. high risk science
- Facility-oriented science
 - High energy physics
 - Astronomy
- Database-oriented science
 - Creating large collections that will allow certain kinds of science to be done
 - Examples
 - BIRN: Gathering functional MRIs of schizophrenic patients
 - Metagenomics: studying the population genetic characteristics of complex environments over time (e.g., the ocean)

Issues re Table 1

- Financing of science
 - Ongoing need to acquire resources
 - 3- to 5-year cycles for most science
- Traditions of collaboration
 - High: particle physics
 - Low: earthquake engineering
- Incentives for collaboration, data sharing
 - Delicate balance of cooperation vs. competition
 - Intersects with career stages
- Importance of management plans
 - Beyond just leadership
 - Requirements for NSF, NIH large projects

My Next Steps

- Further details and illustrations of the points made in written report
- Pointers to key literature not included in Kirkman review
- Evolve the Collaboration Success Wizard