

# **The Reflective Information Systems Practitioner Approach as a Research and Learning Expedient**

**A Position Paper by  
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In this position paper the author relates his experiences of combining practical information systems (IS) development work and scholarly research to other research and learning approaches. The overall framework, reflective information systems practice (RISP), is a development of Donald Schön's (1983, 1987) notion of the reflective practitioner. The specific research problems are drawn from the development history of administrative systems of Helsinki University from the early 1980's up to the present. The idea of RISP as a research approach grew gradually during the dissertation work of the author (Heiskanen 1994, 1995). The research began in 1987 as a positivistic inquiry to the implementation process of a new student record system of the University. In the early 1980's the author was a senior analyst developing the software and later a project leader for the decentralisation of the system functions to the departments of the University. During the process he also became the Chief Information Systems Officer of the University. Gradually during the late 1980's and the early 1990's the positivistic approach was replaced with a more hermeneutic or phenomenological view. Later the scope of research was enlarged to other fields, like in personnel and economic administration (Heiskanen and Assinen 2003; Heiskanen and Newman 1998; Heiskanen, Newman and Similä 2000), and cooperation between several universities when developing a common student record system (Heiskanen, Newman and Saarinen 1998).

Reflection is the practice of periodically stepping back to ponder on the actions of oneself and others in one's immediate environment (Raelin 2001; Seibert 1995). The object of reflection may be in three areas. First, content reflection is about how a practical problem was solved. Second, process reflection examines the procedures and sequence of the events. Third, premise reflection questions the presuppositions attending to the problem. The timing of reflection may be anticipatory, contemporaneous, or retrospective. Originally, Schön (1983, p. 163) characterised the work of design as a reflective conversation with the situation where the practitioner functions as an agent and an experimenter who is at the same time also a target or part of this experiment. He coined the term "reflection-in-action" to describe this.

Our RISP aims at instrumental organisational learning: how to successfully develop information systems for the University community. The main audience for learning are the managers, project leaders, and systems analysts of the University. Organisational learning involves a process that enables the acquisition of, access to, and revision of organisational memory, thereby providing direction to organisational action (Robey, Boudreau and Rose 2000).

The learning in RISP typically consists of consecutive cycles. Each cycle begins with a reflective comprehension of the situation that demands the action of the practitioner. Actions taken produce results that we call in the Schönian (Schön 1983) style organisational back-talk, indicating that the results of the action may be different from the planned ones. Back-talk leads to reflection, which, in turn, is a predecessor of new actions. We have illustrated our framing by presenting the histories of University systems development in a graphical format (Heiskanen 1995, Heiskanen and Assinen 2003; see an example in Figure 1). Our interpretation of the history is based on the interplay between issues and events, problems, and action strategies. An issue or an event describes an

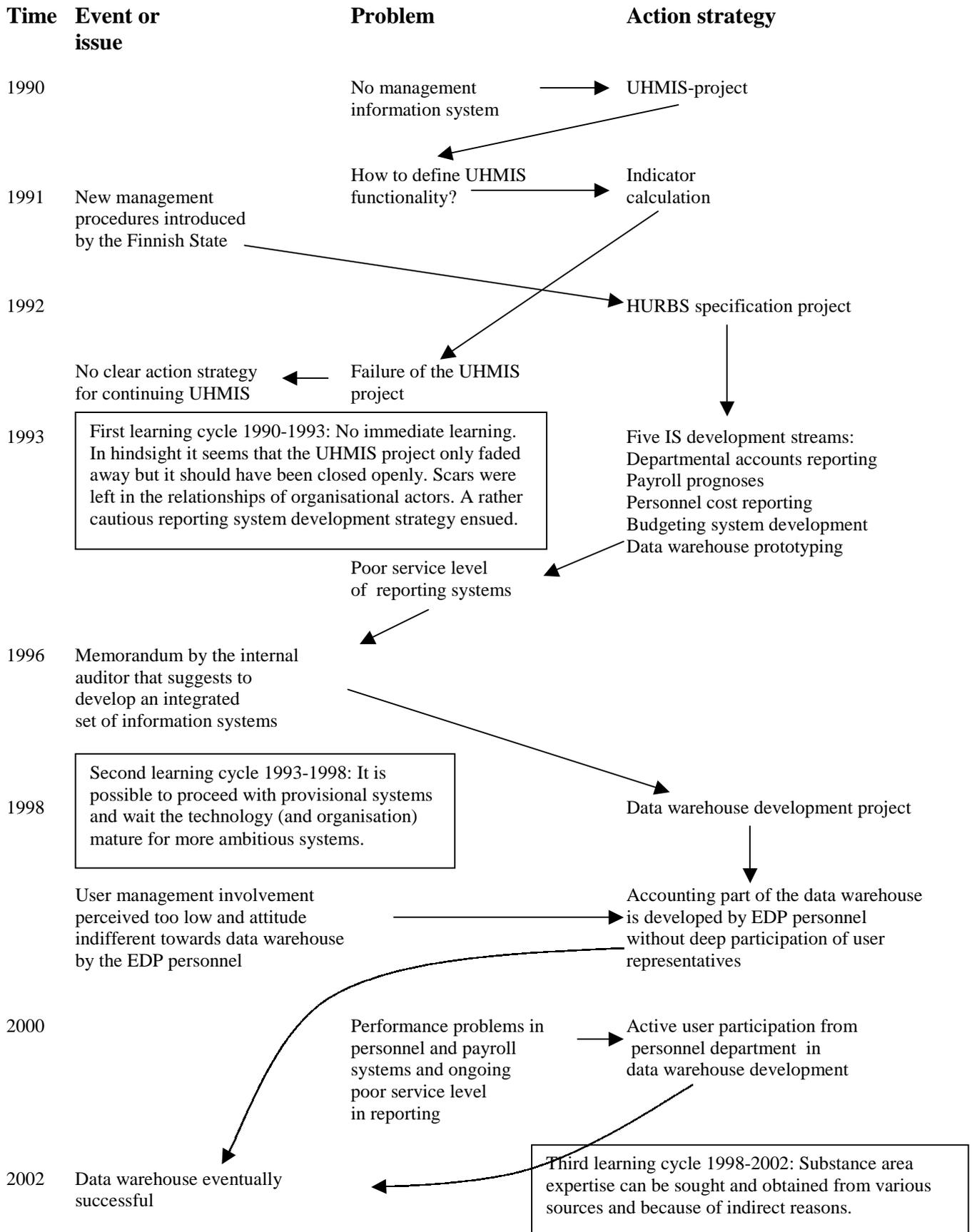
occurrence that needs a reaction. The problem defines our comprehension of the situation. The strategy defines the way the problematic situation is solved.

Many large information systems evolve through generations. The time taken may be several decades (e.g. Lasher et. al 1991; Short and Venkatraman 1992; Mason et al. 1997). In these long processes the learning cycles are also long. In our case, the development of the student records system contained four learning cycles during the years 1981-1993 (Heiskanen 1995), and the data warehouse development process 1990 – 2002 contained third learning cycles (Heiskanen and Assinen 2003).

As a research and learning expedient, RISP can be related to and compared with several approaches. First, as the practitioner stays within her organisation for an extended period of time, she is like an ethnographer in this respect (Heiskanen and Newman 1997). Second, as the practitioner is supposed to act in a meaningful way, she is like an action researcher (Heiskanen and Newman, forthcoming; cf. also Coghlan and Brannick 2002). Third, one aim of the reflective practitioner is organisational and individual learning; therefore this approach can meaningfully be compared (Heiskanen and Assinen 2003) to action learning (e.g. Revans 1980) and action science (Argyris et. al 1987). Fourth, as the reflective practitioner is an actor in the development history of the ISs of her organisation, she in a way is also a historian (cf. Mason et. al 1997). Table 1 contains a brief presentation of how to position these approaches with each other.

<b>Research approach</b>	<b>Key idea</b>
RISP	A versatile approach for anticipatory, contemporary or retrospective reflections and interpretations over work-life situations by a (single) practitioner, targeted for individual and organisational learning.
Ethnography	A participatory but typically non-obstructive way of research in which the researcher is long and deeply involved with the daily work life of the organisation under investigation.
Action research	A theoretically informed intervention approach, typically led by a researcher who has a client in the target organisation.
Action learning	A personnel development approach, used in group settings, that seeks to apply and generate theory from real work situations.
Action science	An intervention approach to help participants increase their effectiveness in social situations through heightened awareness of the assumptions behind their actions and interactions.
IS historian	An outsider researcher aims to tell a convincing story, often for learning purposes, based on documents and other sources describing the flow of events.

**Table 1.** Positioning RISP.



**Figure 1.** The Learning cycles in reporting systems development (Heiskanen and Assinen 2003; UHMIS is University of Helsinki Management IS, HURBS is a Reporting and Budgeting System.)

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