Chapter 1
Six Issues in Which IS and CSCW Research Communities Differ

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Abstract Computer-Supported Collaborative Work (CSCW) has become increasingly positioned as a subfield of human-computer interaction (HCI). Earlier, CSCW has had a closer connection to the Information Systems (IS) field, but this relationship has seemed to become more distant. In this paper we reflect on the distinct characteristics of the research communities of CSCW and IS. We identify similarities, but also stark differences between the two. The six identified issues of difference are the roles of theory, context, methodology, organizational layer, socio-technicality, and power-alignment. Our contribution is in making these differences visible. We hope this paper will promote diplomacy and understanding between these research communities, so that scholars may consider cross-disciplinary IS-CSCW publication strategies.

1.1 Introduction

In its 30 years of history, Computer Supported Cooperative Work (CSCW) has been positioned in several different ways. First, it has been viewed as a unique, self-standing research community. Greif [1], who coined the CSCW moniker in mid-1980s, provided a vision for CSCW as "distinct from any of the fields on which it draws" (p. 9). Twenty-five years later, Schmidt and Bannon [2] assessed that CSCW had indeed become "an established field of research" (p. 345).

Another way of positioning has been the paradigmatic view. Here, CSCW is neither a discipline nor a field. Instead, CSCW is seen as tentacles spread in several existing fields simultaneously. In 1991, Hughes, Randall, and Shapiro [3] envisioned how "CSCW can be placed on the boundaries of computer science, sociology, organisational and management studies, perhaps even anthropology; not to mention older HCI concerns which already place it on the boundaries of psychology, linguistics and ergonomics" (p. 310). Similar view was held by Grudin in 1994 [4] (p. 25).

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The third position is to label CSCW as a subfield to human-computer interaction (HCI). This interpretation has seemed to become a dominant view during the last 15 years [5–7]. For instance, Rogers [8] has stated that HCI is now "generally accepted as the umbrella term" for various subfields, including CSCW (p. 2).

In this essay, we argue that CSCW and Information Systems (IS) have had a close relationship, but somehow the mutual comradeship has withered. Between these two communities, we identify common history and mutual interests. Our core message is that six differences separate these communities. However, once the differences are acknowledged, these can be bridged. We encourage agility between the communities, to make use of each other's findings, with researchers traveling back and forth.

This article is structured as follows. Section 1.2 presents methodological notes, in which we discuss the approach we took in this article. In Sect. 1.3 we discuss the common ground between the two. Subsequently, we elaborate on the six differences we have identified. We discuss the implications in Sect. 1.5, and finally conclude the article in Sect. 1.6.

1.2 Methodological Notes

This essay was initiated from our personal interest in trying to understand the European CSCW community in more depth. Both of us authors come from an Information Systems background. While we have read some CSCW studies, we had never participated in any CSCW forums. As we participated in the EUSSET CSCW Summer School in August 2015 in Como, Italy, we saw that as an opportunity to increase our own understanding of the positioning between the IS and CSCW communities. The foundation of this essay is the coursework that each of the summer school participants had to write. In this exercise, both of us authors chose to reflect on the differences we noticed between IS and CSCW based on the glimpse into the European CSCW field that we gained during the summer school.

Eventually, we realized this is a possibility to be develop a more carefully examined analysis of the two research communities. We started elaborating on our coursework and reviewed much literature. We figured out that if we write a publication out of this, others can read it. That way, this would not remain as our proprietary learning exercise. The present paper is a result of this process.

We acknowledge that our comparative discussion between the two research communities has required some stereotyping. Both of these research communities are quite large, have a long history, and have their internal tensions of what constitutes proper research and what does not. Our depictions of both of these communities thus reflect a *version* of them. Not everyone will agree with these versions we have offered. However, we think and hope that these characterizations will help both camps to understand the other's point of view. Additionally, we hope that our analysis will facilitate a fruitful discussion in and between both camps.

1.3 The Common Ground Between CSCW and IS

CSCW and IS had a close comradeship before the turn of the millennium. In this section we prove examples to demonstrate how several prominent researchers had a strong foothold in both camps. For example, Liam Bannon published his "CSCW: An Initial Exploration" article in the *Scandinavian Journal of Information Systems* in 1992 [9]. In that same year, Wanda Orlikowski won the best paper award at the CSCW conference with her paper *Learning from Notes* [10]. She later published that paper in *The Information Society* journal [11]. Star and Ruhleder published the initial version of "Steps Towards an Ecology of Infrastructure" in the CSCW conference [12]. Two years later in 1996, an improved version of that paper got published in *Information Systems Research* [13]. In early 1990s, Kalle Lyytinen was writing about CSCW topics in journals such as *Computer Supported Collaborative Work* [14] and in *Accounting*, *Management and Information Technologies* (now *Information and Organization*) [15]. Another prominent dual-contributing scholar was Rob Kling [16, 17]. Similarly in 1993, Heinz Klein – an influential IS scholar [18] – coauthored an article for the CSCW journal [19].

We could provide numerous other examples, but we think our point is made clear. IS and CSCW had close unity back then, and for good reasons. Both IS and CSCW emphasize the use of computer applications. In contrast to computer science, both share an interest on the *social* aspects related to technology. For instance, communication, cooperation, and coordination are mutually relevant keywords. However, there are areas in which IS and CSCW clearly differ. CSCW focuses, among other topics, on the integrity of work situations, mediation between tools, the worker, and the object of the work. IS has developed to focus on the macro level, on the organizational level, with less consideration for actual work processes, whereas CSCW specifically focuses on the moment-by-moment work processes [20].

One central uniting notion is *practice*. Many CSCW scholars consider 'practice' as a central concept in CSCW research [21, 22], and the CSCW journal nowadays wears the tagline "*The Journal of Collaborative Computing and Work Practices*". Similarly in IS, practice approaches have a long history and a strong position [23–26].

We have observed that several institutional developments have made these communities more distant from each other. For example, the ACM CSCW conference was rebranded as "CSCW and Social Computing" [27]. As a consequence, the conference attendance has grown tremendously, while at the same time it has assimilated a similar profile as many HCI conferences. Meanwhile in IS, from 2007 onwards the field has featured a shared journal publication standard of "basket of eight" e.g. [28]. Eight elite journals have become central in tenure and promotion decisions in the IS field [29]. As a consequence, there are now less incentives for IS researchers to publish outside these eight journals. As an additional example of this division, Group Support Systems (GSS) researchers had close ties with CSCW in the 1980s, but divergent views caused a chasm in early 1990s [30]. GSS later

transformed into an IS orientation called Collaboration Engineering [31]. In sum, many contributing factors have caused separation between IS and CSCW.

We will next discuss six areas of difference between IS and CSCW in more detail.

1.4 The Six Areas of Difference

In this section, we will present the six areas of difference between IS and CSCW research. These differences root in our observations during the EUSSET summer school, and in our reflections afterwards. We outline these differences with help of supporting literature from IS and CSCW.

1.4.1 Theory

The role of theory is a major difference between the two communities. IS is very theory-obsessed, and has been characterized to have a "theory fetish" [32]. The top journals in IS devote much space for conceptualizations of theory [33, 34]. For example, in a central IS design science article, Gregor and Jones [35] call for a "more rigorous" approach to design, aiming towards "cumulative design theory ... raising our discipline above the craft-level" (p. 331).

To us it seems that CSCW is perfectly happy with the craft-level, and is not concerned with high abstractions, and boxes and arrows. CSCW researchers are committed to the particular level instead of the abstract. Meanwhile, Seddon and Scheepers [36] outline how IS research "actually has very little interest in the samples studied, per se", but in "lessons that are applicable in other settings" (p. 6).

While IS has been questioned for its obsession with theory [32, 37], some commentators have seen CSCW as under-committed to theory [38]. Yet, as the 2004 CSCW theory panel [38] outlined, assessments of over/under-commitment depend on what is counted as theory. In addition, it also depends whether we are satisfied that theory works as a tool in a particular study, or if we also wish to work towards a cumulative theory that has been tested and had predictive power. The famous Kurt Lewin quote "nothing so practical as a good theory" is often quoted in these kinds of discourses, though the truth value of this anecdotal one-liner largely relies on what we mean with "practical", "good", and "theory" [39].

CSCW clearly puts more emphasis on descriptive accounts of how practice looks like in a specific context, without much attempt to generalize. In the information systems field there are numerous papers that are concerned with the nature of theory in IS (e.g., [33, 35]) and the development of theory in IS (e.g., [40, 41]). Meanwhile, the CSCW field has theoretical concepts that are applied in research. For instance, Blomberg and Karasti [42] conducted a literature review of 25 years of ethnography in CSCW. They identified the concepts of situated action, situated awareness, articulation work, invisible work, and so on.

One of the more widely used theories in CSCW is the activity theory [43, 44]. Activity theory is a descriptive framework, or a sensitizing lens, instead of a causal model. This theory helps consider the entire work and activity system beyond individual users. To us it seems that the key theoretical difference between IS and CSCW is the ideal of causality. This is strongly present in IS in statistical and theoretical causal models. In turn, Christensen and Bertelsen [45] recently argued that the CSCW view of causation concerns manipulation as accomplished in work practices. For instance in chemotherapy, manipulation of causal relationships occurs "between drugs and cancer cells in an effort to destroy the latter" (p. 168).

IS is fascinated with theorizing theory, for example through propositions of taxonomies [33, 46]. In the words of Kincheloe and Tobin [47], IS has adopted a somewhat "crypto-positivist" ethos, signaling the values of positivism in the post-positivist era. However, critique towards theory-obsession and lack of practical relevance has emerged in IS [37, 48]. Iivari [49] states that "the dominant research philosophy has been to develop cumulative, theory-based research to be able to make prescriptions. It seems that this 'theory-with-practical-implications' research strategy has seriously failed to produce results that are of real interest in practice." (p. 40)

One difference between CSCW and IS seems to be the role the existing body of knowledge and the type of contribution sought in the different disciplines. In IS one has to show the contribution by first arguing what the existing body of knowledge is (so, what is known so far about this), and how one's own research extends, confirms, and/or disputes previous findings. This requires one to be familiar with what has been done before, and implicitly assumes that what has been found before is also relevant and applicable to what one wants to study in a maybe different context (as studying the same thing in the same context is not seen to give new insights). Then, in order to show that one actually has made a contribution, the findings of one's own study have to be critically analyzed in the light of previous research, and it has to be clearly indicated how ones findings differ from or build on previous research and theory. New research has to be novel, and novelty can be shown towards the existing body of knowledge. In CSCW, however, the building on existing theory and findings seem to play a smaller role. Already in 1995, Plowman et al. [50] discussed "the tension between providing explanatory accounts and usable design recommendations" in workplace studies in the CSCW field. They discussed how many of the CSCW studies they reviewed did not offer clear design recommendations, thus not translating the descriptions of field studies into something that designers of IT systems could make use of.

1.4.2 Context

Related to the discussion of theory, we arrive to the topic of context. As mentioned in Sect. 1.2, IS research is seen to levitate in abstractions that are detached from any practical relevance. In European CSCW, the focus of interest seems to be on work

practices mostly in a very local context, on the micro-context, on body language, interaction order and the coordination of action. In IS research, the context often is somewhere in the background, not receiving much attention.

When reviewing previous research, we found support for this impression both in IS and CSCW research. In a recent IS paper by Davison and Martinsons [51], the authors problematize how IS research often falsely implies universalism, relies on convenient samples, or ignores indigenous constructs. As a solution, they call to pay more attention to the context at hand. On the other hand, Monteiro et al. [52] argue that CSCW is too focused on "localist studies" which are restricted to particular settings and timeframes. There are also several studies in the IS field where the context plays a strong role in the analysis of the results and development of implications. For example, work by Schultze [53] and Alvarez [54], provide thick descriptions of the study context. However, admittedly these are the exception, not the rule. The majority of IS research is rather detached, and prefers to employ survey research designs and large samples [55]. As such, the focus or non-focus on context is also strongly related to the prevalent research methods in the two research fields, where certain types of research methodologies on purpose abstract the context away (e.g., quantitative research), and other types of research methods put specific emphasis on the context (e.g., ethnography). We will discuss these research methods in more detail next.

1.4.3 Methodology

A clear difference between IS and CSCW research are the research methods employed. Many of the CSCW classics adopt ethnographic fieldwork as the preferred method [42]. The researchers are interested in how things actually work in the real world. In other words, the study concerns actual practices. In Information Systems there are fieldworkers as well, but they are in the minority. The IS mainstream – particularly in North America – is oriented towards quantitative variables-centric research that is based on survey responses. Ethnographic fieldwork can provide a deeper floor-level moment-by-moment insight of the role of technology in actual use settings.

This impression is supported when studying the CSCW and IS literature. Chen and Hirschheim [56] conducted a methodological examination of information systems research from 1991 to 2001. They studied eight major IS outlets and distinguished between positivist and interpretive research paradigms. They classified those studies as interpretive articles that do not involve any positivist indicators, no deterministic perspectives imposed by the researchers), where participants' perspectives are the primary sources of understanding and investigating the phenomena, and where the phenomena are examined with respect to cultural and contextual circumstances. Therefore, we see that interpretive studies in IS research are very close to the research methods preferred by CSCW research. In their analysis of IS outlets, Chen and Hirschheim [56] found that US outlets are dominated by positivist,

quantitative studies (58 % positivist vs. 7 % interpretive), whereas the difference in Europe is less striking (23 % positivist vs. 12 % interpretive). Later, Palvia et al. [55] conducted a meta-review of around 2400 papers published in 8 major IS journals between 2004 and 2013. They found that 72.3 % of the studies were positivist, and only 21.7 % were interpretive. Survey research was the dominating research methodology in IS research between 2004 and 2013.

In turn, Jacovi et al. [6] conducted a citation graph analysis of all papers published at the CSCW conference between 1986 and 2004. They wanted to find out which were the main topics or trends at the CSCW conference, and identified eight main clusters, each of which contained 5–83 papers. One of these smaller clusters (five papers) is "management of computing and information systems". On the other hand, the two biggest clusters, "theory and methods ethnography, user studies" (83 papers) and "computer science papers" (82 papers) represent the majority of CSCW papers.

In an interview Liam Bannon gave recently for the Italian *Tecnoscienza* journal [57], he commented on the "ecological validity" that is strong in ethnographic field studies. He argued for the importance to study "the world of work in which these systems are used" (p. 138). In his view, participatory design has become a somewhat devalued concept, seen as just people "participating in our surveys" (p. 143). Instead, Bannon called for an emphasis on the "very issue of participation: what do we mean by it, what are we participating in, and under what conditions?" (p. 146).

Generally, IS prefers a broader view and uses a lot of survey studies. Meanwhile, CSCW is adopting a deeper analytic interest in which surveys do not fit.

1.4.4 Organizational Layer

As mentioned in Sect. 1.3 when discussing the historical roots of IS and CSCW, one major difference between CSCW and IS research concerns the organizational layer that is studied. CSCW seems to focus on workers and work groups on the "end user" level. IS has been traditionally concerned with Management Information Systems, engaged with Chief Information Officers (CIOs) and Chief Executive Officers (CEOs), and is detached from the factory floor activities.

However, Neale et al. [58] point out that "the individual, group (team), organization, and industry are common levels of analysis for CSCW systems". One example for CSCWs interests in organization-level issues is Pipek and Wulf's [59] paper on Infrastructuring, where they look at organizational IT as work infrastructure and describe the challenges of designing within and for this type of infrastructure.

When talking about the organizational layer and focusing on different layers, it also implies looking at interdependencies from different perspectives. Both CSCW and IS look at interdependences. CSCW looks at interdependence of work (Schmidt and Bannon [60], p. 13): "at the core of this conception of cooperative work is the notion of interdependence in work". CSCW also focuses on interdependence

between single persons when doing the work, some examples being the application of conversion and interaction analysis, studying gestures and body configurations (e.g., [61]). This perspective was applied by, for example, by the CSCW senior scholar Ina Wagner. Analysis on this level is rather uncommon in IS research. On the other hand, also IS research look at interdependencies, but with a stronger focus on interdependencies between different organizations and departments: how do departments cooperate and how does an IT system support that (e.g., [62]), and how do different companies cooperate (and how do IT systems support that) (e.g., [63]).

Of course the difference between IS and CSCW research is not black and white. Some of the IS research also focuses on interdependence between different groups of workers (e.g., [64]), whereas we can also find examples of CSCW studies of cooperation and interdependence between different organizations. One such example is Pipek's [65–67] studies of a crisis management system prototype, which was built to help coordination in situations of crisis between different governmental organizations (e.g., firemen, police, hospital, etc.). Fitzpatrick and Ellingsen [68] argue that in the past 25 years of CSCW in healthcare, the majority design prototypes focused on smaller-scale interactions, which is problematic because also Western European healthcare-systems are moving towards large-scale integrated systems.

1.4.5 Socio-technicality

Even though both IS and CSCW research have a common interest in social aspects related to technology [20], there still exist differences in how both communities approach the issue. In the CSCW community, IS research is confronted with the critique that IS researchers tend to be oriented towards technological determinist thinking. In other words, that IS seems to assume that IT artifacts have certain consequences, and the role of users is just to "accept" technology. We somewhat agree that this tends to be the underlying assumption in much of the technology acceptance studies [69, 70]. CSCW research, on the other hand, is seen to emphasize that the user will use *local rationality* when using IT. The user will appropriate the IT artifact in a way that the artifact fits the actual practices of the user, or disregard the technology when it does not support local practices. When trying to pinpoint the difference between IS and CSCW concerning socio-technicality, which is rather difficult, we came to the conclusion that the main difference seems to be the way IS and CSCW look at the relationship between IT (systems) and humans. Here, we make a broad generalization of "what is seen as the problem" in each of these camps.

In CSCW, the attitude seems to be that the problem is in the technology, and therefore technology has to be developed in a way that supports the current work practices of real-life people. In IS, in contrast, a large stream of research seems to have the general attitude that the problem are the people who use IT systems,

and therefore we have to find out how to make people adapt to the IT. This point of view is also known in CSCW research. Ackerman [71] argues that this view of humans having to adapt themselves efficiently and effectively to the machine can be seen as new-Taylorism. A prime example for this view in the IS community is the technology acceptance model (TAM) [69]. TAM proposes that a technology's perceived usefulness and perceived ease of use positively affect attitude towards using the technology, which positively affects behavioral intention to use the technology, which in turn affects actual system use. In this line of research, the focus is on what things affect a person's behavior in an IT use setting. In addition, packaged software applications require the user to adapt to the system, as Strong and Volkoff [72] pointed out: "Packaged software applications such as enterprise systems are designed to support generic rather than specific requirements, and hence are likely to be an imperfect fit in any particular instance." However, also within the IS field there has been critique towards predictive models, particularly towards TAM (e.g., [73, 74]).

Ackerman [71] discusses the gap between social requirements and technical feasibility. He argues that much of CSCW research argued that one problem is that system designers do not sufficiently understand the social world. This is then taken as a reason for the fact that IT systems are not supporting real work efficiently. Cabitza and Simone [75] discuss computational coordination mechanisms and discuss the need for control the system keeps about how work is coordinated, versus the flexibility the system can give to the users in making adaptations of the system to their own needs, to create deviations from how the system designer originally intended the system to be used. They introduce seven levels of flexibility and argue that most systems combine several levels of flexibility in different parts of the system. Also Cabitza and Simone's [75] paper concerns this struggle between the user following exactly the work process the system has outlined, versus the system being adaptable to different users and different situations of use.

In summary, it seems that whereas IS has a focus on "processes will follow IT", CSCW puts more emphasis on "IT need to adapt to social practices".

1.4.6 Power-Alignment

> Those aspects of computer science that are concerned with designing systems for users have also an ideology of service: contributing to the capacity for creation and production (and sometimes – in terms of funding rather often – for destruction). For HCI such a notion is necessarily central. Sometimes that involves a more critical notion of service which is concerned about *who* benefits from systems and what uses they are put to; others are content to follow a market-led notion of utility. When systems seem to be failing, that is a problem for either version. (Hughes et al. [3], p. 317–318)

We have observed that the European CSCW community has a strong sensitivity to emancipatory and even contrarian discourses. Not only is CSCW research committed to issues of collaborative work, but it is also concerned with the *worker*.

We say this that much of CSCW research shares the acknowledgement that the worker – as the end user of technological systems in organizations – is much affected by those systems while often has little to say about the design and implications of the systems. This has been addressed especially in the participatory design angle of CSCW research, aiming to give users a *voice* in systems development projects.

In turn, IS research tends to be more conformist towards power [20]. Management Information Systems – as the field used to be called – traditionally takes an organization-level focus rather than that of the worker. As such, IS research tends to adopt the management's perspective. Competitive advantage and profit thinking is a major feature of IS research. In turn, this is fairly absent in CSCW research. Strategic thinking is also not present in CSCW research, while in IS research it is. There is, for example, a whole journal dedicated to strategy among the top 8 journals in the IS field – the *Journal of Strategic Information Systems*.

In Europe, IS is located in many kinds of faculties and schools (for example, engineering, information, social sciences, etc.), while in North America it is mostly within business schools. The institutional positioning of CSCW is trickier, as it is a smaller and more scattered movement. CSCW seems to be a loose network of intrinsically motivated scholars who have found unity with likeminded scholars. This unity seems to be founded partly on what CSCW is not. It seems that a driving force of CSCW has often been to act as an opposition to a common "enemy". For example, the social psychological experiment research in HCI seems to be one such target.

In addition, it seems CSCW scholars, and particularly those oriented towards activity theory, seem to be influenced by Marx. That is a rare source of inspiration in North American business schools where IS departments are located.

1.5 Discussion

In this paper, we have presented six aspects in which CSCW research and IS research differ. These six aspects are theory, context, methodology, organizational layer, socio-technicality, and power-alignment. While the presentation of these six issues has required some stereotyping – a necessary precondition needed in talking about a whole research community as a single unit –, we have grounded our arguments in examples from literature.

In this analysis, we have attempted to promote interdisciplinarity between IS and CSCW. Regardless of interdisciplinary intent, all research communities struggle to balance between two dynamics: how to strengthen its own identity, versus how to interact outside of its boundaries. In the contemporary academia where researchers are pressured to publish constantly, the first dynamic tends to get served rather than the second [76]. For example, Barley [77] recalled how he received early-career advice to "establish a solid stream of research that built on itself" (p. 67).

Alvesson and Sandberg [78] name this mindset as "boxed-in research", in which specialization in one topic, method, and/or theory, within a single research

community, is seen to provide the best ROI, return-on-investment. In a quest to serve a single audience with an abundance of "ROI-search" [79], research communities tend to become self-serving and inbred. Alvesson and Sandberg [78] present several guidelines for conducting and assessing box breaking research and present three possible versions of box-breaking research: box changing, box jumping, and box transcendence. We will discuss each of these versions in the light of differences between CSCW and IS research, and what each of these strategies would mean for a box-breaking CSCW researcher and a box-breaking IS researcher.

Box changing means that a researcher's primary reference point is a specific box, but that the box changer "reaches outwards for new ideas, theories or methods that can be used to change the box in some significant way." [78] For an IS researcher who would want to employ in box changing making use of CSCW, for example a focus on the specific work practices employed in the use of a specific MIS could be a possible approach. For a CSCW researcher, box changing could mean, for example, to write a meta-analysis of the research methods and paradigms prevalent in CSCW and publish is in a CSCW outlet. As we pointed out in Sect. 1.4.3, this type of studies is common in the IS field, but rather rare in the CSCW field.

Box jumping, on the other hand, means that a researcher is able to embrace a number of different research identities, and involves some significant thematic, methodological or theoretical variation. For a CSCW researcher, box jumping could mean, for example, that s/he conducts a positivist comparative case study, employing an ethnographic field study as data collection method, but trying to compare several different of these field studies to make some generalization. For an IS researcher it could mean to conduct an ethnographic field study on, for example, cooperative work activities between outsourcer and service provider. As Fitzpatrick and Ellingsen [68] argue, it would be important for CSCW to move into the direction of large-scale systems as well.

Box transcendence means that a researcher has a commitment to more than one box with distinct characteristics, and aims to make broader connections and framings of phenomena, opening up new ways of seeing things and acting. One way of achieving this in the context of IS and CSCW research could be to aim at the intersection between the management and user perspectives, which to date is largely missing in both IS and CSCW research. Let us take as an example a company that produces IT systems to support collaboration. From an IS perspective, the purpose is to deliver some added value to a customer (which in fact is the purpose of any business), and the focus might be on how to organize and manage the processes that enable the delivery of that added value. For CSCW, the focus in this example would be to design the system in a way so that it would support the collaboration practices of the workers, of those who actually use the system, in the best possible way. This, again, can be seen as the added value to the customer (or worker). Thus, both IS and CSCW actually look at the same thing (added value to the customer – and this customer can be the future user of the system), but from different perspectives. In order to be able to develop the system in a way that maximizes both the added value the customer will gain through the system and the profit the organization will gain with this system, it requires an understanding of

strategic/management/organizational requirements, user requirements, and system designer requirements. Thus, the focus of such box transcending research could be the intersection in which the management's strategy and requirements, and the work practices of those who actually develop and use the systems meet.

Another approach would be to choose a research topic that is common to both research communities. We now discuss two research themes that have strong foothold in both communities: *engaged research* and *information infrastructures*. These two topics are just some of the potential ones that are accepted among both fields. With engaged research, we refer to approaches in which the researcher has a proactive role in affecting change in a real-life context; for example, participatory design and action research. These approaches have a long history in Scandinavian research in IS [80, 81], as well as in CSCW [82], and is still a thriving research stream [83, 84]. Similarly, information infrastructures is a central topic in CSCW [85, 86] as well as in IS [87, 88]. The recent interest in *infrastructuring* originates from participatory design in CSCW [89, 90], and has informed recent research in top IS outlets [59, 91, 92]. We also note that infrastructure researchers at University of Oslo have been able to build a successful research stream that contributes in both communities [52, 88, 93].

Overall we feel that the differences between IS and CSCW are bigger in North America than what they are in Europe. The European IS community is well familiar with qualitative and interpretive research methods which take the context into account, even though the main source of data still seems to be interviews. The CSCW way of data collection and analysis is not as "strange" for European IS researchers as they most likely are for quantitative-oriented US researchers in the IS field. Our observation is also that the North American CSCW scene, particularly when observed from the studies published in the ACM CSCW conference, is more similar to those published in HCI venues such as the premier CHI conference.

In this paper, we have presented differences between IS and CSCW. In addition, we have provided examples of research that bridges gaps between IS and CSCW. We believe there is even more potential to combine "the best of both worlds", by building on research topics that are relevant in both research communities. Thus we encourage researchers to engage in both the IS and CSCW communities. In that task, we believe the identified six differences will be revelatory.

1.6 Conclusion

In this paper, we discussed similarities between IS and CSCW, but more importantly, six areas of difference between the two. We hope that this will help researchers in understanding the perspectives of both of these communities. The differences should not be barriers to participation, but seen as strengths of pluralism. These are the characteristics to be taken into account when making publication roadmaps, and drafting individual manuscripts. In such, this is a practical contribution that supports CSCW's foundational ethos of interdisciplinarity [3].

Finally, let's take a *railway station* metaphor to consider the positioning between an individual researcher and a research community. At first glance it seems that one can either enter a station, stay in it, or leave it. We suggest a fourth option: *scholarly commuting*. We encourage scholarly diplomacy and mutual informing. A win-win situation will be reached when researchers travel back and forth, in our case between IS and CSCW.

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