

Collaboration Among Social Scientists

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ABSTRACT

In this workshop paper we describe a preliminary study of collaboration practices among social scientists. Based on interviews with 10 social science researchers we describe how they rely on local networks as well as very tight-knit international communities. Their technology use differed according to need and particularly opportunity.

Author Keywords

Cyberinfrastructures, collaboration, CSCW, social science

INTRODUCTION

One of the aims of cyberinfrastructure studies is to investigate technology use for researchers. However, so far, current cyberinfrastructure work has been dominated by computer scientists [1], and there has been insufficient consideration of the nature of scientific work, particularly in relation to social scientists [6]. Social scientists who conduct fieldwork and rely mainly on qualitative data are an important group to study, since they use a range of technologies, particularly for collaboration. In our work we investigate how social scientists form and maintain collaborations and what role technology use play in these collaborations. We aim to contribute to a better understanding of how cyberinfrastructures are used within this group of researchers in order to eventually suggest new technologies and new uses of cyberinfrastructures for social science collaboration.

RELATED LITERATURE

Research Collaboration

A number of studies have explored the role of collaboration in science. A key finding is that there is much more to collaboration than co-publication or data sharing [7, 8]. Hagstrom pointed out that social isolation counteracted research motivation and that publication outlets were

deficient in supplying researchers with acknowledgment compared to interpersonal recognition [5]. The academic world is essentially produced through social networks in the form of conferencing, banter and gossip - fundamentally necessary for the development of new ideologies, theories and schools of thought [11]. Indeed, Ellis et al. argue that data sharing is only a small part of most of the interactions that take place in both science and social science [4].

Technology Use Among Researchers

Technology use among researchers has also been studied. For example, Nardi and Whittaker develop the concept of ‘media ecologies’ to explain different organization’s unique combination of media use; no one media is able to substitute face-to-face meetings but depending on context, each media ecology facilitated collaboration in specific ways [9]. A number of systems that support awareness between distanced researchers have been developed and studied as part of long-term relationships [3]. There has also been research on how cyberinfrastructure can support new data collection techniques, such as instant messaging [12]. Mobile devices have been a recent focus - such as mobile phone based experience sampling [2, 10], or electronic laboratory notebooks. Of particular note is the Butterflynet system [13], which allowed field biologists to share and augment paper-based field-notes.

STUDY

In our study we investigated collaboration practices as well as technology use for these, among social scientists. We interviewed 10 researchers in depth attempting an open-ended way to understand their collaborative practices and to understand how they initiate and manage connections with colleagues. All interviews were conducted in the researchers own office or a nearby conference room.

Our participants were all social science researchers who were involved in fieldwork, or broadly non-lab based empirical investigations. They ranged from graduate students and research assistants to full professors with over 20 years of research experience. The participants came from a diversity of fields such as sociology, pedagogy, education and ethnology. Most of them were researchers in Sweden and Denmark, but two were at a large public US university. Although there was a great diversity in

background we did not find major differences in collaborative practices (apart from obvious differences of research focus between graduate students/research assistants and full professors with very different responsibilities). Indeed, considering the diversity of researchers we interviewed we were struck by the similar structures of research, teaching and individual relationships that we uncovered.

Initials (male/female)	Field	Level	Country	Cross-country collaboration
BO (M)	Sociology	Professor	SE	Yes
MA (F)	Sociology	Assistant professor	SE	Yes
AF (F)	Sociology	Post-doc	SE	Yes
MN (F)	Pedagogy	Associate Professor	SE/US ¹	Yes
AS (M)	Sociology	Professor	SE	Yes (but not currently)
AB (M)	Economics	Professor	SE	Yes
AJ (F)	Ethnology	Assistant Professor	DK	No
LB (F)	Science and Tech. Studies	Research Assistant	DK	No
RL (M)	Education	Graduate Student	US	No
MC (M)	Education	Professor	US	Yes

Table 1: Participants (countries: SE = Sweden, DK = Denmark, US = United States). 1. The professor was split between countries: she had a professorship in Sweden but spent almost half the year in the States with her research group there.

FINDINGS

Collaboration

Our social science researchers were naturally collaborating a fair amount. They did not always do this because they had to, but also because they found it enjoyable and felt they were more productive this way. We found several strong collaborative relationships that we divided into pair/small group local collaborations, stable long distance collaborations and larger, often international collaborations.

Pair/small group local collaborations

The small group collaborations were for the majority of the researchers the most important ones. All except two interviewees (RL and AJ) had these types of collaborators. These were often collaborators from the very same department or in one case (MA), a collaborator in the museum where the majority of the interviewee's research

took place. These collaborations were often facilitated by people's ability to simply stop by to talk about the research and rarely did these collaborations have weekly set meetings. These collaborations were in several cases reoccurring and represented the single most important collaboration of the researcher in his or her career span.

The collaborations were most often between two researchers (rather than three or more) and they had emerged early on in the researcher's career. In one case it had started as an advisory relationship, but in other cases they had started serendipitously between two researchers in the same department who had similar interests. They were maintained through highly regular contact (several instances of contact per week) and collective standpoints in relation to 'other' researchers. One example of an establishment of such collaboration between three researchers was from AS who had watched a documentary film by two other researchers but felt that he could help do a better one. He approached the creators of the documentary, wrote up a funding proposal with their assistance and after receiving the grant began such long-term collaboration.

Stable long distance collaborations

Other non-local or occasional local collaborations were also common, but often not as essential to the researcher. One example was a reoccurring collaboration that AB had with two US researchers (a husband and wife) who had spent the last ten or so summers in Sweden working with him. This collaboration was almost as close-knit as the one with his local colleague, particularly during the summer time when they were in the department. Most other researchers had stable long-distance, mostly cross-country, collaborations that did not involve any regular visiting, but merely opportunistic visiting and a large amount of communication through email and phone.

Large International Collaborations

Seven of the 10 interviewees had worked or currently worked on large-scale cross-country collaborations. In Scandinavia most of these were cross-Nordic collaborations but in a couple of cases also EU projects (funded by the EU and spanning a number of EU countries). The interviewees who had not had cross-country collaborations were mainly young researchers or in one case (AJ), a professor whose research was very country specific (her research was focused on the Danish healthcare system). This professor therefore also did not publish much in international forums. The cross-country collaborations were often described as problematic; factors such as differing research approaches and lack of coordination were often cited. Other factors were the rather bureaucratic nature of particularly EU projects that the researchers often faced. One participant (BO) described how a Nordic project on alcohol consumption in restaurants had ended up rather differently than he had intended when he started as director:

[The researchers' different research approaches] caused quite disparate papers [ha ha]... they do different things. [...] I think the ambition in the beginning was to do [the research project] more comparatively, to use the same research questions, the same methodologies. Ehm, different traditions, histories, lack of resource, I would say, let to situations where people... Okay 'do your thing', instead of trying to raise funding, coordinate it, it would take a long time. [...] I don't know if it quite failed, it changed and in the process you have ambitions... meeting reality... that thing happens.

The concept of 'meeting reality' was in fact a reoccurring obstacle noted in relation to these larger projects. Where the initial plans, often described in a funding proposal, were going in one way, the researchers described how further into the project when 'meeting reality', these plans had to be changed. AS for example described how he (as the co-editor) had found it necessary to reject several final paper submissions for a collection based on such EU project.

These collaborations were mostly examples of loose-coupled work, work taking place in isolation with often only one document (often the funding proposal) and an initial meeting as basis for the research. Although these collaborations relied on face-to-face workshops and that our interviewees sometimes noted that "we met all the time" (AS), the research practices and perhaps cultural differences contributed to a diversity that was difficult to manage.

Technology for Collaboration

Collaboration technologies were used diversely. Everyone used the internet and email and of course the phone for communication. Of the ten, only three used Skype, for adding video to a phone call or simply to make a phone call cheaper. One researcher used significantly more types of technologies than the others, which was probably due to her situation as having affiliations to institutions in two different countries and therefore collaborating across long distances (MN). She used both Skype for phone and video calls (often conference calls) and also two different types of software for storing video for her research group. Her research relied mainly on field notes and video and it was apparent that the video was available to all her collaborators wherever they were in the world. The video storage program (Moodle) allows for commentary in the video clips that is then available to all collaborators. Her research group also had a very active newsgroup, but she was rather dismissive of the overall gain from this. She felt the newsgroup was dominated by a few people who wrote too long messages for others to follow:

I can't keep up with it [...] If they wanted many people to really be active, they need to like limit the length of their postings [...]. They have to take measures to do, to involve people, because now there are few men dominating some of these huge messages back and forth, and it's impossible for others to – and that's because well, [...] it mean that

others are not going to be active, and I'm one of them.

Communication technologies were used to tackle distances, however, as other research has also pointed out [ref] researchers also used email with local collaborators. A few researchers pointed out that the telephone was still often the best tool when needing to resolve important issues (and face-to-face meetings were not an option).

Data collection technologies, such as literature databases, were obviously used by all researchers; however, this was not always tied directly to collaboration. One exception was the two US researchers who came to visit AB each summer; the data they relied on was only available from Sweden through Sweden's national statistics database and much of their collaboration was therefore to collect national statistics data for the US researchers in their comparison studies to similar data from the US. Since much of the data was in Swedish, AB was essential to the process of data collection.

CONCLUSION

We have presented our early findings of a study of collaboration practices among social scientists university researchers. Many social scientists have strong collaborations but also a variety of levels of collaboration. We identified three different types of collaborations, pair/small group local collaborations, stable long-distance collaborations, and large-scale cross-country collaborations. There were all supported by similar technologies, email, the internet (e.g. newsgroups) and phone alongside of course face-to-face meetings. The most successful ones and subsequently reoccurring ones were the tight-coupled pair/small group collaborations between researchers who continually conduct research together and publish together. Where the stable long-distance collaborations were also valuable, the most problems were cited in relation to large-scale cross-country collaborations. Despite frequent (twice a year) meetings, these were often problematic and when 'meeting reality' they often ended up in different forms than initially planned.

However, importantly, long-distance or cross-country collaborations were not always failures (or even problematic). Where research culture was close (often due to the two countries having similar research traditions such as Finland and Sweden), collaborations were not necessarily complicated. Similarly, where a researcher had spent a significant amount of time in a different country/research culture, that researcher was able to maintain fruitful collaboration with the other country long-distance (examples were AF, MN and the two US colleagues of AB).

Finally, collaboration technologies were used according to need but also active selection. If the technology (for example Skype or newsgroups) was deemed irrelevant it was avoided. In other cases the use of technology was determined by what was considered 'appropriate'; if a

researcher thought that video Skype was necessary for a meeting, they made effort to use it, but mostly, a phone call was 'enough'.

In our future work we plan to take a close look at the collaboration technologies and consider what technologies are more useful and appropriate. We hope to suggest new technologies and new uses of existing technologies.

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REFERENCES

1. Beaulieu, A. and P. Walters (2006). Imagining e-science beyond computation. *New infrastructures for knowledge production: Understanding e-science*. C. Hine: 48-70.
2. Carter, S. and J. Mankoff (2005). When participants do the capturing: the role of media in diary studies. *Conference on Human Factors in Computing Systems, CHI 2005*. New York, ACM Press: 899-908.
3. Dourish, P. and A. Adler (1996). "Your place or mine? Learning from long-term use of audio-video communication." *Computer Supported Cooperative Work (CSCW)* 5(1): 33-62.
4. Ellis, D., R. Oldridge and A. Vasconcelos (2004). Community and virtual community. *Annual review of information science and technology*. 38: 145-188.
5. Hagstrom, W. O. (1965). *The Scientific Community*, New York, Basic.
6. Hine, C. (2006). Computerization movements and scientific disciplines: The reflexive potential of new technologies. *New infrastructures for knowledge production: Understanding e-science*. C. Hine: 48-70.
7. Katz, J. S. and D. Hicks (1995). "Questions of collaboration." *Nature* 375(6527): 99.
8. Koku, E., N. Nazer and B. Wellman (2001). "Netting Scholars: Online and Offline." *American Behavioral Scientist* 44(10): 1752-1774.
9. Nardi, B. and S. Whittaker (2002). The place of face-to-face communication in distributed work. *Distributed Work*. P. Hinds and S. Kiesler, MIT Press.
10. Palen, L. and M. Salzman (2002). Voice-mail diary studies for naturalistic data capture under mobile conditions. *Proceedings of the 2002 ACM conference on Computer supported cooperative work*. New Orleans, Louisiana, USA, ACM: 87-95.
11. Passmore, A. (1998). "GeoGossip." *Environment and Planning A* 30: 1332-1336.
12. Volda, A., E. D. Mynatt, T. Erickson and W. A. Kellogg (2004). Interviewing over instant messaging. *CHI '04 extended abstracts on Human factors in computing systems*. Vienna, Austria, ACM: 1344-1347.
13. Yeh, R., C. Liao, S. Klemmer, F. o. Guimbretiere, B. Lee, B. Kakaradov, J. Stamberger and A. Paepcke (2006). ButterflyNet: a mobile capture and access system for field biology research. *Proceedings of the SIGCHI conference on Human Factors in computing systems*, ACM: 571-580.