Engaging Multidisciplinarity in Sociotechnical Internet Research: A hands-on workshop

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ABSTRACT

This workshop explores multidisciplinary aspects of sociotechnical research on the Internet, by providing a forum for the pooling and sharing of disciplinary perspectives, and for finding complementarity and synergy across disciplinary knowledge, methods, and approaches. Activities planned for the workshop will engage participants with theoretical and methodological approaches drawn from multiple disciplinary perspectives.

Keywords

Sociotechnical Systems, Multidisciplinarity, Research Design, Theory

1. INTRODUCTION

Internet research is fundamentally multidisciplinary. At its core it combines attention to technological innovations with psychological, social, linguistic, and communication effects. This combination of the technical and the social situates Internet research firmly in the *sociotechnical* realm, an area also often referred to as *social informatics* (Kling, 1999). Yet, this approach, and its multidisciplinary demands and needs are not fully understood. As our daily lives become more entwined with technical devices, infrastructures, and systems, it becomes increasingly important to develop sociotechnical approaches to Internet research, as well as to encourage researchers to adopt and expand this area of research.

The sociotechnical approach draws its inspiration from the early work of the Tavistock group in the UK (notably Emery & Trist, 1965) whose more famous studies examinedthe impact of new

technologies in the working life of miners (Trist & Bamford, 1951). In the 1980s and 1990s this approach was revitalized, paying particular attention to the design and impact of computing technologies in and for the workplace (e.g., Danziger, Dutton, Kling & Kraemer, 1982; Eveland & Bikson, 1988), with close ties to the field of computer-supported cooperative work (CSCW). Kling himself laid much of the groundwork for an expansion of this approach out of the workplace and into all aspects of the "information society." Today we can find sociotechnical approaches applied across the computing and Internet research community, applied to work (O'Day, Bobrow & Shirley,1996), learning (Andrews & Haythornthwaite, 2007) and everyday life (Gurzick & Lutters, 2006). We also find many new programs developing under the name of "informatics" that pick up and take on the hard work of defining curricula that includes notions of social and technical interaction. As these programs become defined, it is imperative to include a voice that informs and addresses this vital aspect of higher education.

One of the key challenges in this, and in other areas of emerging Internet-enabled research is that of multidisciplinarity (Dutton, Carusi & Peltu, 2006). In scientific fields in general, there has been a continuing trend to multi-participant, and multi-disciplinary research. These endeavors raise numerous challenges in the practice and outcomes from multi-disciplinary work (Cummings & Kieseler, 2004; Hine, 2006), as well as opportunities in the emerging e-science and e-social science arenas.

In recognition of both the need for sociotechnical approaches and the challenge of multidisciplinary work, a number of researchers have come together to begin the work of developing a multidisciplinary community with a focus on human activity in the context of the technology. Known as the Consortium for the Science of Sociotechnical Systems (CSST - http://sitemaker.umich.edu/csstinstitute/home), its intent is threefold: (1) to build a community of multidisciplinary researchers concerned with sociotechnical phenomena; (2) to provide a clear message to funding agencies on the value of multidisciplinary sociotechnical research, and (3) to create a means for pooling research in a way that draws benefit from the complementary perspectives of different disciplines.

This workshop is a continuation of these efforts, providing a means for bringing the perspectives of Internet researchers to bear in this community. It will serve as a forum for consolidation and critical reflection on the multidisciplinary nature of this work: what do we know so far, what is missing, what is ideal, what is feasible, and how can we make the feasible more ideal. Given the importance of multidisciplinarity in Internet research, we believe that many conference attendees, veteran and novice alike, will find the themes proposed in this workshop beneficial for raising awareness on the complexities of this research and for illuminating underrepresented perspectives. We also believe that the time is critical for this development as we rapidly move into an ever-more Internet and ICT driven era.

2. GOALS

This workshop has several goals: (a) to help its participants obtain a better understanding of the benefits and drawbacks of multidisciplinary research in the context of sociotechnical research, practice and teaching, (b) to explore approaches to multidisciplinary, sociotechnical work that informs research, and to examine how different theoretical lenses may be effectively combined, and (c) to stimulate discussion that critically examines the strategies different researchers take in their approaches to multidisciplinary work in sociotechnical studies. In particular, we hope to elicit different philosophies that researchers hold about how to do this kind of multidisciplinary, sociotechnical work well.

3. AGENDA

The conference workshop will have three major parts (a tentative timeline and materials for the course will be available on the sociotech wiki - http://sociotech.net/wiki/index.php?title=IR_10.0_Workshop prior to the workshop).

3.1 Demonstrating the power of a multidisciplinary approach via hands-on exercise

The first part of the workshop will be a brainstorming session intended to elicit a variety of research approaches to a set of contemporary Internet-focused problems. Prior to the workshop, we will ask participants to share early-stage research questions. At the workshop we will introduce several of these examples and ask all of our participants to suggest ways of approaching them. The purpose here is not to evaluate the merits of the questions. Rather, it is to demonstrate that (likely) every person in the room will have a different analytic perspective on the problems. At the very least, we expect to see a significant diversity in suggested approaches. By doing this exercise, we hope to demonstrate, viscerally, the power of a multidisciplinary perspective.

3.2 Unpacking the theoretical lenses of multidisciplinary research

The second part of the workshop will be a brainstorming effort to compile a master list of popular theories and theoretical lenses relevant to Internet research from a sociotechnical perspective. Multidisciplinary research often involves integrating theoretical constructs and/or analytic frameworks from different disciplines. In this exercise, we will focus on several of the approaches uncovered in the first session and examine how they can be used productively together, as well as when they are fundamentally incompatible. The list will be recorded on the sociotech.net wiki so a sustainable resource will be created, which participants and others can use and supplement in the future. When a theory is presented, we will solicit a brief, informal description of it, including how it is used appropriately, and what kinds of insights it can provide.

3.3 Addressing the challenges and trade-offs in multidisciplinary research

The final part of the workshop will involve a full group discussion focused on questions related to multidisciplinary sociotechnical research. The list of questions will be primarily developed on the

sociotech.net wiki by workshop organizers and workshop participants both prior to and during the workshop. Example questions have already been added to the wiki.

4. RESOURCES

We hope to have a minimum attendance of 10 people, though a lower attendance will not be prohibitive. A recent workshop at the iConference (a meeting of information science school faculty and graduate students) drew 18 participants. Recommended attendance is 15-20 people, though we can adjust to higher attendance by breaking into small groups for the brainstorming or the discussion parts of the workshop. The only costs we expect to incur are for basic conference equipment if the conference venue charges for it: a projector, Internet access, etc. Whiteboards or poster paper + easels would be nice, but are not necessary. The costs will be dependent on the rates they are charging the conference for this kind of equipment. While post-it notes and other brainstorming materials will be needed, the workshop organizers will take responsibility for providing them. During the course of this workshop, we will be creating and using materials on the aforementioned sociotech.net wiki.

5. ACKNOWLEDGMENTS

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