

When you wish upon a blog: how collaborative information seeking can interleave with CSCW

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ABSTRACT

In this paper, we share our preliminary analyses of a particular case of a self-organizing group that responded to the 2011 Great Tohoku Earthquake and Tsunami disaster in Japan. The way this group managed to send aid from Finland to Japan is a fascinating case study in computer supported cooperative work (CSCW). However we also see in it many cases of various kinds of collaborative information seeking (CIS), both computer supported and using more traditional resources. At the same time we find it challenging to look at some of these activities from the CIS frameworks that we are familiar with. We believe that exploring some of these issues at the workshop will enable a richer understanding of the range of possible kinds of CIS.

Keywords

Disaster relief, self organizing groups

1. INTRODUCTION

In the process of analyzing a self-organizing group from a CSCW perspective that responded to a disaster, we realized that there was a considerable amount of collaborative information seeking (CIS) occurring. Considering our case study from a CIS perspective seemed a productive thing to do – but has turned out to be not as straightforward as we thought. CIS in this context is tightly interwoven with many other activities that are not CIS. We are struggling to make sense of our data, but we believe that even our preliminary findings are useful to share at this workshop. The inextricably interleaved and fuzzy aspects of the CIS process are intriguing and challenge some of our notions about what counts or should count as CIS.

2. The Setting

Seven Japanese housewives living in two cities in Finland became leaders of a self-organized humanitarian aid group for the 2011 Great Tohoku Earthquake and Tsunami disaster in Japan. Using blog posts, Twitter, and other resources the “Tutteli to Japan” (TTJ) became a project to send Finnish milk formula to the

disaster-affected communities. The bulk supplies of milk were prepared for shipping, arranged as relief freight via Finnair, received and delivered by volunteers at Narita airport to another volunteer who drove it up to the disaster-affected communities. This whole process was carried out and coordinated online. The leaders’ personal blogs, TTJ Twitter, videoconferencing, and email were used for brainstorming, seeking assistance, and coordinating meetings. The volunteers in Japan were also coordinated online before the shipment took off. Updates on the Japan side were reported by the volunteers posting photos and messages on their blogs as well as by sending them via email to the leaders who then shared the updates on their own blogs.

3. SELECTED EPISODES

3.1 Typical reactions

The TTJ project started in a pre-existing blog of one Japanese expatriate housewife (Mrs. T) living in Finland. In the days after the disaster her posts followed a commonly recognized pattern, as the following extracts illustrate.

Dear all the people and families of Japan's earthquakes and tsunamis, I extend my sincere condolences over the thousands of lives lost.

The way I can get information coming out of Japan is LiveNews channel from Ustream, Twitter, other mass media news sources like Finnish and NHK World Channel.

But what is really happening to my mother country?

I still cannot believe what is going on there is for real.... What is really going on?

People far from the epicenter desperately want to know more about what is going on. They may be worried about loved ones directly affected, or they may feel a sense of solidarity and just need to know more. In this particular case, the author is thousands of miles away and feeling even more far from home at this moment of national crisis.

So how does one find out what is happening? What are the information sources being used? These kinds of questions are a staple of studies of more individualistic information seeking. In this case, the use of a blog serves as a place for personal reflection and also for a group of people to collectively share their concerns - almost more like an online forum as a kind of community-building. Additionally the blog enabled Mrs. T to share with

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others the informational resources she was using to learn about the disaster - a classic kind of CIS.

3.2 Be careful what you wish for

Mrs. T felt a special solidarity with the victims because she experienced the Kobe earthquake of 1995 and so has a particular understanding of what the current victims were going through. For example, in her first post reacting to the disaster, she wrote,

This is terrible! I'm so far away and yet I feel an emotional connection. I wish I could do something other than just praying and crying... but of course I can't.

This is a very typical kind of comment often found in response to disasters and not unique to the genre of blogging. It can be read as an articulation of empathy and powerlessness. (Note that these posts have been translated from the Japanese in a way to try and convey aspects of nuance and connotation that would be apparent to Japanese speakers but that get rather lost in a more literal translation.)

However this rather typical vague aspiration to do something, accompanied with an explicit acknowledgement of powerlessness then triggered a fascinating sequence of events. With the benefit of hindsight we choose to call it the start of our CIS analysis. But it is rather an odd starting point. It does not fit Shah's useful definition of collaboration as a "group of participants intentionally working together in an interactive manner for a common goal" [8 p.26]. It does not even begin with a proper information need. Just a wish. But wishes can be powerful things.

Four days later Mrs. T notes in her blog an idea that has emerged of sending a certain kind of baby milk:

In Finland, there is a formula in a carton packaged, ready to use without complicated preparation processes.

...

Can we send the Finnish formula to Japan?

We can not tell from the blog how this idea emerged, but the implication of the original Japanese is that it grew out of a discussion, using Twitter and perhaps other information channels (details we are still trying to clarify).

This milk is not powdered, so avoids concerns about local contaminated water supplies. The idea is taken up through the blog and Twitter as the core group of seven Japanese housewives in Finland try and decide what to do and how to do it. This involves fundraising, coordinating with organizations in Finland (Finnair, the milk suppliers, government bodies) and in Japan, including figuring out how to get the aid to the actual points of need. The first shipment of 2,000 cartons was sent within two weeks. Overall 12,000 milk cartons were delivered in six shipments. By any measure this was a significant achievement. But it is even more noteworthy that it was initiated by seven people with no experience of such organizing over great distance. In total the whole activity only seems to have involved 15 active participants including drivers. We are intrigued by how they managed to do it. It is a fascinating case study to analyze from the perspective of computer supported cooperative work. Clearly they were learning as they went along. And that in turn inevitably involved collaborative information seeking. We can identify many episodes of various kinds of collaborative information seeking, both computer supported and using more traditional resources.

At the same time we are finding it challenging to look at some of these activities from the CIS frameworks that we are familiar with

and that various researchers have articulated and clarified (e.g [8]). Some things fit the analytic categories very nicely and others don't. And yet we believe that for all the specialness of this particular setting, issues arise that may well play out in other settings. If we can get to grips with these issues from a CIS perspective, we believe that there may be a lot more CIS going on than we suspected, and the CIS has a lot more to contribute to understanding how groups organize, make use of information, and do various CSCW activities.

4. CIS ISSUES AND COMPLICATIONS

4.1 Interleaved information search and use

Unlike more straightforward CIS activities, the TTJ project tightly interleaves information seeking and working. This is not a case where the group identifies an information need, does some CIS activity to meet it, and then ends the CIS as they proceed to act informed by the information obtained. They are continually mixing up, finding out things, doing things, and then needing to find out more things. That can make categorizing particular actions as CIS or not rather tricky. The more we look, the more fuzzy it can get.

This interleaving of information seeking and work has been noted in other disaster contexts [3, 10]. Recent studies reveal that people coping with crisis and disastrous events turned to blogs and relevant social spaces, most likely to make sense of the evolving and uncertain situations [4].

The technologies used in TTJ were those that participants were familiar with. Generic tools like email, blogs and Twitter have been noted as CIS tools [7, 8]. It is a challenge to consider whether more purpose-build CIS tools would be worth the bother of using in cases of projects such as this where CIS micro-activities were tightly interwoven with other activities. When information search and information use are tightly integrated and especially when interwoven, the overhead of switching between special purpose applications must be carefully taken into account [2]. In a disaster setting it is also only to be expected that people will tend to improvise with tools they have to hand [5], rather than adopting and learning more powerful special purpose tools. In this case, the main participants were not advanced technical users, nor did they consider themselves innovators - although they did very innovative things with the simple tools they were already comfortable using [11].

4.2 Many different kinds of information

Initially there was no single information need. There was the rather vague aspiration to "do something". That wish initiated ideas for what could be done. Those ideas in turn initiated a need for a plan, which had substeps. There are categories of questions like "What shall we do?" as well those like "How do we do it?" as well as "Does anybody know ...?" Some are about looking up information that may exist somewhere. Others are more like collaborative brainstorming. Yet others are (or can be interpreted as) a call for volunteers to either provide information or to take action. That is, you can search for people to help you as well as search for facts. You may also need to search for processes (how to do things) and indeed technologies (the tools you use to do those things). A complex project like TTJ not only has many different information needs but many different kinds of them, some of which need to be tackled in parallel. We typically think of CIS as a great way to collectively solve one single complex information need. But it can also be useful when you have lots of information needs all at once.

For example, the idea of sending milk seemed so simple, but this 'solution' generated many more challenges of exactly how to do this. Discussions in Twitter explored the various subproblems and their different information needs, showing that the solution was getting more and more complicated. Mrs. T reported Twitter discussion in her blog:

Last night, when my brain was about to shut I tweeted something bold.

"Finnish milk formula. Why can someone higher up in the Government (Japanese) take action other than us so that the milk can be shipped in much bigger scale, in much much faster speed? How about I tweet to the President of Finland or Prime Minister of Japan, is it too wild/foolhardy/reckless/foolish? Y'all in Finland?"

...that's what I tweeted last night.

And then... less than a minute or so...many of my friends in Finland tweeted back...like

"That's what I was thinking too!"

"Do it do it! That's what the twitter is for!"

"Great idea!"

"Your action can make a difference!"/"You can rule the nation by the action!"

"Why don't you make a hashtag?"

4.3 Information enables action: action creates new information needs

Each subtask of a plan can create entirely different information needs such as: "How do we get the milk to Japan?" "Who should we ask at Finnair?" "How do we contact them?" "Are there rules about customs we need to know about?" "How do we raise the money needed?" "How do we get the milk from Tokyo's Narita airport to the point of need?" "Where exactly are we taking this milk to? What address?"

For example a local volunteer was willing to help, but had his own problem that needs to be solved:

If I can get gasoline I can help to deliver it myself...

The challenge in finding a driver to connect between Narita and the affected area forced them come up with more alternatives. One of them was to keep tweeting to influential people and government officials –something so peculiar to their self-image that they called it "being wild."

As another example, one of the leaders tweeted to provide additional information on the milk carton but noted she needed to do further research on the product:

@Fukuya_20CMD Our plan: for newborn (0-6mo) 500 (200 & 500 ml) for 6mo-12mo old 500 (each size) I will research on the actual size of the milk container! Thanks!

4.4 Information needs keep changing

Even a single information need can evolve. The situation on the ground at the disaster area may change, or an envisaged solution may not pan out. Keeping track of all the things going on can be very challenging, over and above coordinating collective activity around a single circumscribed information need.

Over time as the power blackout continued, and with growing concern over water contamination due to the Fukushima nuclear plants explosion the TTJ group discovered a critical information gap between the government knowledge and the actual condition.

From some sources of our own, this is what the Japanese government responded to the supplies of formula. "As for now, we have enough supplies of powder milk. Japanese baby milk companies are sending their powder formula to the affected areas for free."

However there was information about water contamination in the Tokyo area, quite a distance from the epicenter at Fukushima. Mrs. T blogged her frustration:

Even if there are enough supplies of powder milk, what if there are no WATER supplied?! What would the people have to do with the powder milk or what if the contamination is as bad as the news says!? Every mother just makes the powder milk with the contaminated water?! That's crazy. What is really going on?

This reinforced the desirability of safe nutritious baby formula:

All you need is just to tear it to open and you can drink it right away...

As a result the "wild idea" of reaching out to the Japanese government became impractical, and the TTJ shifted their focus more on the local. The task became to gather voices from the affected site.

4.5 Unknown unknowns: learning what you are doing as you go

We believe the issues noted above apply in many settings. They would certainly apply in many other disaster relief settings. An experienced disaster relief organization aiming to send aid to an affected site would have many similar information needs [1]. They too would need to find out more about the nature of the disaster, the local situation, the needs, the local resources, etc. They too would need to formulate a plan and act on it, dealing with contingencies as they arose. They too would be involved in a series of activities interleaving CIS into other activities, including many that can be considered as CSCW.

The TTJ project had an additional challenge. Mrs. T may have had experience of the Kobe earthquake, but neither she nor her friends were experts in disaster relief. That led to various additional kinds of information need that we do not think are typically explored. Certainly we had not considered them before encountering this case. The group was self-organizing, and had to figure out what to do as they went along.

That is, they had to create their processes and procedures on the fly, making it up as they went along. Naturally subsequent shipments were much easier to manage because they had evolved their procedures; they had learned how to do that part of the process. But how did they start, and how much of that discovery was building from scratch and how much about finding information about processes?

Given our point in section 4.3 that a sub-plan creates yet note information needs, a more experienced group is likely to know or suspect what those emergent needs are. If you are doing something for the first time, you don't even know what you don't know, and so often have to deal with emergent information needs at the point that they ... emerge. For example

What tons of truck size would work? Exactly from where to where?

The TTJ project is an extreme case of *Insufficient knowledge or skills* – one of Shah's four conditions under which collaborative information seeking is useful [8]. In this case not only do the team not know the information, or much about how to get it – they are initially unsure even about what they want to do or how to do it – the tasks that the information seeking will inform. The other three conditions also apply: common goal, complex task and high benefits to overload. However they seem to apply in different ways to other CIS settings we are familiar with. For example, certainly the top level task of getting aid to those in need is complex, but the individual CIS subtasks may not be. Few are like the medical information discovery tasks used in CIS. The complexity is in coordinating many CIS tasks and in making the action happen.

4.6 If everything is CIS does the concept diffuse into uselessness?

There is a distinct risk that by seeking to identify many different sub-activities in this TTJ project as CIS (and by extension doing something similar with other complex tasks) we make the CIS concept so broad that it becomes vacuous. Of course almost everything that people do involves information, and lots of what people do is collaborative. So slapping the CIS label on almost everything is tempting – but is it useful? In the case of TTJ we suspect that it is. It certainly cannot account for everything that happened because TTJ is not a pure CIS activity. But it seems suffused with CIS micro-episodes. We remain unsure how to deal with this analytically.

5. CONCLUSION

These are early days in our research, but we are finding that looking at the issues in this case from both a CSCW and a CIS perspective is productive, if also rather confusing. It is forcing us to reexamine what we mean by CIS and how it plays out in rather amorphous, ad hoc or messy settings. The fact that the TTJ project was in the process of coming into being meant that they had many different interrelated and constantly evolving information needs. The fact that they managed to get aid to the point of need can be seen as a success - they managed to "do something". But they had to both discover what to do, and how to do it as they went along. The group was self organizing and learning as they went. Necessarily there was a lot of information used. Given that they were novices at doing relief work, that information had to be sought, and there was a lot of collaboration in that seeking.

We feel that what we have seen so far does not all fit nicely into the categorizations and classifications of the CIS process (e.g. 8, 9). Nor does it fit completely with our own understanding of CIS over many years [6, 12, 13]. There clearly are features that fit very well. But the rest seems rather messy. We believe that this messiness can be productive to try and tidy up a bit.

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