

Scandinavian Journal of Information Systems

Volume 9 | Issue 1

Article 6

1997

Beyond the Common-Sense of Practice: A Case for Organizational Informatics

Ola Henfridsson

Umeå University, ola.henfridsson@wbs.ac.uk

Jonny Holmström

Umeå University, jhstrom@informatik.umu.se

Anders Söderholm

Umeå University, anders.soderholm@fek.umu.se

Follow this and additional works at: <http://aisel.aisnet.org/sjis>

Recommended Citation

Henfridsson, Ola; Holmström, Jonny; and Söderholm, Anders (1997) "Beyond the Common-Sense of Practice: A Case for Organizational Informatics," *Scandinavian Journal of Information Systems*: Vol. 9 : Iss. 1 , Article 6.

Available at: <http://aisel.aisnet.org/sjis/vol9/iss1/6>

This material is brought to you by the Journals at AIS Electronic Library (AISeL). It has been accepted for inclusion in Scandinavian Journal of Information Systems by an authorized administrator of AIS Electronic Library (AISeL). For more information, please contact elibrary@aisnet.org.

Beyond the Common-Sense of Practice: A Case for Organizational Informatics

Ola Henfridsson¹, Jonny Holmström¹ & Anders Söderholm²

¹Department of informatics, Umeå University, S-901 87 Umeå, Sweden
ohson@informatik.umu.se, jhstrom@informatik.umu.se

²Department of Business Administration, Umeå Business School
S-901 87 Umeå, Sweden
anders.soderholm@fek.umu.se

1. The Practitioner-Oriented in Scandinavian IS Research

Why are organizational theories so rarely used in Scandinavian IS research? Is it because the authors are ignorant? Or is it because they think they have no use for those theories? In our opinion, the reason for ignoring organizational theories tends to be the heavy orientation towards the problems of certain practitioners (see also, e.g., Stolterman 1995). Being practitioner-oriented, and because practitioners are action-oriented, research considers only some of the many aspects of organizational life. In fact, the lack of organizational theories in Scandinavian IS research seems to be a deliberate strategy.

Recently, *organizational informatics* has been put forward as an attempt to articulate and focus a stream of research on

IT and its social dimensions. The term denotes a field which studies the development and use of computerized information systems and communication systems in organizations (Kling 1993). Of course, the notion of organizational informatics as a body of research depends on our ability as IS researchers to distinguish the organization from other potential contexts. This distinction is important, not only to avoid imprecision and analytical vagueness, but also to legitimize the organization as an important context for IS research.

In our opinion, the Scandinavian IS community—with much experience in dealing with contextual issues of IT—is well prepared, not only to fill organizational informatics with content, but also to contribute to the improvement of its foundations. However, this opinion relies on the hope that the Scandinavian IS

community will be able to complement its contextual experience with organizational theories. This is *not* to say, however, that we are advocating some sort of management perspective, but rather an improved understanding of the organization as a context, whoever our clients may be.

Indeed, our review¹ of all 53 articles published since the establishment of the *Scandinavian Journal of Information Systems* (SJIS) in 1989 confirms an optimistic impression of the Scandinavian IS community's ability to contribute to organizational informatics through its experience with contextual aspects in general. However, it also highlights a great deal of confusion about the notion of organization as it is understood today. Instead of being used as a contextualizing theoretical concept, the notion of organization is inflated through overuse. Organizational issues, organizational settings and organizational contexts are widely referred to, but are generally dealt with in a common-sense way. This is a serious problem. We argue that it is important to increase our level of professionalism by better articulating the objects of study as theoretical constructs.

2. In Search for an Organizational Informatics

Many researchers consider "IS in the organization" as their object of study. In fact, the organizational domain is the largest domain in the SJIS (Henfridsson, Holmström and Söderholm 1997, p. 136-139). Of a total of 53 articles published in the SJIS, 18 were found to address the organization as their context. In light of this finding, there is little doubt that the

organization is widely considered as the context for Scandinavian IS research.² But organizational concepts are often used—in contrast with the theoretical grounds required by an organizational informatics—in a common-sense way.

Most organization scholars (yes, this is a simplification to facilitate the general discussion sought here) would agree that organizations are composed of individuals, performing activities (more or less goal-oriented) and thus interacting with each other, within a framework of organizational routines and norms, and with a number of dependencies on other organizations, individuals or environment in general (e.g., see Leavitt 1965). Scott claims that "organizations encompass generic social processes but carry them out by means of distinctive structural arrangements" (Scott 1992, p. 26; see also Silverman 1970, Giddens 1976). Organizations thus have both structural and behavioral properties.

Structural properties of an organization include size, number of hierarchical levels, division of labor through functional units, division of responsibilities, etc. Structure can vary from different entrepreneurial forms to more bureaucratic forms, depending on structural properties (see Mintzberg 1983). Also, as suggested by contingency theory, structure is dependent on environmental pressures (Donaldson 1985) to the extent that some structures may be more suitable to certain environments.

Behavior represents another, complementary, way of defining organizational characteristics. This definition traditionally focuses on decision procedures (March 1988) and investigates different behavioral principles. A traditional organizational theorist would claim that or-

ganizational structure is a consequence of deliberate choices by managers, stakeholders, or owners (see Abrahamsson 1993). However, behavioral theories of the firm (Cyert & March 1963) clearly show that rationality is limited; behavior is opportunistic (Williamson 1975); behavior is path-dependent or rooted in the past; organizational procedures are sometimes only loosely connected (Weick 1976); and decision making sometimes arbitrary (Cohen *et al.* 1972), and more commonly done according to appropriate rules rather than rational considerations (Powell & DiMaggio 1991, Brunsson & Olsen 1993).

Organizations also belong to more general contexts or environments. Many organizational theories elaborate on the organizational-environment connections or inter-organizational relationships. Network theory, transaction cost economics and organizational economics (see e.g. Williamson & Winter 1993), institutional theory (Scott 1995), organizational ecology (Hannan & Freeman 1989), and resource dependency theory (Pfeffer & Salancik 1978) are only a few of these theories.

What about the articles published in the SJIS, then? What notions of organization can be found in them? Before answering those questions, we should acknowledge that the SJIS articles published go far beyond the instrumental views of organizations that are found in certain other forums. They do not, for instance, hold or imply a view that treats organizational structure as a consequence of deliberate choices by various stakeholders. Instead, they tend to focus, often in a sophisticated way, on the social context of IS. This context is not al-

ways—as it is claimed—the organization.

3. Articles Considering the Organization as Structure and Behavior

We have identified three articles that consider structural as well as behavioral dimensions of organizations. Karsten (1995) sets out to explore variation in individual interpretations of groupware. She draws on Giddens' structuration theory (1979, 1984), which embraces behavioral as well as structural dimensions of human interaction, to provide "organizational readings of Lotus Notes". Here the individual action and the experience of the individual actor are analyzed in light of the influence that institutionalized properties have. Indeed, Karsten manages to integrate institutional properties with human action to 'read' the use of groupware technology quite convincingly. Her reading is, however, 'structural' rather than 'organizational'. The carrier of the cognitive, normative, and regulative structures—providing stability and meaning to social behavior—is not to a greater extent the organization than other carriers such as for example culture or language.

Barrett and Walsham (1995) offer another interesting example of how Giddens' structuration theory is applied to IT, and its relation to behavioral as well as structural dimensions of organizations. Lyytinen et al (1996), by contrast, provide "organizational perspectives on software development" when they present a framework for software risk management. This framework is developed to synthesize the Simonian model

of behavior and the Leavittian model of an organization.

Among all articles addressing the organization, there are surprisingly only three which consider both structural and behavioral dimensions of organizations. But if articles generally fail to address structural and behavioral dimensions of the organization, and yet overcome instrumental views of the organization, what issues do they address?

4. Articles Understanding

Organizational Structure as Locality

We have identified seven articles that address the structural dimension of the organization. Sørensen (1993) provides an analysis of how the use of CASE tools in an organization is influenced by its structural dimension, such as the size of the IS departments. The importance of organizational size is also addressed by Heikkilä (1989), while Carlsson (1989) and Nielsen and Relsted (1994) address structural dimensions such as hierarchical levels of organizations. Despite the obvious merits of the authors' work, addressing only structural dimensions as variables for classification does not provide, in our view, the theoretical basis for judging the factors that influence, for instance, regular CASE use in organizations. An example of a richer understanding of structural dimensions of organizations can be found in Lyytinen (1991). Lyytinen explores the limitations of transaction-cost theory, for example, in relation to its ability to increase our understanding of IT penetration of organizations.

Downplaying structural as well as behavioral dimensions of the organiza-

tion leads to a position where the only motivation for dealing with organizational issues is the "locality motivation", which says that the phenomena under study occur in an organization, hence they are organizational issues. This implicit motivation can be found in Kautz and McMaster (1994). They analyze the role which a structured method's introduction process plays in its diffusion. They set out to analyze the introduction process with a set of key factors, which include some concepts that have an organizational flavor, such as "organizational culture" and "management support and commitment". Reasonable as this may seem, these organizational concepts are only superficially handled. In fact, the organizational concepts contained within the framework have little to offer for analyzing IS with a basis in structural and behavioral dimensions of organizations. Consequently, instead of providing a basis for explanations that seek to give more insight into empirical problems, the concepts only work as a coherent system that may help to systematize observations nicely. In an organizational setting, the organizational concepts (of the framework) may be exemplified by observations, but partly fail to give an account of what the observations mean or explain. Our main point is that the framework used by Kautz and McMaster does not work as a basis for critical reflection that goes beyond common-sense interpretations of organizations, although they explicitly state that their "...focus is on the organization as the object of study..." (Kautz and McMaster 1994, p. 64). This focus can only be traced to the fact that their study was conducted *in* an organization.

Another example of the “locality motivation” can be found in Aaen and Sørensen (1991). In their article, the authors discuss how the goal of adapting organizations to the use of CASE tools involves adjusting the relevant work procedures of the organization to the selected tool. When discussing the factors behind adopting CASE tools in an organization, Aaen and Sørensen address neither structural nor behavioral characteristics of the organization. Consider the following quotation:

The manpower investments in the process of adapting the organization to the use of a tool may amount to a considerable sum, as may also be the case with the possible expenses for hiring consultants to assist in putting the tool into use in the first projects. Large expenses for courses as well as for consulting, training and coaching are also likely to occur. (Aaen and Sørensen 1991, p. 16).

Hence one may assume that the major problem with the organization’s adaptation to a CASE tool is cost. This is not to say that Aaen and Sørensen are wrong, but here organizational adaptation of technology is reduced to a question of resources. In a sense, this article’s motivation to address *organizational* adaptation of technology is that the object under study occurs *in* an organization. Hence, this is another example of the “locality motivation”.

Indeed, these two last articles diverge from the way that the structural dimensions of an organization are treated within organizational theory. If we are to take the notion of organization seriously, in keeping with the notion of organizational informatics, we suggest a more cautious and theoretically based use of the notion than was shown above.

5. Articles Understanding Organizational Behavior as Work

We have identified eight articles that address the behavioral dimensions of the organization. Käkölä (1995), employing Argyris’ organizational learning theory, discusses how organizations can succeed in using coordination technologies. In doing this, he focuses on behavioral characteristics, e.g., the behavior of organizational members as well as designers. Similarly, Vidgen, Wood-Harper and Wood (1993) discuss the behavior of various stakeholders, in line with soft systems methodology.

A large number of articles focus on work as a specific kind of organizational behavior. This focus has, of course, been predominant in SJIS (e.g., Bardram 1996; Bjerknes, Bratteteig and Espeseth 1991; Bødker and Kensing 1994; Hellman 1989; Kjær and Madsen 1995; Kutti 1989). However, we argue that the notion of work should not be confused with the notion of organization. There is a strong tendency towards this confusion. For instance, Kjær and Madsen (1995) start by pointing out the need to consider context when studying information technology. Thus they adopt a structural and processual framework consisting of four so-called organizational aspects—work activities, technical artifacts, (physical) space, and work organization. These aspects are assumed (and later proved) to be interdependent. Empirically, the authors examine a radiology department and the introduction of a new technology. In their understanding of organizations, they tend to define “organization” only in terms of the four aspects mentioned and perhaps most in terms of *work* organization. Furthermore, those aspects

are considered only in a local setting. This is to say that the authors overlook wider, organizational consequences of the new technology and delimit their discussion to parts of the local department setting. Their conclusions are consequently closely related to observations of local changes in behavior or changes in work organization, rather than to any organizational issues.

Another example is provided by Bardram (1996), who makes clear that the concepts of work and organization are synonymous:

The adoption process mediated through the organizational prototyping is defined as a dual process of both adapting the tool to the organization and adapting the work practice to the conditions of the tool. (Bardram 1996, p. 75)

This quote shows that Bardram sees organization and work practice as the same thing. Reflecting this view, the participatory design approach that Bardram outlines is labeled 'organizational prototyping' which, according to Bardram, has to do with the two main inspirations for the method; organizational games (Ehn and Sjögren 1991) and cooperative prototyping (Bødker and Grønbæk 1991). We consider it unfortunate that an article of obvious quality claims to address organizational issues without a clear understanding of what they may be other than work practices.

Again, this approach diverges from the way that behavioral dimensions of an organization are treated in organizational theory. If we are to take the notion of organization seriously, in keeping with the notion of organizational informatics, we suggest a more cautious and theoretically-based use of the notion than seen above.

6. Concluding Remarks

Our review of SJIS articles finds that most address the notion of organization without distinguishing the organization from other contexts. It is also possible to find many different notions of organization in the articles. This is not a problem in itself, since there is no "true" definition of an organization, but, despite the differences, most notions have in common that they are used in a common-sense way, rather than as theoretical concepts. In our opinion, this is a serious problem. The notion of organizational informatics—as a specific body of research with a set of specific objects of study—depends on our ability as IS researchers to fill the notion of organization with specific content. In our opinion, there is an obvious need to examine whether theories of organizations can contribute to this content-filling.

Again, why are organizational theories so rarely used in Scandinavian IS research? Is it because researchers think they have no use for those theories? We think that one important reason for ignoring organizational theories is closely related to the fact that Scandinavian IS research to a large extent takes certain practitioners as its clients. Most research is directed towards solving the problems of these practitioners, whether they are systems developers, managers, users or other stakeholders. Clearly, the practitioner-orientation is very relevant and important, but in order to establish a richer research community, we need to ask ourselves if there are other approaches to put forward. Not other approaches in terms of "better alternatives", but rather as complementary approaches to

reach a richer understanding of IS in organizations.

The common-sense understanding of the organization found in the main body of Scandinavian IS research is relevant, in the sense that it is directly related to the common-sense of practice. The common-sense notion of the organization held by the authors of the articles examined here is surely similar to the common-sense notion of the organization held by practitioners. But IS in organizations is still an unexplored field where extensive research is required. It is important that this is done from different points of view. While practitioner-oriented research is relevant, in the sense that various practitioners may find the results interesting, the theory-informed approach proposed in this paper is relevant that it contributes to the development of theories of IS in organizations. Indeed, IS is complex, and it seems to have a capacity for changing organizations that may be unique in the history of organizations. Therefore, traditional organizational theory may have a view of organizational structure and behavior that over time diverges from the organizations of our contemporary society. If this is the case, our approach becomes even more relevant, since the need for developing new theories for the structure and behavior of IS dependent organizations is emphasized. Surely, there are audiences for our research results beside IS practitioners? And consequently, surely there must be research results besides the ones of interest to IS practitioners?

Notes

¹This review appeared in the proceedings of the

20th IRIS.

²We have chosen to concentrate our efforts to the SJIS. In our view, the SJIS represents the main forum for Scandinavian IS research. This is not to say that other journals could have been of interest, though certain domains of Scandinavian IS research such as the work conducted on human computer interaction, for instance, can be considered as underrepresented in the SJIS. We acknowledge that by broadening our effort to include articles—with a Scandinavian stance—published in other scientific journals such as Human-Computer Interaction, Accounting, Management & Information Technologies, or the Communication of the ACM, to name a few, the result may have turned out a bit different.

References

- Aaen, I., & Sørensen, C., (1991). A CASE of Great Expectations. *Scandinavian Journal of Information Systems*, 3, 3-23.
- Abrahamsson, B., (1993). *Why Organizations?: How and Why People Organize*. Newbury Park, California: Sage.
- Bardram, J. E., (1996). Organisational Prototyping: Adopting CSCW Applications in Organisations. *Scandinavian Journal of Information Systems*, 8(1), 69-88.
- Barrett, M., & Walsham, G., (1995). Using IT to Support Business Innovation: A Case Study of the London Insurance Market. *Scandinavian Journal of Information Systems*, 7(2), 3-21.
- Bjerknes, G., Bratteteig, T., & Espeseth, T., (1991). Evolution of Finished Systems: The dilemma of enhancement. *Scandinavian Journal of Information Systems*, 3, 25-45.
- Brunsson, N., & Olsen, J. P., (1993). *The Reforming Organization*. London: Routledge.
- Bødker, K., & Kensing, F., (1994). Design in an Organizational Context: An experiment. *Scandinavian Journal of Information Systems*, 6(1), 47-68.
- Bødker, S., & Grønbæk, K., (1991). Design in Action: From Prototyping by Demonstration to Cooperative Prototyping. In J.

- Greenbaum & M. Kyng (Eds.), *Design at Work: Cooperative Design of Computer Systems* New Jersey: Lawrence Erlbaum Associates.
- Carlson, S. A., (1989). Why Johnny Can't or Won't Spreadsheet. *Scandinavian Journal of Information Systems*, 1, 118-142.
- Cohen, M.D., March, J.G., Olsen, J.P., (1972). "A Garbage Can Model of Organizational Choice", *Administrative Science Quarterly*, 17, 1-25
- Cyert, R.M., March, J.G., (1963). *A Behavioral Theory of the Firm*, Englewood Cliffs: Prentice-Hall.
- Donaldson, L., (1985). *In Defence of Organization Theory : A Reply to the Critics*, Cambridge: Cambridge University Press.
- Ehn, P., & Sjögren, D., (1991). From System Descriptions to Scripts for Action. In J. Greenbaum & M. Kyng (Eds.), *Design at Work: Cooperative Design of Computer Systems* New Jersey: Lawrence Erlbaum Associates.
- Giddens, A., (1976). *New Rules of Sociological Method*. London: Hutchinson
- Giddens, A., (1979). *Central Problems in Social Theory - Action, structure and contradiction in social analysis*. London: Macmillan.
- Giddens, A., (1984). *The Constitution of Society - Outline of the Theory of Structuration*. Cambridge: Polity Press.
- Grudin, J., (1990). The Computer Reaches Out: The Historical Continuity of Interface Design. *CHI '90 Proceedings*.
- Hannan, M.T., Freeman, J., (1989) *Organizational Ecology*, Cambridge: Harvard University Press.
- Heikkilä, J., (1989). EUC Chargeback Systems and Their Impacts on End User Behavior. *Scandinavian Journal of Information Systems*, 1, 97-117.
- Hellman, R., (1989). Emancipation of and by Computer-supported Cooperative Work. *Scandinavian Journal of Information Systems*, 1, 143-161.
- Henfridsson, O., Holmström, J., & Söderholm, A., (1997). Organizational Informatics – On the Notion of Organization in Scandinavian Information Systems Research. In K. Braa & E. Monteiro (Eds.), *Proceedings of IRIS20: Social Informatics*. Oslo: Department of informatics, University of Oslo.
- Karsten, H., (1995). "It's like everyone working around the same desk": Organisational Readings of Lotus Notes. *Scandinavian Journal of Information Systems*, 7(1), 3-32.
- Kautz, K., & McMaster, T., (1994). Introducing Structured Methods: An Undelivered Promise? *Scandinavian Journal of Information Systems*, 6(2), 59-78.
- Käkölä, T., (1995). Designing and Deploying Coordination Technologies for Fostering Organizational Working and Learning: From vision to reality. *Scandinavian Journal of Information Systems*, 7(2), 45-74.
- Kjær, A., & Madsen, K. H., (1995). Dependencies between Work Activities, Technical Artifacts, Space, and Work Organisation: Flexibility Issues. *Scandinavian Journal of Information Systems*, 7(2), 23-44.
- Kling, R., (1993). Organizational Analysis in Computer Science. *The Information Society*, 9(2): 71-87.
- Kuutti, K., (1989). The Impact of Work Development on Information Systems. *Scandinavian Journal of Information Systems*, 1, 162-176.
- Leavitt, H.J., (1965). Applied Organizational Change in Industry: Structural, Technological and Humanistic Approaches. In March, J.G. (ed) *Handbook of Organizations*, pp. 1144-1170, Chicago: Rand McNally.
- Lyytinen, K., (1991). Penetration of Information Technology in Organizations: A comparative study using stage models and transaction costs. *Scandinavian Journal of Information Systems*, 3, 87-110.
- Lyytinen, K., Mathiassen, L., & Ropponen, J., (1996). A Framework For Software Risk Management. *Scandinavian Journal of Information Systems*, 8(1), 53-68.

- March, J.G., (1988). *Decisions and Organizations*, Oxford: Basil Blackwell.
- Mintzberg, H., (1983). *Structure in Fives: Designing Effective Organizations*, Englewood Cliffs: Prentice-Hall.
- Nielsen, J. F. & Relsted, N. J., (1994). A New Agenda for User Participation: Reconsidering the Old Scandinavian Prescription. *Scandinavian Journal of Information Systems*, 6(2), 3-20.
- Pfeffer, J., Salancik, G.R., (1978). *The External Control of Organizations*, New York: Harper & Row.
- Powell, W.W., DiMaggio, P. eds, (1991). *The New Institutionalism in Organizational Analysis*, Chicago: University of Chicago Press.
- Scott, W.R., (1992). *Organizations. Rational, Natural, and Open systems*, Englewood Cliffs: Prentice-Hall.
- Scott, W.R., (1995). *Institutions and Organizations*. Thousand Oaks, California: Sage.
- Silverman, D., (1970). *The Theory of Organizations*, Aldershot: Gower.
- Stolterman, E., (1995). Information Systems Research and Social Responsibility. *Scandinavian Journal of Information Systems*, 7(1), 123-127.
- Sørensen, C., (1993). What Influences Regular CASE Use in Organizations? – An empirically based model. *Scandinavian Journal of Information Systems*, 5, 25-50.
- Vidgen, R., Wood-Harper, T., & Wood, R., (1993). A Soft Systems Approach to Information Systems Quality. *Scandinavian Journal of Information Systems*, 5, 97-112.
- Weick, K.E., (1976). Educational Systems as Loosely Coupled Systems. *Administrative Science Quarterly*, 21, 1-19.
- Williamson, O.E., (1975). *Markets and Hierarchies: Analysis and Antitrust Implications*, New York: Free Press.
- Williamson, O.E. Winter, S.G., (1993). *The Nature of the Firm*, New York: Oxford University Press.

■
O. Henfridsson, J. Holmström & A. Söderholm 56