

COLLABORATIVE PRACTICE

- AN ACTION RESEARCH APPROACH TO EFFICIENT ITSM

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Abstract

This paper addresses collaborative research as an action research approach. Many times action research is described as embracing one research organisation and one business organisation. We are challenging this view by introducing the concept of collaborative practice. A collaborative practice can be seen as a cluster of local practices and researchers working together. In this way, a collaborative practice should enable joint learning between, and joint development efforts for, several business practices as well as contributing to general practice and the scientific body of knowledge. Based on a case study within efficient IT Service Management (ITSM), the concept of collaborative practice and its relation to other adjacent concepts (such as local practice, general practice and scientific body of knowledge) have been characterized. Our results should be viewed as preliminary since they are gathered from an ongoing project.

Keywords: Action research, collaborative research, general practice, ITSM, practice research

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1 Introduction

Many times the development of existing practices needs to be inspired by actions and experiences from other practices as well as theory. Performing research in close relationships with business practice is advocated in action research (Lewin, 1946; Susman & Evered, 1978). Action researchers engage in business change processes (Cronholm & Goldkuhl, 2004). Being a practice researcher you have a desire to make a difference. This can be done by working in close interaction with one organization or with several organizations. It is not unusual that the client system (cf. Susman & Evered, 1978) in action research is constituted by several organizations and thereby the intervention would have the goal to influence several organizations' performances in an efficient way.

A parallel trend is that organizations of today are deemed to move from closed to open innovation. As claimed by Chesbrough (2003):

In closed innovation, a company generates, develops and commercializes its own ideas. This philosophy of self-reliance dominated the R&D operations of many leading industrial corporations for most of the 20th century. ... In the new model of open innovation, a company commercializes both its own ideas as well as innovations from other firms and seeks ways to bring its in-house ideas to market by deploying pathways outside its current businesses. Note that the boundary between the company and its surrounding environment is porous ..., enabling innovations to move more easily between the two.

This is a call for that organizations need to collaborate in order to develop its own practice. That is, by inter-organisational discussions, reflections and actions an organization can develop its own practice and thereby arrive at a higher quality of its performance. This level of practice is in this paper conceived as the local practice. In the spirit of open innovation (Chesbrough, 2003) it is common to set up organized projects that engage several local practices for the purpose of enabling stronger collaboration or facilitating learning and development among the involved parties. Through joint learning and development a higher quality of each organisation's local practice can be reached. Sometimes researchers are closely involved in the process to enable stronger collaboration and facilitate learning among the parties involved but also to generate new knowledge to the local and general practice and to the scientific community. One such approach is collaborative practice research. Mathiassen (2002) describes that as a way to organize and conduct practice research based on close collaboration between researchers and practitioners. According to Mathiassen (2002) it offers a practical way to strike a useful balance between relevance and rigour.

Building on action research, and founded in practical inquiry, Goldkuhl (2008) identifies three levels of concern for knowledge creation: "Practical inquiry means that an inquiry is an investigation into some part of reality with the purpose of creating knowledge for a controlled change of this part of the reality" (Goldkuhl, 2008). Since "practical inquiry acknowledges the interest into concrete practical matters and the interest to contribute to scientific knowledge" (ibid.) we conceive this approach as practice research. The three levels of concern for knowledge creation raised by Goldkuhl (2008) are local practice, general practice, and scientific body of knowledge (SBK). We do however stress that these levels of inquiry also should be thought of as areas in which development is performed for (cf. action research).

Practice governed research means that there is an interest in actions (Goldkuhl, 2008b). In order to talk about a practice it is essential to identify its characteristics. For this we need theories for conceiving the constituents of the practice, its conditions, and what results that are expected from the practice. In this paper we are especially interested in IT service management (ITSM) as a practice and how it could be made more efficient. ITSM is part of the Service Sciences that concentrates on IT Operations

(Galup et al, 2009). ITSM can be defined as “a set of processes that cooperate to ensure the quality of live IT services, according to the levels of service agreed to by the customer” (Young 2004). Conger et al. (2008) add that ITSM “focuses on defining, managing, and delivering IT services to support business goals and customer needs, usually in IT Operations”. Service oriented IT Management can be seen as a philosophy for an orientation towards market, service, lifecycle and processes (Zarnekow et al. 2005). Further Beijun (2008) claim that ITSM is a discipline that strives to align IT efforts to business needs and to manage the efficient supply of IT services with guaranteed quality.

The notion of practices has many levels of abstractions. As mentioned above there is the local practice that concerns the raising of the quality of an organization's own performance. In the setting of this paper several local practices performing ITSM are engaged in a project (framed as ‘efficient ITSM’) with the purpose of jointly finding means for making their practices more efficient. This development endeavour forms a practice in itself (a collaborative practice) aimed towards fulfilling the joint goals of the project. There is also a general practice level that covers common (including best practice) knowledge related to the domain that is of concern. Within ITSM there are some different approaches mentioned that would be characterized as knowledge on the general practice level.

However, the focus in this paper is to conceptualize collaborative practice as the practice for action researchers and several local practices to meet and jointly develop conditions for their respective practices, i.e. the theoretical research practice and the business practice (c.f. Cronholm & Goldkuhl, 2004). As a practice researcher you are supposed to make knowledge contributions on different levels of concerns. This is especially a challenge when case studies are used. The researcher is supposed to make a contribution to the studied practice in the case study as well as making scientific contributions. The challenges concerning generalising from case studies are well known (Yin, 1994). In this paper we elaborate on the interplay between the collaborative practice and the three levels of concerns (see figure 1) for the conduction of projects constituted by a client system of several organizations aiming at developing each of the parties’ local practices. The research is driven by two inter-linked research questions:

1. What characterizes a collaborative practice?
2. How does a collaborative practice relate to local practice(s), general practice, and the scientific body of knowledge?

The paper is structured as follows. In the next section the collaborative practice as an action- and practice research phenomena is introduced. Then a brief description is given about the case study followed by a discussion of different knowledge objects existing on the different levels of practices (including the scientific body of knowledge guiding the researchers focus). This is followed by a discussion on the two research questions and the paper is then concluded with some final remarks and areas for further research.

2 Introducing collaborative (change) practice as an action and practice research phenomena

2.1 The change practice in action research

Cronholm & Goldkuhl (2004) argue that action research consists of three interlinked practices: the theoretical research practice (= studying the development project), the change practice/empirical research practice (=improve IT Service Management, see section 3.1) and the regular business practice (= the running business performing IT Service Management).

The theoretical research practice is the arena where new knowledge is developed. A change practice/empirical is the arena where researchers and practitioners meet. The change practice/empirical research practice can be seen from at least two perspectives. From the perspective of the researchers

this practice is seen as an empirical research practice. It has served as a base for collecting data. From the perspective of the practitioners this practice is seen as a change arena. There is a change request from the business practice. The three practices exist simultaneously with a continuous flow of data between the practices. The flow consists of assignments, bases and results.

However, Cronholm & Goldkuhl (2004) address the change practice/empirical research practice as an arena where only one organization (one business practice) is present. In the research project described in this paper, we have formed an arena where seven organisations have collaborated, i.e. we address the collaboration between several organizations in the change practice/empirical research practice.

2.2 Collaborative practice in relation to the three areas of concern

As discussed above three levels of concerns for knowledge creation are identified. A necessity of introducing a collaborative practice for facilitating joint development between local practices has been introduced. The collaborative practice is a joint arena, the client system, enabling action researchers and representatives from the local practices to meet and perform joint development of common concerns. Expressed in the terms of Cronholm & Goldkuhl (2004) the collaborative practice is the change practice engaging all stakeholders, researchers and practitioners, engaged in the project.

The collaborative practice does thus have relationships to the three levels of concern for knowledge creation raised by Goldkuhl (2008a) (cf. also Rudmark & Lind, 2011). In figure 1 below six relationships are identified contextualising collaborative practice in relation to the levels of concern. This means that the collaborative practice, as a practice (cf. Goldkuhl, 2005), will create results aimed for different clients (arrows 1, 3, and 6 in figure 1) having different purposes of using the results. It has also been identified that the collaborative practice uses experiences and knowledge existing on the different levels as basis (arrows 2, 4, and 5 in figure 1) for the practice.



Figure 1. Collaborative practice in relation to the levels of concern for knowledge development.

3 The case of efficient ITSM as collaborative practice

3.1 Description of challenges considering ITSM

Recent studies show that 80% of the IT-related work consists of ITSM (Brandt, 2008). ITSM is costly, and plays a critical role in supporting and satisfying business requirements. Customers that the practice is producing value for often consider 1) this service sector as inefficient and 2) it is not transparent what they pay for. Both academia and industry need to develop their knowledge of ITSM as a work practice, and how it can be made more efficient, effective, and value creating. The IT work practice has existed more than 40 years, but IS/IT research on ITSM, i.e. IT maintenance and IT operations, is scarce. This 3-year project (2010-2012) seeks to contribute with new knowledge in this area. Some research questions addressed are:

- How can the size and complexity of the maintenance object be described and measured?
- How can the efficiency of ITSM be evaluated?
- How can the effectiveness of ITSM be evaluated?
- How can ITSM be governed in an innovative way to make it more efficient and effective?
- What competencies are needed in order to make ITSM more effective and efficient?
- How can the ITSM workpractice be described and comprehended in a better way?

In order to answer these questions, a scientific approach based on three theoretical sources was chosen: work practice theory (Goldkuhl, 2005), evaluation theory (Cronholm & Goldkuhl, 2003; Lagsten & Goldkuhl, 2008; Hirschheim & Smithson, 1999), and service management theory (Gummesson, 1993; Vargo & Lusch, 2004).

3.2 Collaborative practice development for joint development

This project engage six researchers from different universities (the research team), and representatives from seven organization performing ITSM. Each company forms a local practice, while the complete group of businesses and researchers together constitute the forum for the collaborative practice. The organizations, together with other organizations in the industry and the community outside the project, forms the general practice. Table 1 below describe the different meetings / interactions in the project.

Initially the research team and the corporate group of organizations met at about half a dozen times to identify the challenges that currently exist in the area of ITSM. By doing this, some initial challenges were identified and highlighted by the individual local practices, which sometimes other local practices have not been able to put into words or even identified as a problem. Thus, already in a very early stage in the project, some knowledge on the collaborative practice was created.

Between the initial project meetings the research team created an initial analysis of the identified ITSM problems in order to plan alternative science-based approaches and to find proposals for action. After the initial meetings the research team carried out case studies at each local practice (in sequential order) with a focus on revealing goals, challenges, and processes for the ITSM (local) practices.

The results of these case studies were then presented for the participants in the project which sparked a discussion (within the collaborative practice).

One (of many) examples of knowledge components that was disseminated among local practitioners within the collaborative practice is the phenomenon called "productivity model". In one of the case studies, the research group identified that the company already had developed a locally tailored solution as an answer to the challenge of how to measure, and thereby, in a pedagogical way, demonstrate the value of ITSM to the customers. This company, held a training session on the

productivity model for the other local practices. A number of the other member companies in the project embraced the productivity model, which is based on a mathematical formula, and are about to test it in, and to adopt it to, their own local practices. The experiences from the first trials will then be returned to the (originating) company that in turn could improve the productivity model. This will also form a discourse within the collaborative practice.

Meeting	Type	Interval	Participants	Objective
Initial collaborative practice meeting	Physical meetings	Monthly	Local practitioners, Research Group	Identify and describe challenges
Research Group Meeting	Physical meetings	Monthly	Research Group	Plan and tune research progression.
Project meetings	Physical meetings & telephone meetings	Monthly	Local practitioners, Research Group	Reconciliation of progress for all groups.
Case studies	Physical meetings & Telephone meetings	Approximately three-month intervals	A local practice per case, Parts of the research team	Identify challenges and possible solutions.
Collaborative practice meeting	Physical meetings, Telephone meetings	When necessary	Research Group, All or part of local practitioners	Disseminating information and get feedback on different types of ideas and knowledge

Table 1. Different meetings/interactions taking place in the project

Within the project, the work has thus been organized as in-depth case studies at each of the local practices in order to arrive at a thorough understanding of the constituents of the ITSM practice. As depicted in figure 2 below there was interplay between each of the cases and the collaborative practice development.

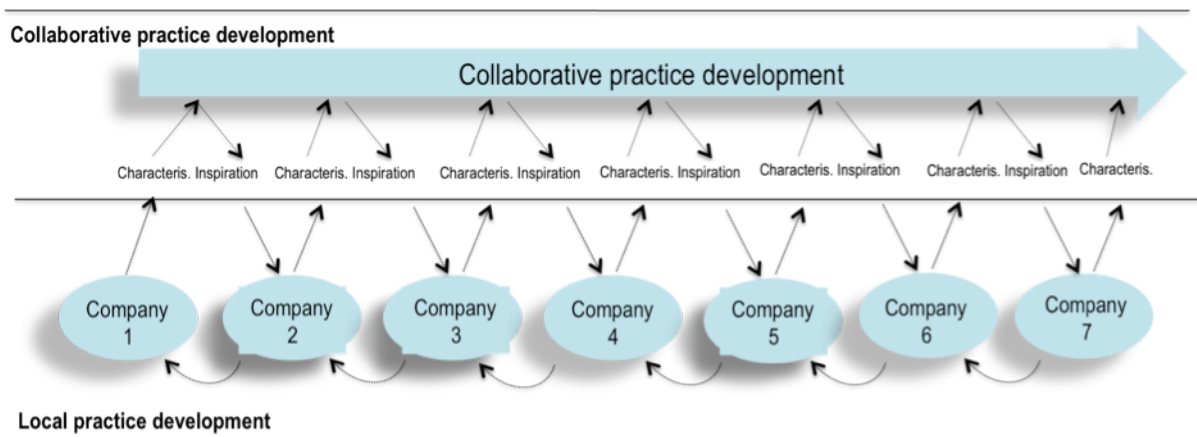


Figure 2. Interplay between local and collaborative practice development

The arrows in the figure 2 above shows that case studies has been performed in sequence bringing characterizations of each of the local practice being studied to an area of common concern. This has then inspired succeeding case studies for directing attention towards essential aspects in the ITSM practice. The arrows going backwards (in the bottom of the figure) show the ambition of revisiting earlier cases when finding new characteristics in latter cases. The collaborative practice raised issues

that were found being of concern for the cluster of organization. This interplay meant that characteristics derived from each of the cases were used as sources for inspiration for succeeding cases.

To facilitate the development in the collaborative and the local practice level the general practice (and its development) became an important source as well as the ongoing scientific development. At the same time the work performed on the level of local practice development and collaborative practice development had an ambition to inform general practice development as well as the scientific development.

For each of the cases a number of challenges were identified. Within the collaborative practice development each of these challenges formed areas of concern to further work on. In figure 3 these challenges are depicted in the left-hand rectangle. These joint challenges then informed what knowledge sources (in general practice and within scientific body of knowledge to look for) (the middle rectangle of figure 3). The joint challenges (derived from local practice) and an ambition to cumulatively contribute to the knowledge sources formed the research focus.

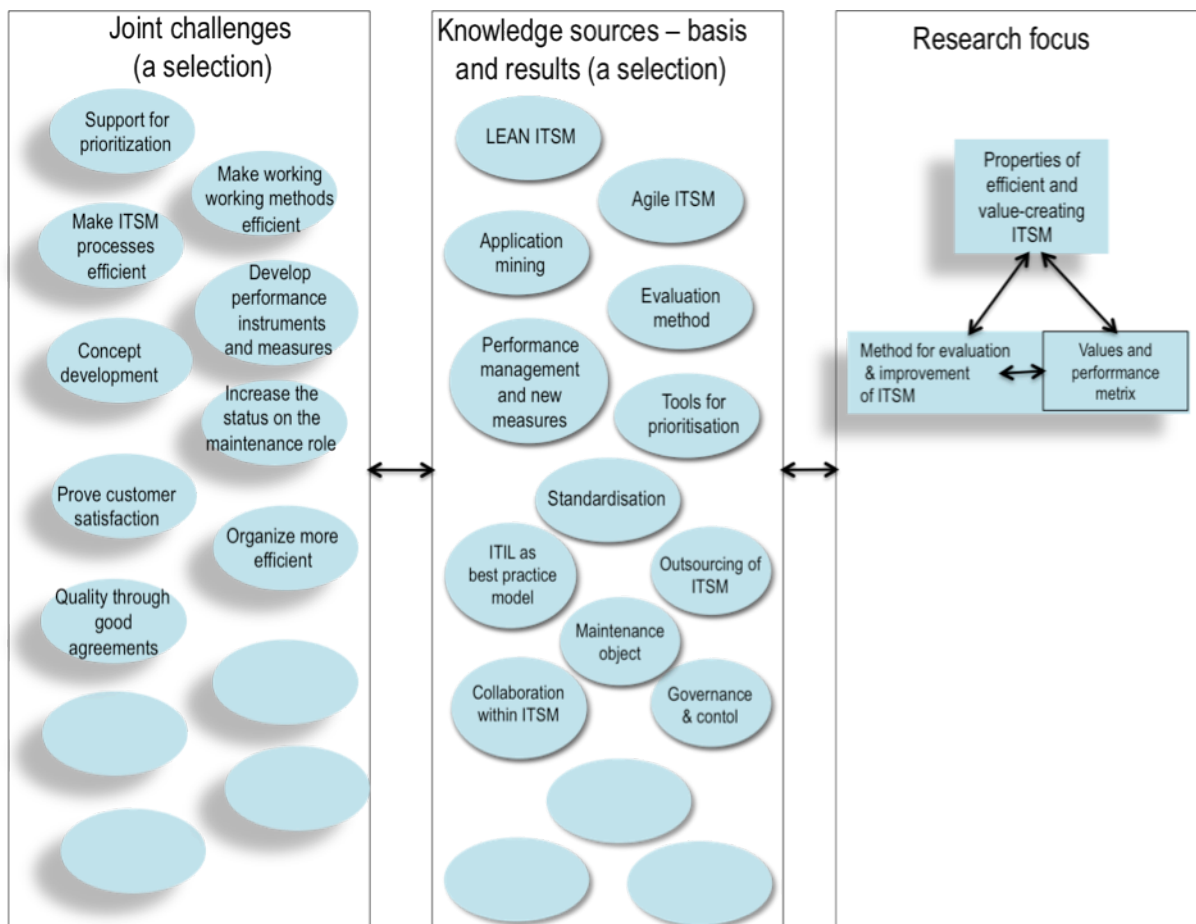


Figure 3. Interplay between joint challenges (derived from collaborative practice development), knowledge sources, and research focus

4 Discussion: Characteristics of collaborative practice

4.1 The collaborative practice as workpractice

To give an account for a practice perspective means that you have actions as well as conditions for, and results, of actions in focus. From a holistic point of view groups of actions and their conditions and results performed for someone else can be characterized as a work practice. As defined by Goldkuhl (2005):

”A work practice means that some actors make something in favour of some actors, and sometimes against some actors; this acting is initiated by assignments from some actors, and is performed at some time and place and in some manner, and is based on material, immaterial and financial conditions and a work practice capability which is established and can continuously be changed” (Goldkuhl, 2005).

Inspired by Cronholm & Goldkuhl (2004) and Goldkuhl (2005) the boundaries of the collaborative practice is characterized below according to the properties that work practice theory inherit. We have earlier pointed out that the collaborative practice is an arena, which has direct relations to both the scientific body of knowledge, local practices and general practice(s), (cf. figure 1). An important character of the collaborative practice is that researchers and practitioners meet to make a difference in research, local practices, and/or general practice. This should be done in a collaborative interacting way where interests and issues (research, local practice, and general practice) are dealt with in isolation or simultaneously. The simultaneous dimension is according to our experiences quite common and there is a continuous shift between what is in the foreground and the background. Even if the foreground focus is on one of the levels of concern (scientific body of knowledge, local practice or general practice) the other levels cannot be ignored. They also need to be addressed but they will reside in the background. In the table 2 below, we have made a characterisation of the important characteristics in collaborative practice as action research. As a support for the characterisation we have used a generic model for work practices (Goldkuhl & Röstlinger, 2002).

<i>Work practice characteristics</i>	<u>Collaborative practice as action research approach</u>
<i>Assigner</i>	Researchers and/or business practitioners and/or funders
<i>Assignment</i>	Overall aim is to develop new knowledge, that covers research interest, practical interest (local and general) and the intersection between them. The assignment is often expressed as a project description that governs the expectation and the different activities performed by the different roles.
<i>Base</i>	Established and hypothesized research knowledge and the regular business(es) to be observed and reflected upon for agreed purposes.
<i>Financial providers</i>	Diverse funders (such as research funding and funding from regular practices).
<i>Procedural knowledge, instruments</i>	Research based- and local instruments (theories, methods, tools, best practices, patterns etc.)
<i>Producers</i>	Researchers and practitioners
<i>Actions</i>	Actions for development of both research knowledge, the local practice, and the general practice
<i>Results</i>	Research oriented- and/or local instruments (theories, methods, tools, best practices, patterns etc.), empirical data for research, and experiences/knowledge about research and practice
<i>Clients</i>	Academia and practitioners

Table 2. Characterization of collaborative practice as a change practice within action research

As can be scrutinized from the table 2, dimensions of project management and the existence of multiple roles being engaged in the realization of the work practice are included besides different work practice characteristics (instantiations of action objects and roles).

One important validity claim for the knowledge developed on the different layers of practices is the applicability of the knowledge. We claim that the higher up in the hierarchy (practice) knowledge development is performed in our framework the more situations the knowledge needs to be possible to adapt to.

4.2 The collaborative practice in relation to the three levels of concern

In figure 1 above, different relationships between the collaborative practice and the different levels of concerns are depicted. In table 2 above, it is also identified that the different levels of concern both are conditions for the collaborative practice, and that the collaborative practice create results that are relevant for the three levels of concern. This means that there will exist dual relationships between the collaborative practice and each of the three levels of concern. This duality also means that a cumulative development of areas of concerns within the three levels is enabled. In the table 3 below, a first step towards characterization of these relationships is brought forward.

	<i>Conditions for collaborative practice</i>	<i>Results from collaborative practice</i>
<i>Local practice (s)</i>	Areas that are of concern for multiple local practices	Change results for local practices for high quality and competitive performance
<i>General practice</i>	Knowledge (theories, models, frameworks) that are of concern for and can guide the development performed in the collaborative practice	Incremental development of general practice Best practice formulation
<i>Scientific body of knowledge</i>	Research knowledge that are of concern for and can guide the development performed in the collaborative practice	Empirical foundations (in different roles dependent on research strategy)

Table 3. Relationships between collaborative practice and the three levels of concern

Within this project the utilization of the notion of practices has been a meaningful way to conceptualize the relationship between the collaborative practice and the different levels of concern. In order to make ITSM more efficient, valuable, and attractive it has been necessary to be concerned with that actions create desired outcomes. There has been areas of concern raised on the local practice level that do not seem to have any resemblance for other involved organizations at the same time as some concerns that have been raised by one organization also turned out to be of concern for other organizations. In this way, a collaborative endeavour was created and the different actors acting on behalf on their organizations became aware of that the problem that they experienced was shared among other actors. On the collaborative layer there has been a lot of knowledge transferring between the companies participating in the different case studies. All the companies have been involved in many complex and challenging situations. Since many of the participating companies had experienced similar problems concerning efficient ITSM they all were motivated to understand how other companies had “solved their problems”. That is, the representatives of the companies were motivated to share knowledge. In this way a win-win situation was arranged. When a concern became mutual enough it generated a desire to look for other sources of inspiration to meet these challenges.

Based on the characterization of the collaborative practice (see table 2) and the relationships between the collaborative practice and its (primary) environment (see table 3) some different research challenges have been formulated. These research questions have been formulated in the table 4 below. These are to be seen as research questions that have come forward due to a perspective on that action research should make difference by the engagement of several business parties.

	<i>Conditions for collaborative practice</i>	<i>Results from collaborative practice</i>
<i>Local practice(s)</i>	How can it be ensured that the areas of concern and insights identified on local practice level are valuable for the collaborative practice?	How to ensure that results created in collaborative practice becomes guides the development and is transformed to each of the local practices?
<i>General practice</i>	How can it be ensured that the knowledge conceived is general practice knowledge?	How to ensure that the general practice knowledge (theories, models, frameworks) also influence the parties that the knowledge is aimed for?
<i>Scientific body of knowledge</i>	How to identify research knowledge that is of interest for the collaborative practice? How to ensure that the hypotheses to be explored are theoretically grounded and of interest for several local practice(s)?	How to utilize the possibility of getting several empirical sources as the basis for cumulative development of the scientific body of knowledge by the application of the developments brought forward in the collaborative practice? Which validity claim can and should be raised on knowledge developed on practice research foundations?

Table 4. *Research concerns (research questions) in the relationship between collaborative practice and the three levels of concern*

5 Final remarks and further research

Organizations need to collaborate to develop their business practice with high quality. Researchers need to engage with practice in order to make a difference. Research – practice collaboration is emphasised within action research. In this paper the notion of collaborative practice has been brought forward for the purpose of facilitating joint learning and development between several business practices and researchers.

The overall strive is to reach high quality of knowledge aimed for the different practices, as in solid empirical foundations and well-founded theoretical sources, and at the same time high quality and competitive advantage of business performance in the engaged local practices. In this paper the notion of general practice has also been brought in as a general source for, as well as a recipient for the results of, the joint efforts performed in the collaborative practice. Through our project on IT service management the collaborative practice has become the arena where practitioners, acting on behalf of different local practices, and action researchers meet. This arena concerns the collaborative efforts among a cluster of local practices.

In this paper we have characterized the collaborative practice as a practice and its dual relationships (i.e. creating the basis for as well as generating results to) to local practices, general practice(s), and the scientific body of knowledge. What we haven't done is to conceptualize different patterns of collaboration within the collaborative practice. Besides more detailed research questions identified in the boundaries between the collaborative practice and the environment another area for further research interesting to explore are the constituents of the collaborative practice. What different patterns of actions performed within the collaborative practice do exist for the purpose of arriving at different results having desired effects? Theoretical frameworks for such conceptualization are action theories, such as socio-instrumental pragmatism (Goldkuhl, 2005), as well as frameworks for network orchestration (c.f. Dhanaraj & Parkhe, 2006; Hjalmarsson & Lind, 2011).

Another area for further research is to explore which validity claims that should be raised for the knowledge being created by the collaborative practice aiming for the different levels of concern. It

would be relevant to claim that the higher up in the hierarchy (practice) knowledge development is performed in our framework the more diverse situations the knowledge needs to be possible to adapt to. How can such context-spanning knowledge be validated and formulated? In the beginning of this paper some research questions were raised concerning the differentiation of different practice levels and their interplay with a collaborative practice. Through our experiences we see that collaboration among local practices can set joint agendas for collaborative development. There will also be different criteria governing the differences and the role that local, and general practice as well as the scientific body of knowledge has when it concerns development and application of practical theories. We therefore believe that it requires further conceptual development related to the constituents of each layer as well as the interplay between these in relation to the notion of the collaborative practice. Our work can so far be viewed as a proposal and the results are preliminary. Some questions that need further attention are:

- What are the differences between the knowledge developments, guided by practice principles, performed on each practice level?
- Could the differences of applicability and target groups be used for determining the differences between the different layers?

A final remark is that it would be interesting to explore the possibilities of a framework for stimulating collaboration between practitioners without having action research ambitions. Would it be enough to just take away the ambitions of contributing back to the scientific body of knowledge and which roles does such ambition have? When is it not practice research, but valid enough anyway for running practice development projects engaging several business partners transcending organizational boundaries?

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