



Practices, modifications and generativity – REA: a practical tool for managing the innovation processes of practices

Juha Koivisto ^a and Pasi Pohjola ^a

^a National Institute for Health and Welfare, Finland

Abstract

In this paper, a practical REA tool for studying and evaluating practices in the social and health field is introduced. The tool is based on the relational evaluation approach (REA) which studies practices as socio-material systems of action. They are typically developed for some purpose and they are constituted by human actors (clients, practitioners, management), by actions and interactions, as well as by resources that the human actors mobilize and enact in their activities (technical artefacts, rules, concepts, laws, money). The REA tool consists of three parts: 1) the creation of an enactment model of a practice where the transferable core of a practice is possible to define; 2) the follow-up and evaluation of the implementation and enactment process of a practice, where it is possible to plan and evaluate the implementation process of a practice; and 3) the follow-up and evaluation of the change a practice generates, where it is possible to plan and carry out the evaluation process. Both, the implementation process and the evaluation of change are specific to and embedded in the site where the practice is enacted. The REA tool has been tested during 2011 within the innovation processes of numerous development projects in the social and health field in Finland. The paper also discusses the preliminary results of this testing.

Keywords: REA, socio-material system of action, modifications, generativity

This paper is developed from the previous paper: Koivisto J and Pohjola P (2011) Practices, modifications and generativity – a practical REA-tool for managing the innovation processes of practices, accepted to the International Workshop on Practice Research, Helsinki

Received: 25 August 2011; Revised: 14 November 2011; Accepted: 7 December 2011
Accepting Editor: Göran Goldkuhl

1 Introduction

Studying practices has become a prominent approach in understanding the structure and organization of work in various fields. It has even been proposed that a shift towards practice has taken place in social theory during the last decade (Schatzki 2002). In social studies, practices have become the unit of analysis of social and societal action. In research on knowledge work, for example, the practice approach has been one of the major trends in recent investigations (see Knorr-Cetina 2007).

In social theory, however, the approaches to studying practice do not form a solid methodological and theoretical foundation for practice research. Rather than being a unified movement, the approaches form an overlapping and partially contradictory

collection of theoretical interests with various methodological backgrounds (see Miettinen et al 2011). In this paper, a relational evaluation approach is introduced. It aims at providing a solid ground for the study of practices. While its foundations are in actor–network theory, it has been extended with specific explications that relate it to collaborative work and learning.

The relational evaluation approach (REA) is a framework for studying and evaluating practices and their innovation processes: the early development and modelling of practices, the implementation and enactment of practices, and the change the practices generate. It promotes an open and collaborative perspective to innovations and to the creation of practices, sharing similarities with the discussions on open innovations (Tuomi 2006). It has been developed during the past few years within different research and development projects (see Koivisto 2007; Koivisto et al. 2008; Koivisto et al. 2010) and it can be utilized in different fields of study, such as, social care, health care, education, and crime and justice.

A practical REA tool is being developed as an application of REA to be used especially in the social and health field. It is being developed within the Innokylä project (www.innokyla.fi) which aims at building an open innovation environment for the social and health field. The REA tool supports the different activities of innovation processes, such as early development, modelling, implementation and enactment as well as evaluation of practices. Through the REA tool it is possible to plan, carry out and manage these activities.

The main idea behind the development of the tool has been to provide an environment and a unified framework for modelling and evaluating the outcomes of development projects (practices). Other driving factors behind the creation of an open and easily accessible web-based environment are wishes and demands to make Finnish project work and its outcomes more transparent and openly available. The tool is being developed to suit the practical purposes of numerous development projects within the social and health field in Finland; it provides means for managing innovation processes, for networking the projects, and for reducing the overlap between projects.

This paper introduces the relational evaluation approach, the practical REA tool, as well as discusses the preliminary results of the testing of the REA tool. First, the theoretical framework of REA is specified, then the elements of the web-based REA tool are identified and finally the preliminary results of the testing are presented. In the discussion certain aspects that are especially related to evaluation culture are discussed from the relational perspective.

2 Theoretical framework of REA

The theoretical framework of REA has been developed piecemeal by utilizing the concepts and tools of science and technology studies, innovation studies, evaluation research, and research on collaborative learning. The aim when combining different approaches in the theoretical framework has been to enrich the analytical vocabulary that describes how practices and their innovation processes are constituted.

Actor–network theory provides a perspective for conceptualizing and describing practices as socio-material systems of humans, artefacts and interactions. Certain aspects of innovation studies provide perspectives for conceptualising innovation processes as non-linear, where different social groups and stakeholders become in-

volved in the process and mould its progress, its phases, and the practice under development. Evaluation research has been used to clarify the specific and general requirements in evaluating the implementation of a practice and the change a practice generates. Research on collaborative learning brings about additional conceptualizations about innovation processes as knowledge creating and knowledge utilizing processes, where different kinds of expertise collaborate around a shared object of activity.

2.1 Practice as a socio-material system of action

REA's view on ontology is relational. This kind of relational approach to ontology has been elaborated especially in actor–network theory (Latour 1987, 2005; Callon 1991; Law 1992, 1994, 2004; Harbers 2005). According to relational ontology, practices are not studied through dualisms, such as practice versus organization, but as socio-material networks and relations that are constituted by humans, technical artefacts, money, architecture, values, goals, norms, etc. (the list of the constitutive elements is open and infinite). Nothing exists individually in itself as fixed in the network. Every entity is rather constituted in the networks. They are continuous effects. It can be said that the networks are verbs rather than substantives.

The theoretical approach shares similarities to the developments in Activity Theory (AT), emphasizing co-configuration and active contribution to the shaping of service or product by different stakeholders (see Nummijoki & Engeström 2010). The approach adopted here differs from AT in that it does not take for granted the a priori theory of observing contradictions and interventions that aim at resolving them. The approach promoted here rather emphasizes to aiming at networks of actors, artefacts, and their interactions without any predetermined theoretical assumptions concerning the phenomena occurring in these networks (such as the purposes of the activities).

By adopting this kind of theoretical viewpoint, REA sees practice as constituted by human actors (such as, clients, social workers, practitioners, managers), by activities and interactions, and by resources which the human actors mobilize and enact in their purposeful activities (such as, tools, principles, technical artefacts, laws, money). They are systems of interaction where each part of the network is existent and becomes defined by the relations and activities it has with the other parts of the network. It also means that a change in one part of the network generates change in the whole network. The practices are linked to each other and together they constitute wider networks where the workability and existence of a practice is dependent on the other practices.

Following from the adopted and developed perspective on practices, REA focuses the study on action (science in action, social work in action, health care in action, etc.). In other words, it focuses on practices (on the shift towards practice see Nicolini, Gherardi & Yanow 2003) which are studied as socio-material systems of action (see Callon 2002). A practice is typically developed for some purpose, e.g. to support the elderly to cope with living at home. In addition, other goals for a practice are defined in the different sites where it is enacted, e.g. to save in the expenses of hospital beds when the elderly are able to cope with living at home for longer. These goals guide and shape the way the network is constructed and the way it exists and is maintained.

This kind of ontology and perspective on practices gives certain theoretical boundaries to considering how new practices need to be modelled or can be diffused

and implemented. This means that a practice cannot be transferred to another site as a technical artefact; it is rather tailored in different sites on the basis of, for example, texts, flow charts, and peer experiences, which define the actors of the practice, their roles and tasks, the resources to be mobilized, etc. (see Akrich 1992; Hyysalo 2010, 11-15). The same practice achieves different variants and modifications in different sites, depending on the local conditions, for example, resources, knowledge and abilities. The idea in adopting and implementing a practice is to build a strong, durable and workable socio-material network.

2.2 Non-linear conception of innovation process

An innovation process consists of activities – such as early development and design, modelling, implementation, enactment, and evaluation of practices – where different actors (practitioners, management, clients, researchers) are in manifold interactions and mobilize different resources (tools, principles, rules, money), and at the same time mould the practice under development (see Miettinen 2001). Thus, in the innovation process the practice under development and the network of actors co-evolve. The innovation network is produced and re-produced, enacted and re-enacted. REA therefore studies innovation processes as co-development processes of a practice.

REA also has a normative spirit. It emphasizes that all the relevant actors with respect to the practice under development should participate in the innovation process and in its different activities, from the start of the process. They should participate to ensure that the practice, its development and evaluation, is based on the real needs and views of the actors. Because a practice is constituted and enacted by different actors, the representatives of these actor groups should also be co-designing and co-developing it.

Rather than distinguishing the creation and dissemination of practices as two different processes, REA emphasizes the early involvement of different actors in the co-creation process of innovations. When a new practice is created or disseminated it requires the involvement of different actors who are simultaneously creating and implementing the practice. This means that the end-users and creators are partially the same actors. Disseminating a practice is not a process where the practice is transferred into a new context as an artefact. Therefore the involvement of various actors already in early phases of dissemination and creation of a new practice is relevant and should be emphasized.

The emphasis on the early involvement of all the relevant actors extends the traditional idea how new innovations (both social and technological) become implemented and become existent. Traditionally innovation studies and design theories (especially in technological discourse) have discussed users or user groups and designers or producers as different approaches to understanding the emergence of new innovations. Designers and producers create new artefacts and users engage with the new technology through acceptance and resistance. To overcome this dichotomy, it has been proposed that design and innovation should rather be understood as practical activity and reasoning where both users (clients, practitioners, managers) and developers participate in the process. (Pohjola 2009, 120ff)

This idea of involvement of all the relevant actors in the innovation processes has also practical implications. It is a well known fact that in addition to the result of the innovation process (such as an actual practice in social care), a novel innovation can generate various and probably uncontrollable effects relating to different sites, of

which some can be unwanted or even harmful (see Goldkuhl 2005). By the inclusion of relevant actors, the possible effects, even unwanted, become more controllable during the different phases of the innovation process. Innovation should be actually seen as a process of making a hypothesis of some means to achieve a certain goal (how the home care of the elderly could be organized effectively, cost-efficiently and still take into account the individual needs of the people in the home care) (Pohjola 2009, 128-134). By having multiple perspectives on the creation of the hypothesis, the reasoning to the means to achieve the goal becomes more efficient and controllable.

2.3 Co-creation as a collaborative learning process

One useful characterization of innovation is to see it as a process of creating new knowledge and ideas in order to facilitate practices (Uden & Francis 2009, 25). Therefore it is also beneficial to investigate the knowledge creation and utilization processes within innovations. Innovations are dependent on the participation and involvement of people with different expertise, which requires various ways of collaborating and negotiating expertise (Edwards & Kinti 2010).

The development and co-creation process of a practice can be understood as a collaborative learning process. In (trialogical) collaborative learning (Paavola & Hakkarainen 2009; Pohjola et al. 2011), the process has a shared object of activity and shared goals and aims to which members of the collaborative are committed. Ideally in such processes, inter-professional co-creation can emerge and the expertise of various actors can contribute to the development of the shared object.

The trialogical approach emphasizes the role of collaboratively developing, transforming and creating shared objects of activity; it stresses the importance of reflecting and transforming knowledge practices, knowledge tasks and the ways of collaboratively working with knowledge and its supporting processes. The trialogical approach distinguishes between three basic metaphors of learning and human cognition: monologues, dialogues, and trialogues. The monological processes of knowledge acquisition and information transmission (to the individual) and the dialogical processes of learning through communication and participation are supplemented by knowledge creation in a trialogical process of collaboratively developing practices.

This means also that innovative activity from the trialogical perspective emphasizes that all the relevant parties should become involved in the processes of learning and production of knowledge and practices. There are various examples of unsuccessful attempts to routinise new technology without the appropriate inclusion of relevant actors in the development and learning processes (see for an example in health technology assessment, Edmondson, 2001). What the trialogical processes emphasize is that the organization of work around concrete objects of activity and practices can enhance the diffusion of innovations to be more than mere information sharing or communication.

2.4 Non-linear conception of effectiveness

The “traditional” and common sense conception of effectiveness is based on a linear, uni-directional conception of causality. This conception is called a diffusion model by Latour (1987). It assumes a causal order between variables: an independent variable, in this case, a practice can cause effects on clients or organizations. It supposes that a practice has an inner causal power that can affect and resolve for example the health

problems of clients or the co-ordination problems of organisations. It tackles the clients as objects who stand outside the practice. According to this conception, it can be asked for example that ‘what kind of impact, good or bad, will the practice have on clients or organizations’?

The diffusion model supposes that a practice stays constant and that it can be transferred as such from the original developers to the different users, for example, to the social welfare offices and their social workers. The practices are supposed to be universally true and in principle applicable wherever. To see a practice as exogenous, a determining variable, leads to the identification and measurement of its effects, for example, on the well-being of people.

The positivistic outcome studies on effectiveness are typically based on the diffusion model (see on RCT Campbell & Stanley 1963; Mark & Henry 1995). They suppose that the effects of, for example, social work methods and social interventions, can be studied objectively, provided that the personality of the social worker, the interests of a researcher, or other contextual factors do not disturb and interfere with the intervention process. The approach supposes that it is possible – at least in principle – to produce context-free, objective and universal knowledge of the effects of practices.

REA’s conception of effectiveness is based on a model which Latour (1987) calls a translation model. This model sees a practice as endogenous, as a part of the processes of an organisation. A practice cannot be separated from the organisation or the clients; it is not an independent and stable entity. A practice is enacted through the management, the hardware, methods and models used in performing work, the skills and knowledge of the workers, the characteristics of the clients, etc. A practice is a socio-material system of action.

According to this model, a practice does not have a causal power that can produce effects. The change is rather co-produced and generated by the actors of a practice who mobilize and enact different resources in their activities and interactions, including the client, whose active participation is vital to achieve the results pursued. The study of these kinds of networks and processes is possible through concrete case studies where the actors, the resources they enact and mobilize, their interactions, etc. are followed with various methods, for example, through interviews, ethnographies, and an analysis of documents (see Broer, Nieboer & Bal 2010).

A practice does not have inner attributes, such as, good, effective, or workable; rather, they are relations. This means that a practice can be workable or good only as embedded in a wider socio-material network where the goals of the collaborative action are defined. We can ask with respect to the workability of a practice as follows: what kind of human actors, activities and interactions as well as resources have to be mobilized and enacted so that the goals defined can be achieved, for example, in the health of a patient, in the work welfare of practitioners, or in the economy of an organization.

The translation model implies a view that a practice does not stay constant when applied in different sites. They are tailored in the local networks and at the same time the local networks have to be modified (the co-production of content and context). This means that a practice does not affect the organisation and change its social structures, but rather that the organization has to be organized so that good results can be generated by a practice.

3 The practical REA tool

3.1 Three parts

The practical REA tool is a virtual tool (see pilotointi.innokyla.fi) that consists of three main parts that can be utilized during an innovation process: 1) a conceptual tool for developing ideas in the early stages of an innovation process and creating an Enactment Model (EM) for the practice, 2) follow-up and evaluation of the implementation process of the practice in a certain site (on the basis of the EM), 3) follow-up and evaluation of the change generated by a practice, in relation to its purpose and its expected outcomes and also in relation to the unexpected change it generates (on the basis of the EM). All the basic elements of REA that were characterized above, such as socio-materiality, non-linearity, collaborative learning and generativity, penetrate the different parts of the REA tool.

Figure 1 characterizes the basic idea of the virtual REA tool. When someone defines an Enactment Model within the tool, the model can be utilized in different sites where the practices tailored on the basis of it achieve different variants and modifications.

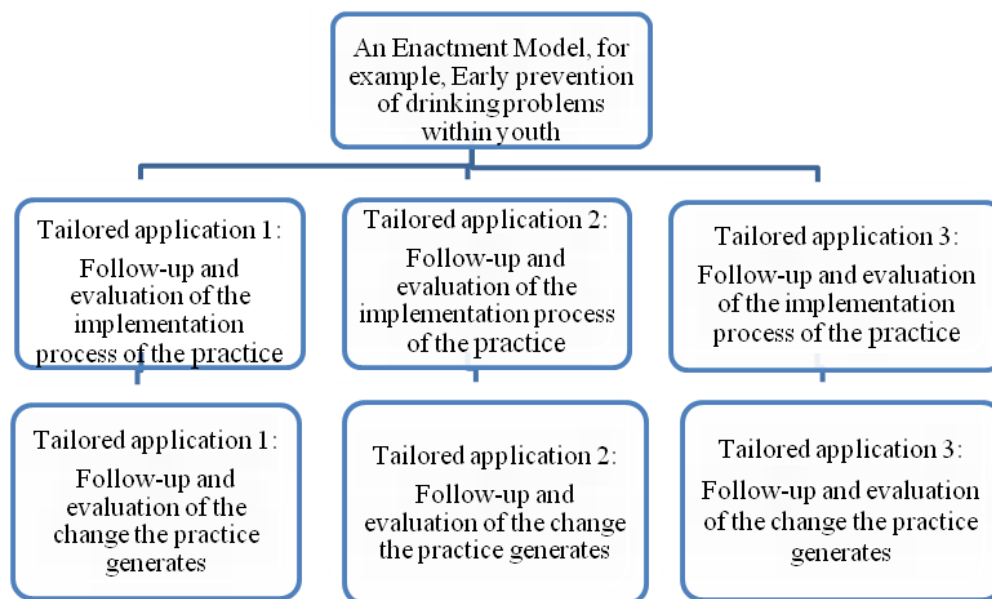


Figure 1: Enactment model of a practice and the tailored applications on the basis of the model.

3.2 Aspects, topics and issues

In the REA tool it is possible to model and evaluate the practices according to three aspects: 1) the client aspect focuses the study on what kinds of clients there are in the practice, what kinds of tasks they have to do, and what kinds of resources they need as actors of the practice, 2) the practitioner aspect focuses the study on what kinds of practitioners there are in the practice, what kinds of tasks they have to do, and what kinds of resources they need as actors of the practice, and 3) the organizational aspect

focuses the study on what kinds of organizational actors, for example management, there are in the practice, what kinds of tasks they have to do, and what kinds of resources they need to mobilize as actors of the practice.

Topics are more specific evaluation areas that can be utilized when modelling and evaluating a practice within the three aspects. The topics include human actors, tasks and division of work, knowledge, skills and tools, rules and principles, laws and statutes, and expenses.

Issues are inspiring questions on the basis of which it is possible to define more accurate evaluation questions under the aspects and topics when creating an Enactment Model of a practice, when following-up and evaluating the implementation of a practice, and when following-up and evaluating the change a practice generates.

3.3 Creation of the enactment model of a practice

By means of the conceptual tool for defining the EM of a practice it is possible to define the purpose of the practice (what it is developed for, what kind of change it intends to generate), to develop and define the core elements of the practice (actors, activities, resources, etc., see Table 1) and to define the enactment model of the processes of the practice that includes the core element of the practice.

Table 1: A table for defining the core elements of a practice.

Topics	Client aspect	Practitioner aspect	Organizational aspect
Human actors	What kinds of actors do the clients consist of?	What kinds of practitioners are involved in the practice?	What kinds of organizational actors are involved in the practice?
Tasks and division of work	What kinds of tasks do the clients have to perform in the practice?	What kinds of tasks do the practitioners have to perform in the practice?	What kinds of tasks do the organizational actors have to perform in the practice?
Knowledge, skills and tools	What kind of knowledge, skills and tools do the clients need in the practice?	What kind of knowledge, skills and tools do the practitioners need in the practice?	What kind of knowledge, skills and tools do the organizational actors need to mobilize in the practice?
Rules and principles	What kinds of ethical and/or other rules and principles do the clients have to follow in the practice?	What kinds of ethical and/or other rules and principles do the practitioners have to follow in the practice?	What kinds of ethical and/or other rules and principles do the organizational actors have to follow in the practice?

Laws and statutes	What kinds of laws and statutes do the clients have to follow in the practice?	What kinds of laws and statutes do the practitioners have to follow in the practice?	What kinds of laws and statutes do the organizational actors have to follow in the practice?
Expenses	To what kind of expenses do the clients have to mobilize money in the practice?		To what kind of expenses does the organization have to mobilize money in the practice?

3.4 The follow-up and evaluation of the implementation of a practice

Anybody can utilize an enactment model that has been defined within the REA tool and start the implementation of the practice. This partially supports the dissemination of new innovations in the social and health sector. In the implementation process, it is a question of co-creating and tailoring of the practice on the basis of the EM in a site, e.g. in an organization or a work community that has also to be moulded at least to some extent. In the implementation process a practice and the context are co-produced.

In the REA tool the implementation process of a practice and its follow-up and evaluation is structured according to five sub-tasks: 1) analysing the situation of the organisation(s) before the implementation and defining how the organization should be after the implementation; 2) training the relevant actors of the organization(s) with respect to the practice, on the basis of the goals for the implementation process and the EM of the practice; 3) enacting the practice on the basis of the EM and following up and evaluating the enactment process; 4) analysing the situation of the organization(s) after the enactment process of the practice; and 5) analysing the whole implementation process utilizing the study material collected during the process and drawing conclusions.

The implementation process and its five sub-tasks are not in a linear order. Rather, they can be performed simultaneously, or one after the other, and sometimes it is necessary to go back to the beginning of the process. In Table 2, inspiring issues are defined that might be of some help when defining the evaluation questions of the implementation.

Table 2: A table for defining the evaluation questions for the implementation.

Topic	Client aspect	Practitioner aspect	Organizational aspect
Human actors	Do the clients consist of the actors defined in the enactment model? To what extent does the client group settle/change in the long term?	Are the practitioners defined in the enactment model involved in the practice? To what extent does the practitioners' group settle/change in the long term?	Are the organizational actors defined in the enactment model involved in the practice? To what extent does the group of organizational actors settle/change in the long term?

Tasks and division of work	Do the clients perform the tasks defined in the enactment model? To what extent do these tasks settle/change in the long term?	Do the practitioners perform the tasks defined in the enactment model? To what extent do these tasks settle/change in the long term?	Do the organizational actors perform the tasks defined in the enactment model? To what extent do these tasks settle/change in the long term?
Knowledge, skills and tools	Do the clients have the knowledge, skills and tools defined in the enactment model? To what extent do the knowledge, skills and tools expected from the clients settle/change in the long term?	Do the practitioners have the knowledge, skills and tools defined in the enactment model? To what extent do the knowledge, skills and tools expected of the practitioners settle/change in the long term?	Do the organizational actors have the knowledge, skills and tools defined in the enactment model? To what extent do the knowledge, skills and tools expected of the organizational actors settle/change in the long term?
Rules and principles	To what extent do the clients follow the rules and principles defined in the enactment model? To what extent do these rules and principles settle/change in the long term?	To what extent do the practitioners follow the rules and principles defined in the enactment model? To what extent do these rules and principles settle/change in the long term?	To what extent do the organizational actors follow the rules and principles defined in the enactment model? To what extent do these rules and principles settle/change in the long term?
Laws and statutes	Do the clients follow the laws and statutes defined in the enactment model? What kinds of changes are there or are needed in the long term in the laws and statutes with respect to the clients?	Do the practitioners follow the laws and statutes defined in the enactment model? What kinds of changes are there or are needed in the long term in the laws and statutes with respect to the practitioners?	Do the organizational actors follow the laws and statutes defined in the enactment model? What kinds of changes are there or are needed in the long term in the laws and statutes with respect to the organizational actors?
Expenses	To what extent is the client able to mobilize money to the expenses defined in the enactment model?		To what extent is the organization able to mobilize money to the expenses defined in the enactment model?

3.5 The follow-up and evaluation of the change a practice generates

After a practice has been implemented in an organization, it is possible to start to follow-up and evaluate its routine enactment and the change it generates. The evaluation focuses on the change it is supposed to generate within a selected aspect(s) of the evaluation and on the unexpected change it generates. The follow-up and evaluation is structured according to four sub-tasks: 1) selecting cases for evaluation (for example, ten clients), analysing the situation before the enactment of the practice and setting the goals for the cases, 2) following up and evaluating the enactment process and what is happening in the life of clients despite the practice, 3) analysing the situation after the enactment, and 4) making a final evaluation of the changes (expected and unexpected) generated by the practice with respect to the cases. In Table 3, inspiring issues are defined that might be of some help in defining the evaluation questions of change.

Table 3: A table for defining the evaluation questions in the evaluation of change.

Topic	Client aspect	Practitioner aspect	Organizational aspect
Human actors	What kinds of expected and other changes are generated in the clients by the practice?	What kinds of expected and other changes are generated in the practitioners by the practice?	What kinds of expected and other changes are generated in the organizational actors by the practice?
Tasks and division of work	What kinds of expected and other changes are generated in the activity of the clients by the practice?	What kinds of expected and other changes are generated in the tasks and division of work of the practitioners by the practice?	What kinds of expected and other changes are generated in the tasks and division of work of the organizational actors by the practice?
Knowledge, skills and tools	What kinds of expected and other changes are generated in the clients' knowledge, skills and ability to utilize tools by the practice?	What kinds of expected and other changes are generated in the practitioners' knowledge, skills and ability to utilize tools by the practice?	What kinds of expected and other changes are generated in the organizational actors' knowledge, skills and ability to utilize tools by the practice?
Rules and principles	What kinds of expected and other changes are generated in the rules and principles of life of the clients by the practice?	What kinds of expected and other changes are generated in the rules and principles of the practitioners by the practice?	What kinds of expected and other changes are generated in the rules and principles of the organizational actors by the practice?

Laws and statutes	What kinds of changes are generated or implied in the laws and statutes that regulate the clients of the social and health field by the practice?	What kinds of changes are generated or implied in the laws and statutes that regulate the practitioners of the social and health field by the practice?	What kinds of changes are generated or implied in the laws and statutes that regulate the organizations of the social and health field by the practice?
Expenses	What kinds of changes are generated by the practice in the economy of the clients in the long term?		What kinds of changes are generated by the practice in the economy of the organization in the long term?

4 Testing of the REA tool

The REA tool has been available for use since the beginning of 2011. The tool is an web-based working environment for modelling and evaluating practices. The tool is available for anyone who wants to use it and it is free of charge. The basic requirements for using the tool are a computer with an internet connection and basic skills for browsing the internet.

Finland can be characterized as a country with thousands of development projects and maybe for that reason the number of practices modelled using REA has increased continuously and rapidly. In December 2011, there were about 220 practices in the process of modelling or implementation. Some of the practices that were modelled using REA were in the adopting and implementation process in several municipalities. The developers of these practices have various backgrounds. More than half of the practices using REA are created and developed in large research projects funded by Ministry of Social Affairs and Health. The rest of the practices are produced by for example development projects run by NGO's and local institutions, as well as individuals who are working in the social and health sector.

The applicability and usability of the REA tool has been tested during 2011 in various development projects in Finland. These projects belong to different sub-fields within the social and health sector. The selected projects have utilized the tool for modelling their practices during the development as well as conducting and evaluating the implementation processes of the practices. Also a small number of projects have conducted some evaluation of the changes generated by the developed practices.

The projects in which the applicability of REA has been tested have been supported also by a series of workshops where the REA tool is utilized. These workshops have been organized around the idea of co-creation and collaboration with peers. Introductory workshops typically include an introduction to the REA-tool (or to some section of it) and a selection of practices, which are discussed in detail. In the workshops, the REA tool has been utilized for modelling practices, planning and carrying out implementation processes, and evaluating the outcomes and results relating to the use and implementation of the practices.

The main data collection method in these workshops has been participatory observation together with short group interviews about the usability and applicability of

the tool to the selected case studies. These observations are supported by a follow-up of the content produced through the REA tool, before and after the workshops. The preliminary analyses of the REA tool data produced by the users have targeted the quality of the information that the users have produced about the practices they have developed and implemented. By analyzing quality, the aim has been to understand how the REA model supports the explication of the core elements of a practice and how the users understand the different aspects and processes of practices within the social and health services.

4.1 Some preliminary findings

Although the quantity of practices incorporating the REA tool is still relatively low, it is noticeable already how similar the practices developed around the country are, such as the various practices of early prevention. Although practices typically differ in some respect, it is evident that there are similar kinds of work going on in current development projects. This finding also supports the expectation that there is a certain amount of overlap in ongoing research and development in the field. The idea of the REA tool is to diminish this kind of overlap in development work and the repeated creation of similar kinds of practices. Such diminishment would be achieved if the developers browsed the REA website to see what kinds of development work are ongoing in the field, assuming that development projects have utilised the REA tool.

During the workshops, it became evident that to some extent there is conceptual confusion among the developers about the central concepts of development projects. One of them relates to the distinction between the work of organizing the project and its goals (project work) and the outcomes of the work conducted in the project (practice). The developers who have utilized the REA tool have for example had some difficulty in conceptualizing what a project is and what a practice developed in the project is, especially when it comes to conducting an evaluation of their development project.

In some cases, some confusion has also emerged between an evaluation of the implementation and an evaluation of change. Typically, changes in service users are catalogued under the evaluation of the implementation process. For example, in conducting surveys the results of which include the effects and change reported by users, these results are included in the evaluation of the implementation. Also in some cases, the relational framework may be too abstract for some developers to understand and grasp. Reading the introductory texts of the REA tool may not even make things clear, especially if they have practiced more traditional evaluation approaches, for example, randomized controlled trials; however, utilizing the tool in practice can open up the framework in an easier way.

Even though there have been certain obstacles and challenges to utilize the tool for modelling and evaluating practices, there have also been indications of the benefits of the approach and of the usefulness of the tool. In modelling a practice, the aspects and topics for defining the core elements of a practice have been considered very useful. In many cases the use of the table (see Table 1) has opened up new insights into the different constituents of a practice, especially the client aspect and the organizational aspect. However, the organizational aspect has been quite a general aspect, including actors from social and health care organizations, municipal decision-making, and the administration of ministries. In future, one additional aspect specifying the political and administrative context of a practice might be useful. An-

other clearly beneficial element of the REA model has been the sub-tasks of the implementation process. It has been reported that they give some order and structure to the processes, although sometimes the users have taken the sub-task structure too literally when it might not be that necessary to carry out such a systematic process of implementation, for example, when implementing quite simple things.

5 Discussion

The development projects funded by the different financiers in the social and health field in Finland have largely focused on innovating new ideas and practices. Funding has not thus far been focused on the implementation processes and on the evaluation of change that the practices generate. The evaluation has mainly been a goal-oriented evaluation of the projects, where the evaluation of a project and of a practice is somehow in the same evaluation design. Typically some interviews or surveys are made of the client and practitioner experiences. It might be that in the future, as the REA tool implies, funding will be directed more and more towards the implementation activities and on evaluating the change generated by practices.

In Finland, the national evaluation of health technologies is strongly and strictly made in the context of health technology assessment (HTA) with its hierarchies of knowledge and methods. The relational approach is quite unknown in this context. The evaluation culture in the social care field is more diversified than in the health field. Realistic evaluation (Pawson & Tilly 1997) is one of the leading approaches. It differs from the relational framework in the sense that it emphasizes the context-mechanism-outcome configurations and realistic ontology, while the relational framework bases on the relational ontology and on the practice turn.

Within Finnish science and technology studies and innovation studies the relational framework is in contrast well-known and different approaches within the framework have been developed. The relational framework challenges the evaluation cultures of both the social and health fields in Finland. It emphasizes that the same relational framework can be utilized both in health technology assessment and in the evaluation of social care. This is possible when the “old” dichotomies are not taken for granted, such as technology versus social, practice versus organization, local versus universal, and qualitative versus quantitative; rather, the relational framework focuses the analysis on action, on the socio-materiality of practices, and on the change generated by practices.

One aim of the REA tool is to provide a tool that makes the evaluation of practices an inherent part of the development of new services. By integrating evaluation as a central part of development, it aims at providing relevant information about the benefits and changes that these new practices and services generate. By also providing an evaluation framework where different aspects of a practice are evaluated, the outcomes of evaluation can include information on the local variations of the “same” practice and on the change generated by these variants.

In the further development of the REA tool, one more aspect should be incorporated. This might be a policy community aspect and it could focus on the actors of, for example, the administration of municipalities, regional health care districts, and ministries. This would allow the organizational aspect to be focused more on the organizations that are responsible for producing and delivering social and health ser-

vices, while the policy community aspect would focus on the decision-making that allocates resources to these organizations.

References

- Akrich M (1992) The de-scription of technical objects. In *Shaping Technology/Building Society: Studies in Sociotechnical Change* (BIJKER WE & LAW J, Eds.), pp. 205-224, Cambridge, MA, MIT Press,
- Akrich M (1995) User representations: practices, methods and sociology. In *Managing technology in society: the approach of constructive technology assessment* (RIP A, MISA TJ and SCHOT J, Eds.), pp. 167—84, London, Pinter
- Boer T, Nieboer AP and Bal R (2010) Opening the black box of quality improvement collaboratives: an Actor-Network theory approach, *BMC Health Services Research*, 10:265
- Callon M (1991) Techno-economic networks and irreversibility. In *A sociology of monsters: Essays on power, technology and domination* (LAW J, Ed.), pp. 132-161, London, Routledge
- Callon M (2002) Writing and (re)writing devices as tools for managing complexity. In *Complexities: social studies of knowledge practices* (LAW J & MOL A, Eds), pp. 191-217, Duke University Press, Durham
- Campbell DT and Stanley JC (1963) *Experimental and quasi-experimental designs for research*. Chicago, IL, Rand McNally
- Edmondson A, Bohmer R, and Pisano G (2001) Disrupted routines: Team learning and new technology implementation in hospitals, *Administrative Science Quarterly*, 46, pp. 685-716
- Edwards A and Kinti I (2010) Working relationally at organisational boundaries. Negotiating expertise and identity. In *Activity Theory in Practice. Promoting Learning Across Boundaries and Agencies* (Daniels H, Edwards A, Engeström Y, Gallagher T & Ludvigsen S, Eds), pp. 126-139, London, Routledge
- Goldkuhl G (2005) Socio-Instrumental Pragmatism: A Theoretical Synthesis for Pragmatic Conceptualisation in Information Systems. In *Proceedings of the 3rd ALOIS Conference*, University of Limerick; <http://www.vits.org/?pageId=10&pubId=524>
- Harbers H (Ed.) (2005) *Inside the politics of technology: Agency and normativity in the co-production of technology and society*, Amsterdam, Amsterdam University Press
- Hyysalo S (2010) *Health Technology Development and Use. From Practice-Bound Imagination to Evolving Impacts*, Routledge Studies in Technology, Work and Organizations
- Knorr-Cetina K (2007) Culture in global knowledge societies: knowledge cultures and epistemic cultures, *Interdisciplinary Science Reviews*, 32 (4), pp. 361-375
- Koivisto J (2007) What evidence-base? Steps towards relational evaluation of social interventions, *Evidence and Policy*, 3 (4), pp. 527-537
- Koivisto J, Vataja K and Seppänen-Järvelä R (2008) Relational Evaluation of Organizational Development Activities, *International Journal of Public Administration*, 31 (10), pp. 1167-1181
- Koivisto J, Anttila H, Ikonen T and Reiman-Möttönen P (2010) A systematic model for evaluating the patient aspects of health technologies, *Evidence & Policy*, 6 (1), pp. 33-49
- Law J (1992) *Notes on the Theory of the Actor Network: Ordering, Strategy and Heterogeneity*, published by the Centre for Science Studies, Lancaster University, Lancaster LA1 4YN, at <http://www.comp.lancs.ac.uk/sociology/papers/Law-Notes-on-ANT.pdf>

- Law J (1994) *Organizing modernity*, Oxford, Blackwell
- Law J (2004) *After Method: Mess in Social Science Research*, London, Routledge
- Latour B (1987) *Science in Action: How to Follow Scientists and Engineers through Society*, Cambridge, MA, Harvard University Press
- Latour B (2000) When things strike back: a possible contribution of 'science studies' to the social sciences. *British Journal of Sociology*, 51 (1), pp. 107-124
- Latour B (2005) *Reassembling the social: An Introduction to Actor-Network Theory*. Oxford, Oxford University Press
- Mark M and Henry G (2005) Methods for policy-making and knowledge development evaluations. In *Handbook of Evaluation: Policy, Programme and Practice* (GREENE J and MARK M, Eds.), London, Sage Publications
- Miettinen R (2001) Teknologia käyttöarvona: teknisistä ominaisuuksista käyttötoiminnan ymmärtämiseen. In *Tuotteesta työvälineeksi? Uudet teknologiat terveydenhuollossa* (MIETTINEN R, HYYSSALO S, LEHENKARI J & HASU M, Eds.), pp. 24-37, STAKES, Sosiaali- ja terveysalan tutkimus- ja kehittämiskeskus
- Miettinen R, Paavola S. and Pohjola, P. (2012) From habituality to change: Contribution of activity theory and pragmatism to practice theories, forthcoming in *Journal for the Theory of Social Behaviour*
- Nicolini D, Gherardi S and Yanow D (2003) Introduction: Toward a Practice-Based View of Knowing and Learning in Organizations. In *Knowing in Organizations. A Practice-Based Approach* (NICOLINI D, GHERARDI S & D YANOW D (Eds.), pp. 3-31, M.E.Sharpe, Armond, New York, Lndon, England
- Nummijoki J and Engeström Y (2010) Towards co-configuration in home care of the elderly. Cultivating agency by designing and implementing the Mobility Agreement. In *Activity Theory in Practice. Promoting learning across boundaries and agencies* (DANIELS H, EDWARDS A, ENGESTRÖM Y, GALLAGHER T & LUDVIGSEN S, Eds.), pp. 49-71, London, Routledge
- Paavola S and Hakkarainen K (2009) From meaning making to joint construction of knowledge practices and artefacts – A triological approach to CSCL. In *Computer Supported Collaborative Learning Practices: Conference Proceedings, International Society of the Learning Sciences (ISLS)* (O'MALLEY C, SUTHERS D, REIMANN P & DIMITRACOPOULOU A, Eds.), pp. 83-92, CSCL2009, Rhodes, Creek
- Pawson R and Tilley N (1997) *Realistic evaluation*. London, Sage
- Pohjola M, Pohjola P, Paavola S, Bauters M and Tuomisto, J (2011) Pragmatic Knowledge Services, *Journal of Universal Computer Science*, 17 (3), pp 472-497
- Pohjola P (2009) *Technical Things. An essay on the social constitution of technical artefacts*, Cologne, Lambert Academic Publishing
- Schatzki TR (2002) *The site of the social*, Pennsylvania, Pennsylvania University Press.
- Tuomi I (2006) *Networks of Innovation. Change and Meaning in the Age of the Internet*. Oxford, Oxford University Press
- Uden L and Francis J (2009) Actor-Network Theory for Service Innovation, *International Journal of Actor-Network Theory and Technological Innovation*, 1(1), pp. 23-44

About the Authors

Juha Koivisto is a sociologist, a doctor of social sciences and an assistant professor. He works as a senior researcher in the National Institute for Health and Welfare, Finland. His main research interests are science and technology studies, innovation studies and evaluation research.

Pasi Pohjola is a senior researcher in the National Institute for Health and Welfare, Finland. He has a PhD in philosophy. He has done post-doctoral research in the Centre for Research on Activity, Development and Learning, University of Helsinki on collaborative learning and knowledge work. His main interests of research include science and technology studies, knowledge practices and innovations.