

5 SOCIO-TECHNICAL DESIGN, TRADE UNION STRATEGIES AND ACTION RESEARCH

Åke Sandberg
Swedish Centre for Working Life
Sweden

Introduction

This article is about the relationship between research and change in working life. It focuses upon changes in technology and work organization, and includes changes in information systems. It also focuses upon research that is action oriented. Such “action-research”—we will call it this until our discussion in the concluding section—highlights the relationship between the researcher and the actor in the social situation. This is true of both the behavior of different actors and of the content of the research (perspectives, problems, possible solutions).

The social side of technological change in working life will be emphasized. This means that what can be called the socio-technical tradition within systems design will be examined and discussed. Then the paper will consider form and procedure. A typology of trade-union strategies for technological change is presented and research methods relating to such strategies are described. Against this background, the concept of action-research is discussed and developed.

Socio-Technical Systems Design

The tradition of socio-technical systems development and design emphasizes the interrelationship between the technical system and the social system and the necessity for working with both when designing a new production system. With this approach, a production system is analyzed in terms of inputs, transformation and outputs. A key concept in the analysis of the production system is variance, that is deviations from some standard or norm which affects the system performance or output. Essential questions in

the technical system analysis are, “What are the key variances and how are they controlled?” The social system analysis focuses upon how different individuals and groups accomplish their tasks and perceive their work. The social system is analyzed by means of interviews and questionnaires which ask employees to describe their attitudes to their work situation. Also by means of indicators such as turnover, absenteeism, the role of trade unions, etc. (For an overview, see Bostrom and Heinen 1977).

These techniques are usually used either in managerially controlled projects of change or in projects where employees and, sometimes, their representatives also participate. An important role for the socio-technical expert is to carry out the technical systems analysis and the interviews in the social systems analysis and, from this date, to propose an optimal socio-technical solution. After analysis comes design phase. A key design principle is the breaking down of big systems into small, coordinated subsystems that have a certain degree of autonomy and also a learning capacity that enables them to cope with local variances. This facilitates management’s overall planning of the total system.

Production for changing markets presupposes control of the system as a whole, so that management knows the amount of production that is required and the quality. Production flow must be organized so as to secure a high output stability. Some forms of group organization may contribute to the solution of this problem by reducing the need for detailed control, while providing management with more resources for overall internal control and for control of the external environment. Group organization may, at the same time, solve human relations problems by giving more discretion to individuals and by improving the physical work environment and opportunities for social contact. Against this background, we can understand the initial interest of the Swedish Employers’ Federation (SAF) in socio-technical principles of work organization, as these became known in Sweden through the Norwegian experiments

This interest in socio-technical solutions was, however, of a technical kind. They were seen as tools for solving employers’ production and personnel problems. The Norwegian experiments, in contrast, were part of a strategy for democratization in working life (Gustavsen 1976).

The ideas described above were tried out, developed and formulated within the SAF project “new factories.”

The “new factories” program is a good way of illustrating how the socio-technical tradition of analysis and design can be of interest to management for solving both production problems (such as problems of coordinating and maintaining the stability of advanced types of production) and personnel problems (such as turnover and absenteeism). When the “new factories” reports were published in 1977, the Swedish Work Environment Fund organized a conference for employers, trade unionists and researchers. At this conference, the “new factories” type of socio-technical study was criticized in three ways:

1. That the studies tend to be limited to the day-to-day work situation and do not include planning, overall control and questions of ownership.
2. That workers and their trade unions are normally not involved as active participants but only as the objects of interviewers who are interested in their perceptions of the changes.

3. That the technology available on the market is taken for granted and socio-technical studies are limited to adapting the local work organization and the workers to a given technology.

But, as has already been mentioned, socio-technical studies were a part of the Norwegian experiments in industrial democracy. These and other experiences have shown that the scope of socio-technical analysis can be widened to include not only organizational choice when the technology is given, but also choice among existing technical solutions, and even the development of new technological solutions (Herbst 1971; Rosenbrock 1982; Mumford 1983). The belief that socio-technical analysis will end up as an expert, optimal solution has changed to a recognition that there can be a participation of all interest groups in a process of reconciliation and negotiation (Mumford 1983). Socio-technical systems analysis may also be used, and has been used, in projects involving workers and their trade unions and not management, for example, in the Norwegian printing industry (Odegaard 1981).

Researchers within the socio-technical tradition have emphasized the risk of the clients being caught in a hostage situation when participating in systems design. They have emphasized the need for real communication between experts and clients in design groups. This presupposes changes in values and reward systems. (Hedberg and Mumford 1975, pp. 57ff). The next step is to emphasize the need of “changes in the distribution of power...to give voice to human needs and desires” (Hedberg 1978, p. 8).

If we take the question of user power seriously, we must not restrict ourselves to user participation in managerial projects and activities related to technological change. This may be sufficient if we are concerned only with changing the day-to-day work situation. But if we are concerned with questions about the development of new technology and high level planning and control in companies (e.g., the coordination of “autonomous groups”), we are then dealing with collective issues in which employees’ interests are identified and monitored by the trade unions. This is why we have to *examine seriously trade union strategies* in the field of technological change. This examination can then provide a basis for discussing the relationship of research to trade unions strategies and practices.

Trade Union Strategies

Strikes, demands for democratization in the workplace, and an expansive economy—these are some of the factors that contributed to Swedish trade union demands for a more radical co-determination in working life during the first half of the 1970s. The unions adopted a policy of building up union resources, formulating action programs, and negotiating with the employer. During these union efforts towards democratization, a collaboration developed with work researchers, for example in action-oriented projects relating to technological change. This strategy of trade union investigation and negotiation will be discussed against the background of a traditional trade union wage negotiation model: trade union mobilization and negotiation. (For the background, see Sandberg 1979; Kyng and Mathiasen 1982).

The discussion of three local union strategies which follows is based on experience with several such projects (e.g., the anthology *Forskning for forandring* [Research for

change], 1981) including the Demos project (cf. Sandberg 1983; Ehn and Sandberg 1983).

Union Mobilization and Negotiation

Union mobilization and negotiation can be regarded as the traditional approach to bargaining at a local level. The union works independently of the company, formulates clear demands in discussion with its members, and negotiations with the employer are then opened. Sverre Lysgaard's (1961) theory of the workers' collective, and above all his ideas on the formulation of "mandates" from the workers to their representatives, can help us to understand the problems encountered by unions trying to apply this traditional strategy to questions like technological change (cf. also Hoel and Hvinden 1979).

Traditional union issues, such as pay, working hours, terms of employment, etc., may be called *distribution issues*. On such issues, one has

- a. relatively well developed union objectives,
- b. clearly formulated demands, often quantified,
- c. demands based on the workers' own day-to-day experiences,
- d. clearly delimited, short negotiating situations.

It is within such clear negotiating situations, with well developed objectives and demands, that resources are mobilized and management subjected to pressure during the negotiating period. These negotiating situations are relatively well structured and issues may usually be treated as quantitative ones. In contrast, what does the union do

- when there are no clearly formulated union objectives?
- when demands are not formulated, or are often unclear and difficult to quantify?
- when the employees' previous experience is of limited value, and—at least in the context of fundamental technological change—a technical/scientific know-how is necessary for the formulation of well developed demands or alternatives?
- when the decision-making process is a long-drawn-out one, it can be difficult to distinguish clearly defined negotiating situations, and the real situation and the knowledge required alter over time?

These are the characteristics of the new co-determination issues such as work organization, production and products, and other questions that have long been the exclusive realm of management. I call them *production issues* in contrast to the distribution issues described above. The situations are often "unstructured" and the issues are qualitative ones.

Several of the conditions for traditional wage negotiation do not exist. Problems of internal union democracy become crucial, for demands are not simple and long established.

What do the unions then do? One solution may be to try and transform a qualitative question into a quantitative one. A question, such as the creation of a new organization, may be negotiated in terms of the number of people with different qualification or wage levels, for example, grading structures in Britain. Or one can separate out quantitative issues and attempt to get collective agreements on such matters as the length of work cycles, or work breaks at a conveyor belt. (An example is a proposal for an agreement from the German IG Metal; see WSI Information.)

Whether an attempt is made to transform the qualitative question into a quantitative one, or to focus on quantitative aspects only, the result can be that only a part of the whole problem is tackled. In quantitative terms, it may be possible to formulate restrictions on a future work organization, e.g., the speed of a line and the number of persons with different wage levels. But this does not automatically lead to a work organization that requires people with skills related to the grades that have been negotiated. Constructive problem solving and the design of new models for work seem to require more deep-seated and qualitative aspects to be considered than can be easily fitted within the traditional trade union strategy. Of course this is deeply problematic for the trade unions.

Apart from efforts to keep within the traditional model, a common solution seems to be participation in management's activities. A third solution may be to attempt an in-depth independent union build-up of knowledge, followed by negotiation. Most socio-technical design and research efforts seem to assume and support a trade union strategy of participation. The problems with participation are, however, well known: powerlessness, integration, a hostage situation. And, as we have seen, these problems have also been recognized by those working in socio-technical research tradition. What seems still be lacking are design and research activities which are related to trade union activities in a fundamental way.

In some Scandinavian research projects, a strategy of independent trade union investigation and negotiation in the field of systems development has been used. This is described next.

Union Investigation and Negotiation

A union following this strategy starts an independent investigation when major changes are envisaged in a company. The results of this investigation provide the basis for negotiations with the employer.

In a succession of research projects where there was collaboration with union organizations, the unions built up in-depth know-how over a period of time through researchers and workers cooperating within trade union investigation groups and study circles (Sandberg 1983). This made it possible to clarify the experiences and demands of employees, and relate these to a real knowledge of the new technology and its opportunities and limitations. With this approach, new, well-grounded and detailed demands and ideas could be formulated.

I think it is true to say that at least some of these projects demonstrate the possibility of achieving some success. It proved possible to formulate well-anchored and well-grounded demands, and to push them through. But there are basic obstacles to such a "know-how strategy" on the part of the unions: The union organization has only very limited resources in comparison with management. In our type of society, it is seldom in a position to build up a knowledge base, or plans, which compare to those of management in quantity and quality—even if it has the advantage of being better able to involve employees and use their experience. This is true even if management is not always the rational and well informed protagonist it is sometimes assumed to be.

The problem of the union's relatively small resources in comparison with those of management is sharpened by the fact that these have to be used not only for this "parallel management activity" but also, and primarily, for work in the traditional areas of union activity, and for contacts with the membership, broad studies, etc.

A Renewed Systemization

The three local union strategies above were developed and used as empirically based ideal types in union-researcher cooperation in action research projects. To develop these concepts further, we will distinguish analytically two dimensions: relations to the employer and internal union work.

Internal union work in respect of technological change may be weak or non-existent; it can be a question of building up a new competence in this field; or a question of mobilization of the membership around basic union demands.

Relationships with the employer can assume the character of participation in his project groups or decision-making bodies, or negotiation. (We are speaking here of union influence. The employees as individuals may, of course, participate to a greater or lesser degree in daily decision taking in the line organization; a participation that can be promoted by union demands on, for example, the right to influence work organization.)

The two dimensions may be combined into a matrix giving us six ideal types of trade union strategy characterized by both trade union relations to the employer and the character of internal trade-union work.

In the matrix, we can locate the three trade-union strategies developed in the first section of this chapter in boxes D, C and E respectively.

| | | Internal trade union work | | |
|--------------------------|---------------|-------------------------------------------------------------|------------------------------------|--------------|
| | | Development of simple basic union demands and mobilization. | Development of in-depth competence | None or weak |
| Relation to the employer | participation | A | B | C |
| | negotiation | D | E | F |

Figure 1. Trade Union Strategies

In another context (Sandberg 1985), these different strategies are discussed in more detail. The conclusion of the discussion there and in many research projects in this field is that *the more fundamental dimension is that relating to internal union work*. (See for example the Demos project, Mohlin 1982; Docherty et al. 1984, pp. 106ff; see also the section below on long term political perspectives, where relations to the employer seem to be a more crucial dimension and negotiations an important form.)

We also conclude that three strategies are of special interest: The two strategies based on a build up of competence (B, E) and mobilization and negotiation (D). Knowing

that the latter strategy is insufficient as the sole union strategy in qualitative questions, and that union development of competence demands very considerable resources, this suggests that a way out of these difficulties may be to search for a possible combination of strategies.

Basing its actions on a broad mobilization around basic demands, the union negotiates with management on how problems are to be formulated in the project, conditions for project work and solutions in principle (D). The union also builds up its in-depth competence and participates in only a few selected project groups (B), supplemented by negotiations at various decisive stages (E). How does change oriented information systems research relate to these different trade union strategies?

Without having made a systematic study my impression is that: In relation to a strategy of mobilization and negotiation (D), a research role might be to support trade union efforts to operationalize their basic demands on future work and to support broad study circles for the mobilization of members. We do not see much information systems research of this kind. We do, however, see a lot of IS research in relation to a trade union strategy of participation in managerial projects (C) without much independent union activity; the problems with this strategy—from a trade union perspective—have been widely discussed, and are not solved by researcher involvement. Where trade unions are trying to build up their in-depth knowledge as a basis for negotiations or participation, there is room for new research approaches within IS research. These may have importance for the development of both IS design methods and trade union practices in a field that is new to them.

A Long Term Trade Union Perspective

From a trade union point of view, co-determination can be seen as an instrument exclusively meant to better the conditions and competitiveness of the individual factory.

But co-determination can also be seen as part of a long term trade union strategy for the democratization of working life as a whole. Then an independent trade union build-up of competence stands out as an important part of the strategy: Gradually, via participation and negotiation, the position of the unions and the workers will be moved forward. Although the Co-determination Act in Sweden has existed for less than 10 years, it seems clear that trade union resources are too small to build up in-depth competence and concrete alternatives in all areas of management. There is even less possibility of getting the alternatives adopted by employers. Concrete, even though limited, *steps forward* are, however, important, not least as demonstrations of what can be done. But what may, from a long-term perspective, be seen as equally important is an analysis of the real *limits* to trade union striving for change. These limits may be transformed into demands for more fundamental changes at higher levels and from a long-term perspective, changes concerned with the democratization of the power structure of companies and of society at large.

Strategies based on a trade union development of competence, and the formulation of basic demands, are an essential basis, not only for any real influence on current change, but also for clarifying the limits of local union influence, and developing demands, as part of a more long-term process of democratization. This is a kind of *political learning* which

complements the frequently discussed local learning in development processes at workplaces. The complementary may, however, become problematic, as local learning can be developed in bipartite work and in union participation in managerial activities while political learning can best be developed in a negotiating relationship where limits and contradictions can be made clear. 'Taking a long-term and political perspective, *the type of relations with an employer seem to be important*, in addition to the type of internal trade union work (cf. the section on socio-technical systems design above).

Unless conscious political learning develops within the unions, there is a probability that the limited successes achieved in local attempts at union influence will teach the "spontaneous political lesson" that "our only chance is to participate in management's operations, ensuring the survival of the company in a tough market and saving our jobs."

Wider perspectives are not developed spontaneously. In a popular movement for societal change, wider perspectives are essential. This has some consequences for change oriented research. Pure "action research" in the workplace may be inadequate. It may have to interact with more theoretical research which analyzes the societal limits and preconditions of change (see the next section).

And, given the limits of local influence, there is a need for a central trade union policy which attempts to widen some of these limits, e.g., those determined by the current technology:

1. In the market, there is a choice between the different technical solutions which are for sale. It is possible to buy any of these. But the *choice* of technical solutions is *still limited*.
2. The technology chosen provides the free play for certain organizational choices, for various investments in training, etc., but it also means that *certain organizational possibilities are excluded*.

How far the opportunity for local choice between the various technical solutions which are offered, and the choice finally made, is satisfactory from the local union standpoint can only be decided on the basis of fairly well developed union objectives, and concrete criteria and models.

If the available systems are not satisfactory, the question arises: If union organizations involve themselves in an active and offensive "policy of technology," could they then influence future technological development by making specific demands of industrial R&D? Large, centralized trade union projects may be necessary in order to develop such demands and models. An example is a laboratory environment that permits experiments in peace and quiet, so that union objectives, the experiences of employees, and the know-how of technical and social researchers can interact and fruitify each other in the search for good technical solutions. Just as there is a need for action research at the local level, so there is at the central level an important role for action oriented research with the workers and their trade unions (Sandberg 1985). An approach similar to this is being tried within the Utopia project. This research is developing requirement specifications for electronic page make-up and picture processing in the printing industry. The development of design methodology is an important research task here (see Utopia 1985).

From Action Research to Praxis Research

Background

During the first half of the 1970s, there was an intense and critical discussion within social research. The critique concerned theories, methods, perspectives, choice of problems, and areas of application. Research was criticized for concentrating on serving established and powerful interests rather than the interests of the majority of the people, when studying democratization and social change. (For the debate see, for example, Schmid 1973; Sandberg 1976, Part I.) This critique of the dominating approach to research was supplemented by efforts to begin developing alternatives. The type of action research developed in Scandinavia, particularly Norway, can be seen as an effort to develop a procedure for research in cooperation with, and in direct support of, the weaker groups in the society. This research was directed at developing knowledge and assisting action. The ideas put forward in this section are based on experiences with research projects of the same type as the Demos project (above). My own conclusion, to which I will return, is that the type of activity called “action research” should be seen as an action and dialogue part of a larger research effort, which I will call praxis research: Only in this context is it reasonable to talk about research. (This section is based on Sandberg 1982. See also other articles in *Sociologist Forskning* 1982.)

Action Research

It is usually said that action research is characterized by a close interaction between action and research, between practice and theory, in a process of change. Such an interaction can be of a more or less intimate kind:

- The researcher evaluates the process of change and feeds the results back afterwards to those concerned.
- The researcher’s evaluation is fed back continuously to those concerned during the process.
- The researcher participates in the process of change by supplying knowledge that develops an understanding of the situation among those concerned (concepts, theories, methods for clarifying problems, intentions conditions for action—among the methods are those for investigation, planning and change and for articulation of “everyday knowledge”).
- The researcher participates with his or her knowledge in investigating and developing alternatives for action.
- The researcher participates directly in actions with those concerned.

How much of this can be called action research? I regard the kernel to be those cases where the researcher has participated in the process of change by supplying knowledge of different kinds, as well as by continuously feeding back evaluations of the attempts to change. The knowledge is of a kind that contributes to an understanding of the situation (of one’s own aspirations and the conditions which affect these), but also to a development of alternatives for action.

Action research as described above can interact with different types of actors. Organizational or systems development for, and with, a management could be one example. But the Scandinavian tradition of action research has developed in close cooperation with weaker, underprivileged groups of people and with their efforts to control their own situation and their own conditions. It is associated with efforts towards democratization, not least in working life.

The *values* behind this type of action research are that people should be treated as subjects in a research process (not as objects of research) and that such an approach is in accordance with striving toward participatory democracy. Action research is supposed to contribute to finding means for the development and use of knowledge by the people concerned. One possible *scientific* motive for action research is that dialogue and common action are good ways of getting certain types of data and of developing knowledge about processes of change. From both perspectives, the procedures and ways of working in action research are central. In the *dialogue* between researchers and practitioners, different kinds of knowledge are used and developed. *Both researchers and practitioners contribute to, and both get something out of, their dialogue.* The setting up of working groups or study circles (with workers, trade unionists and researchers) is a common method within the action research approach (especially in cooperation with trade unions). Action research also uses knowledge that has been produced with different types of methods: Survey research, interviews, participant observation, field experiments, historical studies, the development of concepts, etc.

Problems in Action Research: To Unite Scientific Practice and Action Practice

The problem in many action research projects is to develop a functioning interplay between action practice (for example that of the trade unions) and scientific practice. This is a very important question.

A strong emphasis on the *difference* between an action practice and a scientific practice brings to light the weaknesses in the type of action research which, in a too unproblematic way, tries to combine the two types of activities. This is therefore a challenge for a further development of the theory and methods of action research.

Research may be regarded as a social practice characterized by the fact that the researcher must be able to use his or her professional qualifications and in order to do this he or she must (individually and via the research community) demand control over the research process, a long time perspective, access to information and the opportunity for open publication. In this way, the researcher can develop new knowledge and show to the research community that he or she can produce results and have them criticized. But trade union practice is directed at the creation of conditions for looking after the interests of trade union members; only sometimes can this, in a nonproblematic way, be united with conditions for the scientific search for knowledge. Differences in the objectives of trade unions and research are a short time perspective versus a long term perspective; problem solutions and clear guidelines versus a study of problems and a widening of perspective; the articulation of views and demands through the organizational hierarchy versus through the research process; locally useful knowledge versus theories and generalizations.

The efforts within action research to bring together these two practices seem to lead to the one practice being subordinated to the other; with the scientific practice being subordinated to the action practice, of either management or trade union. Or the “unification” leads to problems of the type just noted. But these problems are not necessarily an expression of incompatibility. They may also be a sign of, and a driving force towards, the development of joint practice. (They may also be an expression of unfavorable external conditions.)

Praxis Research?

If the two activities of action and research must be kept apart and largely developed according to their different conditions, does this mean a return to the traditional division between investigatory work subordinated to the specific demands of an organization, and scientific research in academic milieus completely separated from “action”? Does this mean that action research is an impossibility? In answer to the last question, I want to say both “yes” and “no.” Yes, because action research that is characterized only by an interplay between action and theory cannot on its own constitute a scientific practice. No, in the sense that I see the possibility of developing from action research to “praxis research.” By praxis research, I mean an activity that contains a dialogue, and has an action part subordinated to an action practice and a conceptual or reflective part subordinate to a scientific practice. The two parts are clearly separated activities because they are carried out in different parts of a research organization or over different periods of time.

As the dialogue and action and the conceptualization and reflection are both parts of a larger research process, there is, of course, an interplay between the two. This interplay is not an immediate combination or mixture but rather an *exchange*. Scientific knowledge developed previously will be used in the dialogue and action and experiences from the dialogue and the action are used to develop the ongoing research process. It is an interplay over a long period of time. Dialogue and action are framed by theoretical and methodological reflection.

Knowledge is *used* in the dialogue/action and knowledge is *produced* there, and in the subsequent analysis and conceptualization. Praxis research is thus characterized by a conscious and *planned* interplay between an action and dialogue phase in research and a phase characterized by distanced conceptualization and reflection. In action research, the latter is often lacking. Even if there is a declaration in principle of the necessity for a cumulative development of knowledge, theoretical reflection etc., the tendency is, as we have seen, to neglect these necessary parts of the research process so that the action part dominates. This interplay separates praxis research from consultation and from development and change projects in general.

The two parts of praxis research must be carefully *developed* to make possible this interplay. The problems that are handled in the action part must be selected so that the experiences and the results are of value in scientific work through providing interesting data and stimulating new concepts. The researchers must document the processes of change in a way that makes the data of value to future scientific work. Researchers who participate in an action phase therefore need a degree of professional “autonomy.”

Scientific reflection on the other hand, must be oriented so that it contributes in the long-term to a better understanding of the possibilities and limits of action for change. What theories and methods are appropriate for such a task? This is an essential question. Also procedures and methods in the action and dialogue phase will need to be documented, developed and perhaps standardized, so that the researcher can avoid unnecessary mistakes, clarify sources of errors and enable others to interpret and test results without difficulty. This is true, for example, of the well tried method of organizing working groups or study circles with researcher support. It also relates to an understanding of how various other methods (for example interviews, observation) can be introduced in a way that is compatible with the dialogue.

If praxis research is seen as possible and necessary, then the researcher is faced with a need for large and long-term efforts that contain both practice and theory, the interplay between the two, and the development of both.

This desire for further development within traditional action research is based on a need amongst those who work within the tradition to develop their experiences and formulate new starting points. It is also a reaction to criticism from those engaged in “traditional research.” Such criticism is necessary and often fruitful, but it would be more valuable if other types of applied and action oriented research were critically analyzed, and not only action research. It is often difficult to discuss research strategies today as the “problematic action research” is compared with an idealized picture of other research strategies.

Problems often mentioned in connection with action research, such as the close relationship between researchers and events, are also true of traditional types of applied, commissioned research.

Conditions for Praxis Research

Praxis research implies that there is a continuing dialogue between practitioners and researchers in the action part of a study. Under what conditions is this a suitable research strategy? It was suggested earlier that studies of action possibilities in particular situations, and of the conflicts of interest between actors, may be an essential background to an action and dialogue phase in a research effort. This may help us to answer questions like: Is it possible to succeed with the actions? Will the experience of limits to actions lead to a fruitful type of reflection? An answer to the question on the usefulness of praxis research requires that it is compared with other types of research.

The types of knowledge seen as essential to support change will depend upon one’s view of society and social change. Simplifying a complex question, there are three viewpoints. If social change is viewed as essentially the result of uniquely created local factors, then the conclusion will be drawn that relevant knowledge is created directly in the local dialogue and “action research” will become a central research strategy. If, however, social change is viewed as a conscious change of structures and conditions, then general knowledge about causes and structural contradictions and possibilities becomes of central importance. This type of knowledge may be developed and used as an “expert strategy” for a centrally controlled change. But there can also be participative situations where social change takes place through an interplay between planned structural change

and local activation and problem-solving. Parts of the research may then take a praxis form, with a dialogue and action phase.

Praxis research is a fruitful approach in the field of IS research where the democratization of working life is an essential value. Praxis research allows for direct worker participation in development and design work, at the same time as these local efforts are seen in the wider context of societal change.

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