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Understanding the practices of action research

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Abstract

The aim of this paper is to elaborate on the concept of action research. With inspiration from work performed by Checkland and McKay & Marchall the conceptualisation we are suggesting is illustrated in a model consisting of three different practices. Action research means a meeting between a research practice and a business practice. This meeting constitutes a third practice, which is at the same time a business change practice and an intervening empirical research practice. In the paper, we show how the three practices are interlinked to each other. The analysis is based on a work practice theory (ToP).

Keywords: Action Research, Information Systems Research, Practice Theory

1. Introduction

The problem we are approaching in this paper is how to conceptualise action research. Jönsson (1991) claims that "there probably are as many definitions of action research as there are authors on the subject". Some definitions can be found in Checkland (1991), Jönsson (1991), Avison et al. (2001), Heron & Reason (2001) and McKay & Marshall (2001). Several of these conceptualisations differ from each other often due to different views and basis (see section 2). On the other hand, Lau (1997) claims in an inquiry of 30 information systems articles about action research that the concept action research is not explained at all. Further, Lau (1997) claims that "… neither the epistemological status of action research nor its methodological details are well-established in the IS at present".

What most researchers agree about is that researchers are interested in both action and research. In contrast, consultants are primary interested in action, that means changing some business. Our view of action research is that action researchers are actors that intervene in a business change process. It is the research part that is the researchers primary interest since their research aim is to develop new knowledge. The research part takes place when researchers reflect on the business change process. The business change process works mainly as a source for collecting data. The business change process is therefore important as a source of knowledge, but is in itself of secondary interest.

Participatory action research projects are collaborative in its character. This means that there is collaboration between researcher and business practitioners in order to reach some goals. Some of the conceptualisations/definitions mentioned above seem to miss that different participants in an participatory action research project have different roles, assignments and financiers. The participants in an action research project have both common and different interests. In order to analyse the different interests of the participants we will use the theory-of-practice model proposed by Goldkuhl & Röstlinger (2002). The aim of this paper is to elaborate on the concept of action research and propose a developed conceptualisation of participatory action research.

2. Views of action research

Action research can be carried out in several ways. One movement within action research is to view all participants in a project as equal and with the same conditions and rights to participate in decisions about research method and what to be researched (Heron & Reason, 2001; Oates, 2002). One specific form of action research in this direction is called Co-operative inquiry (CI). Heron & Reason (2001) claim that "all those involved contribute to the decisions about what is to be looked at, the inquiry methods to be used, the interpretation of what is discovered and the action which is the subject of the research".

Heron & Reason's (2001) view of action research can be captured in the label of their paper "The Practice of Co-Operative Inquiry: Research 'with' rather than 'on' people" (2001). Oates (2002) goes further and claims that research should be performed with people, not on or about people. Their basis for this view is that people should not be treated as passive subjects, people should be treated as active agents. This basis is also in line with what in information systems field often is called user-centred design (e.g. Preece et al., 1994).

The basis for the statement is in line with how we have performed a recent action research project (Cronholm & Goldkuhl, 2002). Consequently, Heron & Reason claim that traditional researcher and subject roles should be replaced by a co-operative relationship so that all those involved work together as co-researcher and as co-subjects. They also claim that subjects should be fully involved in research decisions about both content and method. In other words, followers of this view of action research claim that there is one big project practice where all the participants (system analysts, designers, users, managers etc) jointly discusses all kind of relevant questions in order to reach agreements. In this paper, we will challenge this statement by pointing out some complications that follows this democratic view (see section 4).

Checkland's (1991) basis is to suggest an alternative to positivistic research. Checkland uses a cycle to describe the action research process (se figure 1). The cycle consists of the components: research themes, real word problem situation, reflections based on the framework (F) and methods (M) used and findings.

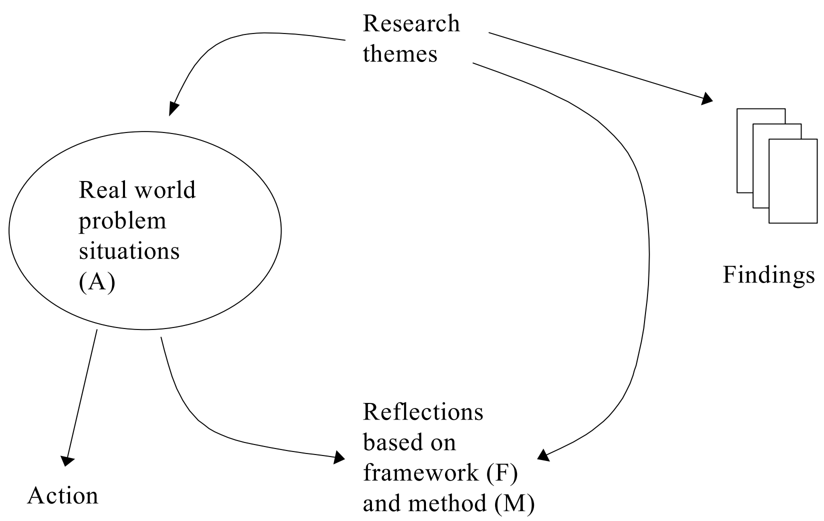


Figure 1. The cycle of action research (Checkland, 1991)

This one-cycle view of action research is challenged by McKay & Marshall (2001). They claim that the action research process consists of two interlinked cycles because the action research has dual aims (se figure 2). One of the aims is to bring about improvements through making changes in the real world situation. The other aim is to generate new knowledge and insights according to the research question. With these dual aims in mind McKay & Marshall suggest a refined model consisting of two interlinked cycles. This conceptualisation with two cycles seems very fruitful since it makes it possible to talk about two different interests (research interest and the business change interest), two different methods (research method (Mr) and change method (Mps)) and two types of results (research result, and change result).

What is unclear in McKay & Marshall's conceptualisation is how the two cycles are interlinked. One way to interpret the illustration in figure 2 is that both cycles consists two processes containing the same phases and that the links only occurs between the corresponding phases. In figure 2 the relation between the research method and the business change method are clearly marked but the meaning of the link is not clear.

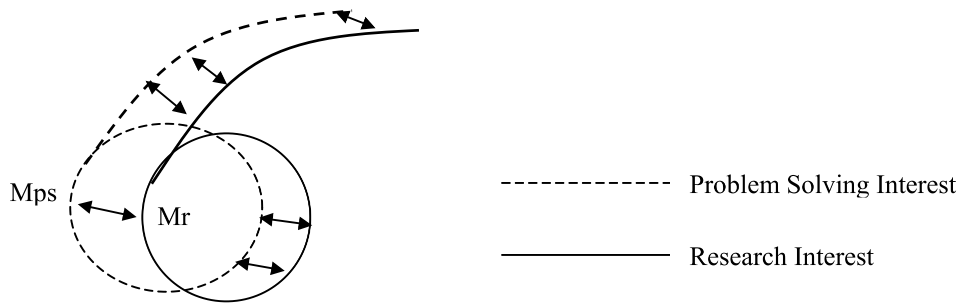


Figure 2. Action research viewed as a dual cycle process (McKay & Marshall, 2001)

Jönsson's (1991) definition of AR (borrowed from Argyris et al (1985) reads "Action science is an inquiry into how human beings design and implement action in relation to one another. Hence it is a science of a practice …". Further, Jönsson means that action research "is when scientists engage with participants in a collaborative process of critical inquiry into problems of social practice in a learning context." and that "action research is a conscious effort of researchers to place themselves in contexts where they are likely to observe processes from they can induce conjectures for further scientific treatment".

Jönsson's definitions or way of looking at action research is close to McKay & Marshall's (2001) view of action research. The last citation above indicates that there is more than one practice. This view differs from the view of Heron & Reason (2001) and of Checkland (1991). We will go one step further and claim that there actually are three interlinked practices. This claim will be discussed in section 4.

3. An analysis Model: A generic conceptualisation of practices

The model (see figure 3) we have used for clarify that there exists three interlinked practices is a generic model of work practices (Goldkuhl & Röstlinger, 1999; 2002). A practice is considered to be "embodied materially mediated arrays of human activity centrally organized around shared practical understanding" (Schatzki et al, 2001). A practice is a meaningful entity of a holistic character and consists of human actions, humans and their shared practical understanding, and codifications of a such understanding in a common language and also of material objects (artefacts) used in the practice. (Goldkuhl & Röstlinger, 2002).

The model is briefly described in this paper. The conditions in the model consists of assignments, base, financial capital, norms, judgements, general & procedural knowledge and instruments. For each practice there exists one or several assigners and the practices is based on such assignments. The base for the practice could be a raw material that will be refined in the practice into products which are the results of the practice. The base could also be information that will be further processed. Financial providers are those who compensate the producers.

The model also contains norms and judgements. There are quality norms and action norms that tell you what to do and what not to do. All the practices are governed by laws and other regulations. In a practice there are also general & procedural knowledge such. The practices also use different instruments to process material or information. The instruments could be constructed by an external instrument provider. The actions in the work practice are performed by producers. The role of the producers is to produce a result for a client.

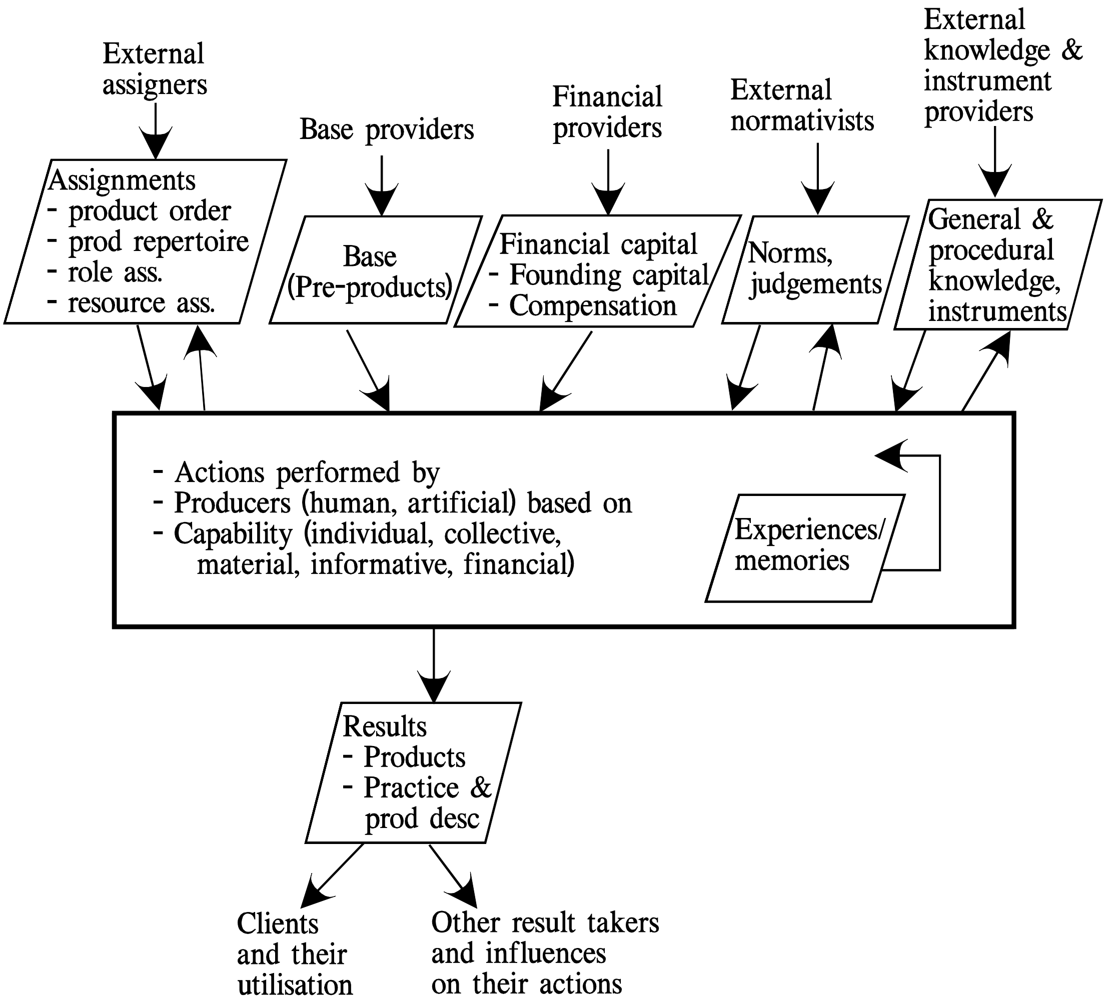


Figure 3. A generic model of work practices (ToP model), (Goldkuhl & Röstlinger, 2002)

4. A conceptualisation of three interlinked practices

As mentioned, McKay & Marshall (2001) discusses the action research process in terms of cycles (see section 2). Instead of talking about cycles we prefer talking about practices. Kemmis & McTaggart (2001) claim that “a science of practice must in itself be a practice”. This is not made a theme in their paper. We will here in our paper use a practice perspective on action research utilising the ToP model introduced above. In adopting a practice perspective it is possible to distinguish between different practices. As a starting point we talk about a research practice and a business practice. A separation of the practices makes it possible to analyse them one by one (see figure 4).

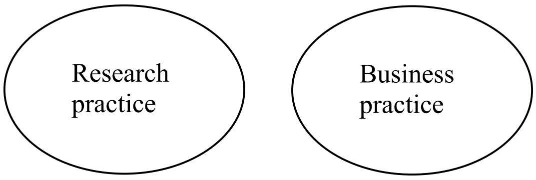
When action research is performed there is a meeting between these two practices and they are starting to collaborate. This collaboration makes it possible to talk about a third practice. The third practice is the intersection of the two practices. This means that we divide the research practice into two sub-practices: A non-empirical part and an empirical part. The non-empirical part we call the *theoretical research practice*. In the same way the business practice is divided into two practices, which we call *regular business practice* and *business change practice*. The intersected practice can thus be labelled in two ways depending on the perspective. From the business practice perspective it is called a business change practice and from the research perspective it can be called an *empirical research practice*. It is of course a particular empirical research practice since the researchers take (more or less) active part in the business change. It is an *intervening* (not only observing) empirical research practice. A separation of the three practices is made in order to be able to treat them as three units of analysis. This means that we can analyse the practices and their relations separately (see table 1).

Following the ToP-model (Goldkuhl & Röstlinger, 2002) we will show that the three practices have different conditions, results and clients. We have analysed the practices according to assigners, assignments, financial providers, external knowledge & instrument providers, procedural knowledge and instruments, actions, results and clients (see table 1). The analysis also shows which interlinks that exist between the practices.

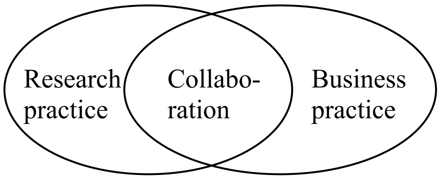
First, there are different assigners for the three practices. The main assigners to the regular business practice are its clients/customers. The client or some representative is ordering a product from the regular business practice. For the research practice, there are not as clear assigners. One can talk about the science community (academia) as a general assigner. More specifically it can be research executives, the researchers themselves and sometime external assigners (from government or business practices). The assignment of the theoretical research practice is to develop new knowledge or theory. The assigners of the business change practice/empirical research practice are both the theoretical research practice and the regular business practice. The intersected practice is a sub-practice serving the other two practices[1]. This means that there are assignments both from theoretical research practice and regular business practice. The assignment of the business change practice/empirical research practice is twofold. The empirical research work is governed by research interests and research questions, which function as assignments from theoretical research practice. From the view of the regular business practice the assignment is a change request that should improve the regular business practice. The assigners of the regular business practice are clients and the assignment is a product order.

[1] The practice view (ToP) applied in this paper implies that all practices have serving functions in relation to their clients.

Two different practices ...



starting to collaborating ...



and can be viewed as three practices!

Figure 4. The research practice, the change practice and the business practice

The theoretical research practice is often financed by universities or by external financial providers (e.g. research councils). The regular business practice has clients as financial providers. In a non-commercial setting there may be other ways of financing the regular business practice (e.g. by taxes). The business change practice/empirical research practice may be financed in different ways depending on contingent factors. The regular business practice is usually financing its own change efforts.

In the three practices there are also different procedural knowledge and instruments. The instruments used in the theoretical research practice are research approaches and methods. Instruments used in the regular business practice are different production equipments. The instruments used in the business change practice/empirical research practice are change methods and research methods. Confer what was said above about problem solving methods and research methods (McKay & Marshall, 2001).

The actions performed are also related to different practices. In the theoretical research practice, the actions performed are aiming at developing new theory. The actions performed in the regular business practice are aiming at satisfying the need of clients. The actions performed in the business change practice/empirical research practice are more complex. One way to understand the actions in this intersected practice is to contrast them to actions within a non-intervening empirical research practice, i.e. no action research is pursued. This means that we here first look at actions performed by researchers. In a non-intervening setting, the researchers will collect data through different empirical research techniques.

	Theoretical research practice	**Business change practice/empirical research practice**	**Regular business practice**
Assigner	Academia, sometimes external assigners	Researchers (theoretical research practice) and business practitioners (regular business practice)	Client ordering a product
Assignment	Develop new knowledge, Research application/Research agreement	Research interest, research questions (from theoretical research practice) Change request (from regular business practice)	Product order from a client or a client representative)
Base	Established and hypothesized research knowledge	Parts of the regular business (to be observed and reflected upon as a base for change proposals) Research knowledge as useful ideas for change	"Raw material" for production process
Financial providers	Universities, external funding	Regular business practice and research funding	Client
Procedural knowledge, instruments	Research approaches and methods	Change methods for creating a business change Research methods for generating and collecting data	Production equipment
Actions	Reflexive actions, interpretative actions, theory development actions	Change actions - change the regular business practice - research actions (explorative actions, observation actions, reflexive actions and interpretative actions).	Regular business actions
Results	Knowledge (theories, models, frameworks)	Change result (to the regular business practice) Data (to the theoretical research practice)	Products (goods/services) for clients
Clients	Academia, practitioners	Producers in regular business practice Researchers (theoretical research practice)	Clients of business practice

Table 1. Characterization of theoretical research practice, business change practice/empirical research practice and regular business practice

In an intervening setting the researchers' actions will not be restricted to "pure" data collection. The researchers will act in accordance with a business change interest. Their different actions will contribute to both a business change interest and research interest[1].

Many actions performed will be dual in the sense that they will contribute to these both interests. Such actions will be multi-functional. For example the direct participation of researchers in change discussions will give change contributions as well as data contributions from a research perspective. Even when the researcher is more directly working with data generation, this may often give these dual contributions[2]. The observations made will be part of the collected empirical data informing the theoretical research work. The observations made will many times be fed into the change process directly or indirectly. What the researcher has observed in the business practice will inform his further interactions with the practitioners and thus be part of the business change process.

The motives for the researchers to take part in a business change practice will be to create knowledge about such changes. There can be an interest on conditions for change, the change process in itself, change results, change effects or obstacles for change. The researcher has an interest in exploring business change. The action research paradigm is that the researcher will gain more knowledge about change through participating in the change process. Through different actions (observing, reflecting, discussing, proposing, attempting etc) the researcher will explore business changes, i.e. gaining more knowledge about changes.

Actions performed by practitioners may also contribute to these two interests. It is obvious that practitioners will contribute to their own change. Their actions within both regular and change business practices may also give rise to research data (if in some way observed/recorded) and thus will give contributions to the research interest.

The results of the theoretical research practice are new knowledge and the results of the regular business practice actions are products for clients. The results of business change practice/empirical research practice actions are change results for the regular business practice and data to the theoretical research practice. The data can consist of field notes, collected documents, audio and video recordings and also of experiential data, i.e. memorized knowledge by the researchers.

Finally, there are different clients of the practices. The theoretical research practice's clients are the academia and practitioners. The regular business practice has their clients; the users of their products. The intersected practice (the business change practice/empirical research practice) has two kinds of clients: the researchers within the theoretical research practice and business producers within the regular business practice. It is important to recognize that we talk about different roles. The researchers within the empirical practice will generate data (results) for themselves as clients in the theoretical research practice. In this sense a researcher will act as a base provider in the empirical practice creating data for himself (and possibly for his research colleagues) to refine theoretically in the succedent theoretical research practice.

The characterization shows that there are three practices and that they are interlinked to each other (see figure 5). The links between the practices consist of both input and output. The existence of the theoretical research practice and regular business practice is legitimated by an assignment (1 and 2) and that they have clients (3 and 4). As discussed above the theoretical research practice and the regular business practice have different assignments and clients.

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[1] In a non-intervening empirical setting there will be no intended contribution to a change interest.

[2] There may be some data collecting situations, which will have a very low impact on the change process, e.g. follow up interviews performed after the change process has been finished.

The links between the theoretical research practice and the business change practice/empirical research practice consist of a research assignment (5) and empirical data as results (6). The links between the regular business practice and business change practice/empirical theory practice consist of change requests as assignments (7) and a change results (8).

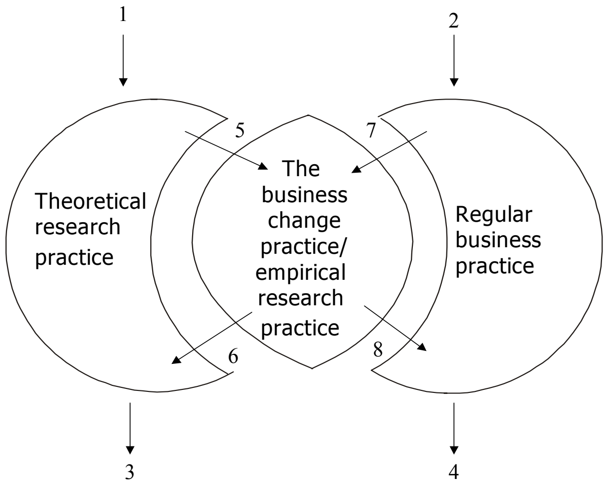

Figure 5 Three interlinked practices

The main assignment for the research practice is to develop new theory and the main assignment for the business practice is to perform actions that will benefit a client. The change practice can be understood as the interaction arena between the research practice and business practice where researcher-supported change work is performed. The existence of the change practice is motivated by needs from both the research practice and the business practice. Further, the change practice is of a more temporary nature than the research practice and the business practice. When the actors in the research practice move to the change practice they also change roles. They become both researcher and change actors. The same goes for the business actors. When they move to the change practice they become change actors.

It is important to note the three practices will be run simultaneously. There will be continuous flow between the practices. The flow consists of assignments, bases and results. One important aspect of action research is that the cycles between empirical and theoretical work are much shorter and that they are performed continually. This means that data brought back to researcher reflection[1] (within the theoretical research practice) may give rise to modified research questions/hypotheses, which will act as new assignment in the next cycle of empirical work.

[1] This is not to be understood as we deny the existence of joint researcher-practitioner reflections within the business change practice. Such joint reflections will occur and they are often very important in action research. Besides such practical reflections, there will be "theoretical reflections" made by the researchers in their own arena when they have made an intentional distance to the empirical/change arena.

5. An empirical illustration: Action research in home care service

In section 4 we have discussed the conceptualisation of three interlinked practices on a general level. In this section we will give some empirical illustrations aiming at further clarifications (see table 2) of the analysis performed in section 4. For the empirical illustration we use results from a participatory action research project. The project concerned a municipal home care unit for serving elder people. The major tasks of the home care are to help the elders with daily hygiene, simple medical tasks, cleaning, doing laundry, shopping etc. The personnel consist of two home care managers who are responsible for the home care unit and a number of home care assistants. The home care assistants are responsible for the daily work with the elders.

The home care assistants are well qualified and experienced. Their work can be characterised as flexible and responsive to the different needs of the elders. This kind of flexibility is also characterising the administrative work at the home care unit. The home care assistants are governed in their work by much tacit knowledge. Documentation routines have evolved gradually. There are many types of documents; a number of self-made as well as pre-printed forms (e.g. journals, diaries, note pads, schedules etc.). These documents are used for communication about clients, assignments, measures and work procedures. In our study we discovered that many documents, especially the self-made forms, were unclear. There were no exact rules for what should be written in different documents.

The terminology was rather fluid. Many documents lacked a clear rubric and after intervewing the staff it became obvious that some documents lacked a common name. From an information systems perspective it is easy to be critical towards this fluid and vague communication and document treatment. There are programs for improved quality assurance in the home care service. There are initiatives made to have a more ensured home care service. Our ambition when working with the home care routines was that they should be designed in ways making it possible even for inexperienced substitutes to perform work in a proper way. This necessitated a redesign of several work documents and the introduction of prescriptive routine descriptions. It necessitated the development of IT-based information systems. In the ISD project four researchers and two home care assistants and two home care managers participated.

One main objective for the home care service is the individualisation of the home care. To perform home care is not a standardised service. The home care unit strives for maximum individualisation. The elder clients should live their lives in their own desired ways. The home care assistants should support the clients to live in their own ways. In order to do this there is great need for knowledge. The home care assistants must have a good understanding of every person, about their personal life history, their current social and medical situation and their habits and needs. This partially changing knowledge must be transferable to all members of the home care team since there is not one single assistant who takes care of a particular elder. One objective of the IS to be developed was to contribute to this knowledge sharing (Goldkuhl & Röstlinger, 2002).

This illustration can be seen as an empirical grounding of the conceptualisation made in section 4. The results from the empirical illustration strengthen our belief in that there are three different practices with different conditions, actions, results and clients.

	Theoretical Research Practice	Business change project/empirical research practice	Home Care Unit (Regular work)
Assigner	Academy	Researchers (theoretical research practice) and home care unit	Client (patient) ordering home care service
Assignment	Develop new knowledge, Research application/Research agreement	Research interest, research questions (from theoretical research practice) Change request (from regular business practice)	Individual care plan, orally specifications from client, journal notes,
Base	Established and hypothesized research knowledge	Parts of the regular business (to be observed and reflected upon as a base for change proposals) Research knowledge as useful ideas for change	Clients with care needs
Financial providers	The Swedish Agency for Innovation Systems	Home care unit and research funding	Client Administration of Health and Social Affairs
Procedural knowledge, instruments	Action Research Observation Interviews	Change and methods	Action plans, IT-system, manuals
Actions	Reflexive actions Interpretative actions Theory development actions	Change actions - change the home care unit - research actions (explorative actions, observation actions, reflexive actions and interpretative actions).	Regular actions in the home care unit
Results	Knowledge (theories, models, frameworks)	Change result (to the home care unit) Data (to the theoretical research practice)	Services for clients
Clients	Academia, practitioners	Researchers, home care unit	Clients of the home care unit

Table 2. Empirical illustration

6. Conclusions

In this paper we have proposed a practice perspective for conceptualising action research. A way to understand action research is to describe three distinct but interrelated practices. The use of the generic model of work practices (ToP) has revealed that there are different assigners, assignments, bases, financial providers, procedural knowledge and instruments, actions, results and clients for the practices. We have also described how the three practices are interlinked to each other. McKay & Marshall's (2001) claim that there are links between the problem solving and research cycles in AR. But in their study the meaning of the links is unclear. The links that we have identified shows how the research practice and the business practice are benefiting from each other.

As we see it, there is a risk with a fuzzy understanding of action research. A mix or reduction of the concept action research could lead to confusion, communication problems or authority problems among the researchers and the business actors. Avison et al (2001) raise the question of authority and asks "Who is really in charge of the research project?". It is unclear which of the practices Avison et al are thinking of when asking the question. As we see it the researcher is always "in charge" of the theoretical research practice as well as the business practitioners are "in charge" of the regular business practice. In the business change practice/empirical research practice, the researchers are "in charge" of the empirical data collection part and the business practitioners are "in charge" of the business changes (see figure 5).

Lau (1997) discusses action research in terms of classical and emergent action research. Classical action research views the researcher as an expert and the participants as subjects. Emergent action research views the researcher as collaborators and the participants as co-researchers (ibid.). Heron & Reason (2000) proposal can be classified as emergent action research. As a consequence of our findings, we don not agree with Heron & Reason (2000) when they claim that "all the subjects are fully involved as co-researchers in all research decisions – about both content and method – taken in the reflection phases". The researchers have as "research producers" a responsibility for their results and must of course therefore be able to take responsibility for the choice of research questions and methods.

The reason for not agreeing with Heron & Reason (2000) is that they seem to miss that there exist different conditions for the practices (se section 4). A common criticism against participatory action research is that it lacks from scientific rigor (Kemmis & McTaggart (2001). On the other hand, if the researchers' goal dominates the process of inciting actions there is a risk that the actions may not be guided closely enough to the change problem Baskerville (2001) calls this risk for the "First-Degree Outcomes Failure".

We are not favouring classical action research but we think that the proposal from Heron & Reason (2000) is too radical and takes participatory action research one step to far. Of course, action research is about collaboration and we agree with viewing the business actors as active project members rather than passive information deliverers, but the collaboration takes primary place in the change practice and not in the theoretical research practice.

Lau (1997) means that action research provides a unique opportunity to bridge theory with practice, allowing one to solving real world problems while contributing to new knowledge. In this paper we have made the bridge explicit through discussing a third practice, the business change practice/empirical research practice.

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