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Collaboration and validation in practice research and design research: Editorial

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1 Research with the purpose to influence practice

In information systems (IS) there is a long tradition with research involving the influence of practice. Such research does not only create new knowledge. All research aims for new knowledge. In traditional explanatory research scholars attempts to create new knowledge about circumstances not yet well understood. But practice influencing research creates new circumstances and as a consequence it creates knowledge about this new possibility. This kind of research means participating in the creation of new possibilities. Such a creation processes consists usually of different stages; first a proposal stage where some new possibilities are envisioned in relation to backdrop of problems and needs, second an attempt to realize the new possibilities and third, an investigation of use and effects of the new possibilities.

Design research (or design science) is a research approach in IS that is gaining more and more popularity. The main idea is to design artefacts and to create new knowledge about these artefacts (Hevner et al, 2004). Design research (DR) is sometimes contrasted with behavioural research, which is investigating "what is". Design research aims at producing "purposeful artifacts [that] are built to address heretofore unsolved problems" (ibid p. 78). This means that DR is concerned with "what might become". Hevner et al (2004) describe how DR is related to a business environment – through transformation of business needs into design solutions – and to a scholarly knowledge base – through the use of extant knowledge and additions of new knowledge. The main idea of DR is the influence of practice through the design of new artefacts. Essential in DR is a continual iteration of build and evaluate activities. There are different views on whether DR contributes with any theoretical result. There are scholars who emphasize the outcome to be design theory (Gregor & Jones, 2007) or design principles (Sein et al, 2011).

Practice research (PR) is a broader research approach that encompasses different kinds of practice influences (Goldkuhl, 2011). PR makes a fundamental division into local practice and general practice. Local practice is the specific practice that a researcher inquires as an empirical basis. General practice is "a set of different practices with relevant similarities" (ibid p. 10). As a consequence of this differentiation a related differentiation is made between local practice contribution and general practice

contribution. A local practice contribution can be an evaluation, a designed artefact or some implemented changes. This kind of local practice contribution is aimed to be an adapted influence on this specific practice. A general practice contribution is a contribution of abstract and useful knowledge that is not specific to any local practice. Based on a situational inquiry into one or more local practices, PR is concerned with theorizing, which means creation of knowledge for both general practice and research community (figure 1). Essential in PR is also that the empirical field is conceived to be a set of inter-related practices; hence a practice perspective is adopted.

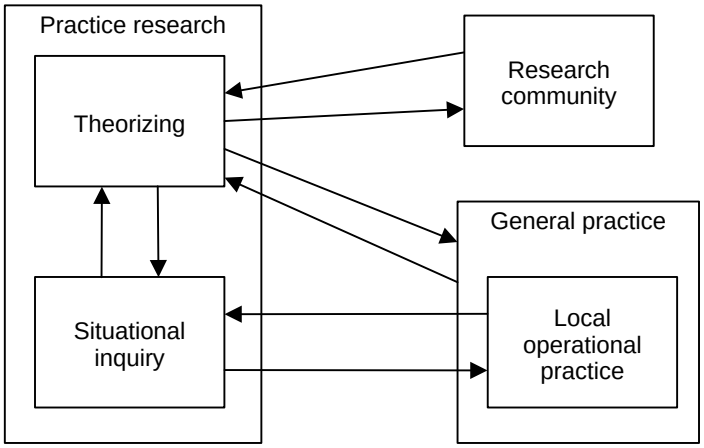

Figure 1: The structure of practice research (slightly modified from Goldkuhl, 2011)

Design research can be seen as a special kind of practice research. In such a case the local practice contribution is a designed artefact. The general practice contribution is conceived to be design principles or design theory. What is called situational inquiry in PR corresponds to design work in DR. The two research approaches (PR and DR) work with inquiry, design and intervention for the sake of practice improvement. Evaluation is important both for the quality of local practice contributions (of diverse kinds) and for the abstracted results aimed for general practice and the scientific community.

Research influence on practices (through design and intervention) is a way to gain knowledge about new possibilities. It is also based on a view of the empirical field as socio-technical practices in a continual change trying to reach goals and elaborate on new opportunities. In PR and DR researchers participate in such change endeavours.

2 The challenges of collaboration and validation

There are several fundamental challenges in practice research and design research. Both research approaches build on the idea of researchers' *interaction* with practice. Such an interaction can involve close *collaboration* with practitioners, who may thus participate actively in research defined activities. Collaboration can be performed with a small set of practitioners from a specific local practice. But it can also involve many practitioners from several organisations constituting a broad practice community. There are many issues and challenges related to practitioner collaboration. How should the practitioners be involved in research defined activities? What should the

role of practitioners be in research activities? How should researchers collect information about practical needs? How should researchers and practitioners form agreements on research-supported change/improvement of practices? How should researchers interact with local practice vs. general practice?

Another important area of challenge in PR and DR is *validation*. These research approaches are not restricted to studies on "what is" as described in section 1 above. They are concerned with influence and change. How do we validate results from such studies? "What might become" induces special challenges and concerns. Artefacts and interventions are seen as responses and solutions to practical problems. A clear link between the problematic background and the proposed changes should be established. The future utilisation of artefacts and changes should imply positive effects, but can also lead to unanticipated negative consequences. It is of great importance to cover different types of effects and reactions to developed artefacts and changes in a validation process.

3 Special issue: background and purpose

On June 10, 2012 a pre-ECIS workshop on "IT Artefact Design & Workpractice Intervention" (ADWI-2012) was arranged in Barcelona. Organizers of this workshop were the Department of Management and Engineering, Linköping University, Sweden, the Innovation Value Institute, National University of Ireland Maynooth, Ireland and the AIS special interest group on Pragmatist IS research (SIG Prag). The ADWI workshop attracted several submissions and 15 papers were, after a regular peer-review process, selected for presentation at the workshop (www.vits.org/adwi/). The papers were grouped into three themes:

- Artefact & practice theorizing
- Practice research
- Design research

Based on the result of workshop a decision was made to produce two special issues in Systems, Signs & Actions with selections of papers from the workshop. One special issue theme was decided to be "Collaboration and validation in practice research and design research". There is also planned a second special issue to be published later with the theme "IT Artefact & practice theorizing – pragmatic perspectives".

After a selection and review process we are now happy to present the special issue "Collaboration and validation in practice research and design research" consisting of four papers. These papers have been improved through four rounds of review and revision through the workshop and special issue referee processes. Göran Goldkuhl and Brian Donnellan were the co-chairs of the workshop and we are also the editors of this special issue and the authors of this editorial.

The purpose of this special issue is to make contributions to challenges in practice influencing research such as practice research and design research. These research approaches are gaining more interest and acceptance within the IS research community and it is of great importance to present reflected and empirically based knowledge on different challenges within such research. The focus is on collaboration and validation in practice research and design research.

We express thanks to all colleagues that have contributed in different roles to the workshop and to this special issue. We thank the following persons for acting as reviewers for the workshop and this special issue: Mark Aakhus, Stephan Aier, Pär Ågerfalk, Steven Alter, Michel Avital, Karin Axelsson, João Alvaro Carvalho, Dubravka Cecez-Kecmanovic, Rodney Clarke, Gabriel Costello, Stefan Cronholm, Hannes Göbel, Karin Hedström, Markus Helfert, Ola Henfridsson, Anders Hjalmarsson, Jonny Holmström, Gabriel Costello, Katrin Jonsson, Gustaf Juell-Skielse, Arvind Karunakaran, Jenny Lagsten, Habin Lee, Per Levén, Mikael Lind, Rikard Lindgren, Lars-Olof Lychnell, Judy McKay, Malin Nordström, Erik Perjons, Johan Petersson, Sandeep Purao, Kai Riemer, Matti Rossi, Atish P. Sinha, Jonas Sjöström, Rajiv Vashist, John Venable, Hans Weigand, Trevor Wood-Harper and Fahri Yetim.

4 Papers in this special issue

The papers in this special issue are dealing with different aspects of collaboration and validation in practice research and design research. The first paper is *A relevant issue: Establishing collaborations with multiple practitioners* authored by Katrin Jonsson and Per Levén. This paper focuses collaboration in practice research with a special emphasis on how to establish collaboration with a multitude of practitioners with different motivations and goals. It is based on a study of practitioner-researcher collaborations in a large regional innovation network. It addresses the challenges of maintaining a long term interest in practice research endeavors from different stakeholders. The authors claim significance to ensure engagement from stakeholders and relevance in addressed issues. They state the importance to develop a sensing capacity to identify different problems in the local practices. They also describe how different kinds of stakeholders (IT suppliers and process industry as customers) need to be involved.

The second paper is *Sharpening the knowledge domain transfer in practice research design: The BPM assessment* authored by Marie-Therese Christiansson and Klas Granström. This paper focuses the problem of transferring and utilizing knowledge within and in relation to practice research endeavors. The authors have conducted a case study concerned with Business Process Management maturity and assessment models. The problem of understanding and utilizing abstract models in practice has been addressed with the need to adapt knowledge codified in models to practical circumstances. The researcher is conceived to have key role as a coordinator of the knowledge transfer between local practices, general practice and research community. Modeling and use of business process diagrams, the knowledge domain transfer loop and a practice research snapshot is an appropriate way to plan, design, present and analyse research to explicit the prerequisites for and implications in the knowledge domain transfer. The use of a practice research snapshot as a notation covers the context scope, content and contributions.

The third paper is *The case for design science utility and quality - Evaluation of design science artifact within the sustainable ICT capability maturity framework* authored by Markus Helfert, Brian Donnellan and Lukasz Ostrowski. This paper addresses the fact that although many researchers have emphasised the criteria of utility for design artifacts and recent approaches have extended this view to other criteria, designing a suitable evaluation approach is still difficult, in particular, when research

is co-created with industry in an open research environment. In this paper the authors revisit the evaluation discussion in design science and illustrate an evaluation framework. The framework was developed and is used with the context of a novel IT Management model, the IT Capability Maturity Framework. The authors illustrate its application during the development of the maturity model for Sustainable Information and Communication Technology (SICT) called the SICT-Capability Maturity Framework (SICT-CMF). The work is particular interesting as the design artifacts are created within an open innovation community.

The fourth paper is *Collaboration by design – on the use of value modeling in social innovation projects* authored by Hans Weigand. This paper addresses the issue of collaboration in social innovation projects. It has a design orientation in the sense that it attempts to add new constructs to value modeling. An extension to the e3-value approach in the form of "value encounters" is introduced and applied to the problem of how to support co-creation in open innovation projects. This is illustrated through a case study "Innovative Contract Design". The paper adopts a practice perspective on social innovation and value encounters. It investigates the communicative action of value encounter through the use of constructs from the language/action perspective. The novelty of the approach lies in the fact that the method is the first that covers the whole innovation process, from initiation to exploitation, from both a communication and a value creation point of view. The method draws upon several existing modeling techniques in both domains, but uses them, for the first time, in an integrated way.

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