Engaged Scholarship in IS Research

The Scandinavian Case

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Abstract. Engaged scholarship (Van de Ven 2007) offers a grand opportunity to address key challenges within the Information Systems (IS) discipline in a novel and constructive way. To explore this opportunity, we adapt the principles of engaged scholarship and apply them to analyze Scandinavian IS research through the lens of *Scandinavian Journal of Information Systems* (SJIS). We consider the Scandinavian tradition based on review papers in SJIS; we review all research papers published in SJIS over the past 20 years; finally, we discuss the possible role of engaged scholarship in shaping the future of Scandinavian IS research. We conclude with implications of engaged scholarship for IS research and practice in general.

Keywords: Engaged scholarship, IS research, Scandinavian IS research.

1 Introduction

The Information Systems (IS) discipline faces a number of challenges. The field is in a state of transition and there are diverging views on which direction to take (King & Lyytinen 2006). Some scholars argue we need to focus on developing a unified core of concepts and theory thereby strengthening our position as a respected discipline. Others argue we should encourage diversity of frameworks and approaches and further develop our interaction with other disciplines. The IS field also continues to debate how to address the important relation between rigor and relevance in research (Benbasat & Zmud 1999; Davenport & Markus 1999). Scholars are in different ways involved in improving our research so it becomes more relevant to IS professionals without abandoning the rigor by which we conduct and publish research. Finally, scholars within our discipline continue to emphasize traditional classifications of IS research into positivist, interpretive, and critical (Klein & Meyers 1999). This is arguably not a very representative view of IS research practices and the distinctions often lead to unproductive discussions about how best to move the field forward (Weber 2004).

Engaged scholarship as presented by Van de Ven (2007) offers a new and refreshing view of organizational and social research. His basic assumption is that academic and professional knowledge represent very different, but related domains. Moving beyond the simplistic notion that research knowledge is generated in the lab and then packaged and diffused into practice, Van de Ven adopts an interactional view in which professional and research practices contribute to each other's growth through different types of activity. Embracing qualitative as well as quantitative methods and promoting process studies as well as variance studies, engaged scholarship offers opportunities to transcend the traditional dichotomies of core versus diversity, rigor versus relevance, and positivist versus interpretive.

In this paper, we explore this opportunity by applying the principles of engaged scholarship to analyze Scandinavian IS research through the lens of *Scandinavian Journal of Information Systems* (SJIS). We start by presenting Van de Ven's framework (2007). Next, we consider the Scandinavian IS research tradition through two reviews published in SJIS (Bansler 1989; Iivari & Lyytinen 1998) and we review all research papers published in SJIS over the past 20 years. On that basis, we discuss the past and future role of engaged scholarship in shaping Scandinavian IS research. We conclude with implications of engaged scholarship for IS research and practice in general.

2   Engaged Scholarship

Van de Ven (2007) focuses on scholars in professional schools, such as business, engineering, medicine, and law. IS scholars fall in that category, whether they work in business schools, in schools of computer science, or in one of the recent multi-disciplinary IT schools. A central mission of scholars in professional schools is to conduct research that advances science while at the same time enlightening professional practices. However, many professionals fail to adopt relevant research findings within their discipline and much of published research "is not contributing in intended ways to either science or practice" (Van de Ven 2007, p. 2).

The resulting theory-practice gap in professional disciplines can to some extent be addressed by more effectively translating and communicating scientific knowledge to practicing professionals. There are, however, major differences between scientific and practical knowledge as expressed in Aristotle's distinction between episteme (basic knowledge in the pursuit of theoretical or analytical questions) and techne (applied technical knowledge of instrumental or means-end rationality); in Schön's (1983) distinction between knowing-about-practice and knowing-in-practice; and, in Polanyi's (1967) distinction between explicit and tacit knowledge. Practical knowledge is not simply a derivative of scientific knowledge. Instead, it is a distinct form of knowledge that together with scientific knowledge constitutes the foundation of a professional discipline (Kondrat 1992, p. 239). Based on this understanding, the challenge for scholars is not only to improve knowledge transfer from theory towards practice. More importantly, scholars need to develop and exploit new forms of knowledge production that facilitate and leverage interactions between practice and theory to develop scientific as well as practical knowledge.

Engaged scholarship is an approach to research that accepts this challenge. Van de Ven defines engaged scholarship as "a participative form of research for obtaining the different perspectives of key stakeholders (researchers, users, clients, sponsors, and practitioners) in studying complex problems" (2007, p. 9). Moreover, he defines four different forms of engaged scholarship: *informed basic research* that is undertaken to describe, explain, or predict a social phenomenon; *collaborative basic research* is similar to informed basic research, but it entails a greater sharing of power and participation between researchers and stakeholders; *design and evaluation research* focuses on normative knowledge related to design and evaluation of policies, programs, and models for solving practical problems within a profession; and, *action research* applies intervention to address a problem of a specific client while at the same time contributing to academic knowledge.

The degree of collaboration with stakeholders is indeed an important distinguishing feature of IS research; however, variation in stakeholder collaboration does not only help distinguish different forms of 'basic research', it applies equally well to distinguishing forms of 'design and evaluation research' and 'action research'. A similar, but simpler way to classify forms of engaged scholarship within IS research can therefore be based on their underlying knowledge interests (Mathiassen 2002a):

1. Practice research: focuses on *understanding* IS practices with the purpose of informing or advising relevant stakeholders.

2. Design research: focuses on *designing* various forms of artefacts with the purpose of supporting stakeholders engaged in IS practices.

3. Action research: focuses on *changing* IS practices through problem solving in response to specific client needs.

In the following, we apply the notion of engaged scholarship and the two different classifications of forms of engaged scholarship to Scandinavian IS research. Our overall objectives are to provide new insights into the traditions and possible future of Scandinavian IS research and to explore what we can learn from considering IS research through the lens of engaged scholarship.

3 Scandinavian Tradition

Bansler (1989) offers an analysis of the roots of Scandinavian IS research. He identifies three major traditions that were based on quite different objectives, assumptions, and theoretical foundations. The *system theoretical* school viewed the use of IT in organizations from an economic point of view. The objective was to increase the efficiency and effectiveness of processes enabled by IT. This school dates back to the 60'ies, a period with strong confidence in science and technology as enablers of progress. Börje Langefors played a major role in founding this tradition by offering a theoretical foundation for information systems (1966). His theories were applied in the project Information Systems for Administrative Control (ISAC) carried in close collaboration with private companies. The project led to a number of methods for systems development and information modelling, e.g., (Lundeberg & Andersen 1974; Lundeberg et al. 1978; Bubenko 1980; Goldkuhl 1984).

The *socio-technical school* was concerned with socio-psychological problems caused by neglect of human factors in systems design. The objective was to simultaneously improve job satisfaction and productivity by paying attention to human needs in systems development and implementation. During the late 60'ies and

early 70'ies, introduction of payroll systems, accounting systems, inventory control systems, and systems for production control led to changes in organizational structures and individual jobs. Founded in traditions from the Tavistock Institute of Human Relations and inspired by the early work of Enid Mumford (Mumford & Ward 1968), several Scandinavian researchers engaged in socio-technical studies of organizational use of IT (Høyer 1971; Bjørn-Andersen & Hedberg 1977; Borum 1977; Nurminen 1988; Olerup 1989). A main thrust in this line of research was to engage in collaboration with various groups of employees and to promote their active participation in IS development and implementation. The aim was to build stronger commitment towards change while at the same time allowing detailed knowledge about current processes to impact the change process.

The *critical school* focused on the relationship between work place democracy and the use of IT. The objective was to strengthen the knowledge and position of employees and unions vis-à-vis managers and business owners. In 1971, Kristen Nygaard and Olav Bergo (1975) engaged in close collaboration with leading trade unions in Norway emphasizing how local unions could influence the use of IT within organizations. Based on action research, this collaboration developed knowledge about the impact of IT on organizations and power relationships, it developed handbooks to train shop stewards in how to influence the use of IT, and it negotiated the first data agreements between unions and the employers' associations. The Norwegian trade union project led to a number of similar research engagements throughout Scandinavia (Sandberg 1979; Kyng & Mathiassen 1982; Ehn & Sandberg 1983; Bjerknes et al. 1987). A main assumption in this line of research was that employees and employers had different and conflicting interests in how IT should be used in organizations and the researchers engaged in activities to increase the knowledge base and power of local trade unions.

Iivari & Lyytinen (1998) offers a more recent and comprehensive review of how the Scandinavian research tradition grew and diversified. Eventually, this review revealed a "plurality in theories, research approaches, topics and outcomes which is unparalleled by any area of similar size and population" (1998, p. 135). Iivari & Lyytinen identified eight major approaches to IS research: (1) *object-oriented approach* (Dahl & Nygaard 1966; Jacobsson 1987); (2) *formal approach* (Bubenko 1980; Sølvberg & Kung 1986; Kelly et al. 1996); (3) *socio-cybernetic approach* (Kerola & Järvinen 1975; Iivari 1983; Iivari & Koskela 1987); (4) *infological approach* (Langefors 1966; Lundeberg & Andersen 1974; Lundeberg et al. 1978); (5) *language action approach* (Goldkuhl & Lyytinen 1982; Lehtinen & Lyytinen 1986); (6) *socio-technical approach* (Høyer 1971; Bjørn-Andersen & Hedberg 1977; Borum 1977; Olerup 1989); (7) *trade-unionist approach* (Nygaard & Bergo 1975; Sandberg 1979; Kyng & Mathiassen 1982; Ehn & Sandberg 1983; Bjerknes

& Bratteteig 1995); and *professional work practice approach* (Andersen et al. 1990; Mathiassen et al. 1993, 1995; Mathiassen 1998).

Admittedly, both accounts (Bansler 1989; Iivari & Lyytinen 1998) focus on Scandinavian systems development research. However, systems development is the major professional IS practice and it has been the major driver of Scandinavian IS research. The considered research is therefore arguably representative for major trends. Two interesting observations can be made when considering these accounts of Scandinavian IS research through the lens of engaged scholarship. First, all of the provided exemplars of Scandinavian research are rooted in engaged scholarship: the considered research involves close collaboration with relevant stakeholders, be it IT-adopting organizations, software firms, trade unions, managers, users, or software developers; many of the publications are books written with the specific purpose of offering practically useful knowledge for professional practice; and, the starting point of the research was typically experienced practical problems related to use and development of IT in organizational contexts. Second, these early research traditions represent a variety of approaches to engaged scholarship. Much of the presented research is, of course, driven by multiple knowledge interests, but Table 1 provides an overview of the Scandinavian traditions categorized according to their main knowledge interest. This summary shows that all three forms of engaged scholarship are well represented in the Scandinavian IS research tradition.

	Practice research	*Design research*	*Action research*
Bansler (1989)	Socio-technical school	System theoretical school	Critical school
Iivari & Lyytinen (1998)	Socio-technical approach Language action approach	Object-oriented approach Formal approach Socio-cybernetic approach Infological approach	Trade-unionist approach Professional work practice approach

Table 1: Engaged scholarship in the Scandinavian IS research tradition

4 Scandinavian Journal

To further analyze the role of engaged scholarship in Scandinavian IS research, we reviewed all papers published in SJIS over the past 20 years. While the idea behind engaged scholarship may have been present in the Scandinavian IS research community for many years, the term 'engaged scholarship' is new. We therefore started out with Van de Ven's notion (2007) and applied it to classify all straightforward

cases, and then iteratively refining the inclusion criterion when papers became more difficult to classify. When all papers had been considered, we re-classified the whole set of research papers based on the refined understanding of engaged scholarship.

There are 208 papers published in SJIS from 1989 to 2008, several of these are commentaries and debate papers. A few debate papers are as long and detailed as research papers, but we found none of these to be expressions of engaged scholarship. We read each of the remaining 130 research papers carefully and assessed them based on the refined inclusion criterion. To what extent a paper represented engaged scholarship could rarely be determined from the abstract alone. We also studied the details of research method, data collection and data analysis, and also looked into the explication and discussion of research contribution. As a result, we identified a total of 44 research papers as expressions of engaged scholarship. Table 2 shows the engaged scholarship papers in four 5-year periods.

	Research papers	*Papers based on engaged scholarship*
1989-1993	33	9, i.e., 27% (Ehn 1989; Hellman 1989) (Grønbæk 1990) (Trigg et al. 1991) (Bjerknes 1992; Borum 1992; Pries-Heje 1992; Stolterman 1992) (Thomsen 1993)
1994-1998	32	10, i.e., 31% (Bødker & Kensing 1994; Kautz & McMaster 1994) (Bjerknes & Bratteteig 1995; Carstensen et al. 1995) (Bardram 1996; Näslund 1996) (Sandahl & Jenssen 1997) (Kyng 1998; Mathiassen 1998)
1999-2003	36	13, i.e., 36% (Ljungberg 1999; Simonsen 1999) (Nielsen & Nørbjerg 2001; Pilemalm et al. 2001; Pourkomeylian 2001) (Dahlberg et al. 2002; Henriksen 2002; Lindgren & Stenmark 2002; Mathiassen 2002b; Winthereik et al. 2002)
2004-2008	29	12 (41%) (Bansler & Havn 2004; Bødker et al. 2004) (Henriksen & Mahnke 2005; Imsland & Sahay 2005; Lines 2005; Ovaska et al. 2005; Rose & Sæbø 2005) (Bjørn et al. 2006; Holmström & Henfridsson 2006; Munkvold et al. 2006) (Hardless et al. 2007) (Østerlund 2008)
Total	130	44 (34%)

Table 2: Engaged scholarship papers published in SJIS

The 44 papers of engaged scholarship represent 34% of all published research papers in SJIS. The variation over the 20 year period is small, with a gradual increase from 27% to 41%. A typical engaged scholarship paper in the period 1989-1993 is (Bjerknes 1992)—an empirical examination of the dialectics between different stakeholders' perceptions of the development and use of information systems. A typical paper during the second period is (Bødker & Kensing 1994)—an empirical study of collaborative design of computer-based support for an organisation with contributions to design of information systems. The third period shows (Lindgren & Stenmark 2002) as a typical example of engaged scholarship—a longitudinal study of collaboration with two organisations based on interviews, prototyping, and evaluation in which they arrive at principles for designing competence systems. In the fourth period, (Østerlund 2008) is a typical engaged scholarship paper—a longitudinal study employing participant observation in a hospital ward demonstrating why and how genre materiality is an important perspective for information systems designers.

We have classified these 44 engaged scholarship papers according to Van de Ven's (2007) two dimensionsional understanding of different forms, see Table 3. Along one dimension, the purpose of the paper is considered as describe and explain or as design and control. Along the other dimension, the adopted research perspective of the paper is considered as detached and external or as attached and internal. We found it easy to classify the papers according to research purpose. The papers typically explicate the purpose up front and provide further evidence in their explanation and discussion of research contribution. For the 23 papers classified as design-control it was again relatively easy to assess whether they had applied design science or action research, in particular taking into account Van de Ven's explanation of design science as "undertaken to examine normative questions dealing with the design and evaluation of policies, programs, or models for solving practical problems of a profession in question" (2007, p. 27) and action research as "a clinical intervention approach to diagnose and treat a problem of a specific client" (2007, p. 28). For example, (Rose & Sæbø 2005) is classified as design science because the contribution is a set of design principles for particular web services; in contrast, (Pourkomeylian 2001) is classified as action research because it represents research into the author's own company and the contribution is a reflection on his experiences solving the company's problems with software processes.

For the 21 papers classified as describe-explain, the second distinction was much more difficult to apply. Van de Ven explains informed basic research as "undertaken to describe, explain, or predict a social phenomenon" while collaborative basic research "entails a greater sharing of power and activities among researchers and stakeholders than informed research" (2007, p. 27). However, we found the most operational criterion to be whether the research perspective was detached-external

	Describe and explain	*Design and control*
Detached and external	**Informed Basic Research** (Ehn 1989; Hellman 1989) (Borum 1992; Pries-Heje 1992; Stolterman 1992) (Bjerknes & Bratteteig 1995) (Winthereik et al. 2002) (Henriksen & Mahnke 2005; Imsland & Sahay 2005; Lines 2005; Ovaska et al. 2005) Holmström & Henfridsson 2006) (Østerlund 2008)	**Design/Evaluation Research** (Grønbæk 1990) (Trigg et al. 1991) (Kristoffersen & Ljungberg 1997) (Kyng 1998) (Pilemalm et al. 2001) (Dahlberg et al. 2002) (Ellingsen 2003) (Rose & Sæbø 2005)
Attached and internal	**Collaborative Basic Research** (Bjerknes 1992) (Kautz & McMaster 1994) (Carstensen et al. 1995) (Näslund 1996) (Henriksen 2002) (Frederiksen & Rose 2003; Sahay 2003) (Bansler & Havn 2004)	**Action/Intervention Research** (Thomsen 1993) (Bødker & Kensing 1994) (Bardram 1996) (Kristoffersen & Ljungberg 1997; Sandahl & Jenssen 1997) (Mathiassen 1998) (Ljungberg 1999; Simonsen 1999) (Nielsen & Nørbjerg 2001; Pourkomeylian 2001) (Lindgren & Stenmark 2002; Mathiassen 2002b) (Bødker et al. 2004) (Bjørn et al. 2006; Munkvold et al. 2006) (Hardless et al. 2007)

Table 3: Four types of engaged scholarship papers published in SJIS

or attached-internal. Very often, papers were (surprisingly) unclear on this issue and we had to carefully analyze how data was collected and in particular how data was analysed and validated. The paper (Carstensen et al. 1995) was taken to be collaborative basic research because Carstensen and his colleagues went through an elaborate process of collecting data from different stakeholders in a particular company and later went back to the same stakeholders for validation of their analysis and findings. In contrast, (Stolterman 1992) studied design processes from the outside and across several organisations; thus it was classified as informed basic research.

In a simple quantitative analysis of correlations between applied form of engaged scholarship and considered period, the statistics show that the hypothesis "form is independent of period" cannot be rejected. The probability in support of this hypothesis in a χ^2 distribution is 0.22, well above the required $\alpha = 0.05$. Hence,

there is not simple pattern that explains the frequencies of the four forms of engaged scholarship over the four time periods.

5 Discussion

Scandinavian IS research is to a large degree representative of engaged scholarship. The reviews of Scandinavian IS research published in SJIS and our review of the 130 research papers published over the past 20 years in SJIS show a strong component of engaged scholarship that even is increasing gradually. There are historical reasons why such an impetus has been present in this particular research community. Strong commitments to trade unions, a serious concern for the impact of information technology on work design, and a drive towards understanding and developing information systems for practical use have sparked engaged practices and a considerable variety of knowledge interests as documented in Iivari & Lyytinen's eight different approaches to Scandinavian IS research (Iivari & Lyytinen 1998). Interestingly, it was difficult to find documentation of the consequences this has had on the research design of the published papers. The adherence to the values and principles of engaged scholarship was only in a few cases well explained and developed in the papers. Scandinavian IS researchers may be well advised to describe better in the future how they relate a concern for research and a concern for practice, both in the adopted research methods and in the contributions to the IS discipline.

Even more of the papers published in SJIS may have been guided by values and principles that are close to engaged scholarship. While we classified two thirds of the 130 research papers in SJIS as not representing engaged scholarship, some of these lacked proper descriptions of how the researchers had involved stakeholders, and other papers were unclear on data sources and data collection methods. However, many of the papers which were not classified as representing engaged scholarship are theoretical or conceptual in nature and have no empirical analysis or foundation, e.g., (Bansler 1989; Andersen 1992; Bannon 1993; Tolvanen & Lyytinen 1993; Hanseth & Monteiro 1994; Greenbaum 1996; Ljungberg & Holm 1996; Iivari & Lyytinen 1998)—and they emphasize that good IS research do not have to be engaged.

Scandinavian IS research has traditionally not distinguished between the two types of basic research in (Van de Ven 2007): informed basic research and collaborative basic research. This is reflected in (Mathiassen 1998, 2002a, b) where they are taken together under the heading of practice research. It is also apparent from our review of 20 years of SJIS papers that this distinction was difficult to apply to the considered papers. This might represent a missed opportunity for Scandinavian IS

researchers to more carefully consider and explicate the nature of their collaboration with relevant stakeholders.

There are also interesting examples of how papers were classified in Table 4, following Van de Ven's (2007) four forms, and how these papers arguably relate the eight Scandinavian IS research traditions in Table 2, following (Iivari & Lyytinen 1998). (Ehn 1989) belong to the trade-unionist approach in Table 2 (thus suggesting an action research approach), but was classified as informed basic research in Table 4; (Bjerknes 1992) belongs to the professional work practice approach in Table 2, but was classified as collaborative basic research in Table 4; (Kyng 1998) belongs to the trade-unionist approach in Table 2, but was classified as design research in Table 4; and, (Lindgren & Stenmark 2002) belongs to the socio-technical approach in Table 2, but was classified as action research in Table 4. These discrepancies between the perceived and espoused research approaches underpinning some Scandinavian IS research suggest researchers could improve their explanation of the assumptions and approaches underlying their approach to engaged scholarship.

What can these insights bring to the future? Scandinavian IS research has a strong tradition and growing interest in engaged scholarship. This is well in line with the trend of Scandinavian research funding bodies to push researchers towards committed involvement with public agencies, private companies, and society at large. It has therefore become increasingly important for researchers to explain why a particular piece of research is relevant for practice. As a consequence, we should as Scandinavian IS researchers build on our strengths and further develop our ability to describe why and how we employ engaged scholarship. This is particularly important as there appear to be counter forces through which we might be seriously weakening the privileged status that engaged scholarship has had in Scandinavia so far.

First, there is a strong push across Scandinavia to publish in journals at the expense of other outlets. To prioritize high level journal publication over workshops, seminars, and conferences is, of course, a sign of strength and not in itself in contradiction with engaged scholarship. There is, however, a continued strong need to communicate to and with professional practitioners within our field. In response to this need, Scandinavian IS researchers traditionally published a considerable number of academic books for professional practitioners and these books are in many cases established as the primary references to the particular line of engaged scholarship. In fact, the eight approaches to Scandinavian IS research documented in (Iivari & Lyytinen, 1998) are *mainly* documented through books, see Table 2, and these have in many cases had considerable impact on professional practice and on education of future practitioners. There is little doubt that much fewer academic books have been published lately because journal papers increasingly are considered more important. If we continue to de-emphasize academic books for practitioners, engaged scholarship will undoubtedly suffer.

Second, Scandinavian IS researchers are increasingly becoming involved in international research communities with their own publication traditions, reviewing criteria, and strong focus on promotion and tenure practices different from those traditionally found in Scandinavia. If we are not sufficiently aware of the impacts of this trend, there is a considerable risk that we more strongly adopt publication practices from international journals with little emphasis on engaged scholarship.

6 Implications

Van de Ven's framework of engaged scholarship (2007) applies well to characterize major traditions and trends in Scandinavian IS research. Our analyses also suggest the framework has wider application to the challenges we face within the IS discipline at large. The principles underpinning engaged scholarship and the insights provided from our analyses of Scandinavian IS research suggest: we should continue to embrace and encourage diversity of frameworks and approaches (King & Lyytinen 2006); we should continue to further emphasize the relevance of our research for professional practice without abandoning the rigor of our research approaches (Benbasat & Zmud 1999; Davenport & Markus 1999); and, we should move beyond traditional classifications of IS research into positivist, interpretive, and critical (Weber 2004) and instead promote engaged scholarship as a unified and diverse approach to strengthening our position within the IS profession and society at large. In doing so, IS researchers are encouraged to:

- Consistently address a concern for research as well as a concern for practice and detail how they relate the two in the adopted research methods and the provided research contributions.

- Explicitly state what type of engaged scholarship they pursue in a particular research paper and how that translates into a detailed research design that facilitates subsequent evaluation of research contributions.

- Carefully consider how to combine research papers for fellow researchers and books and practitioner papers for other stakeholders (practitioners, users, clients, managers, customers, and politicians) to help move the IS discipline forward and improve the position of academic research within the IS discipline at large.

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