Chapter 3

ACTION IS AN ARTIFACT:
What Action Research and Design Science Offer to Each Other

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Abstract: Both action research and design science provide the means for doing research that is rigorous and relevant. In this essay, I combine the different stages of the action research cycle with the different research activities and research outputs of design science. The result is a framework in which action research and design science are able to complement and strengthen each other.

Key words: design science, action research, dialogical action research, interpretive research, scientific attitude, theoria, natural attitude, praxis

1. INTRODUCTION

Action research and design science have been enjoying a resurgence of interest from researchers in the academic discipline of information systems. That the resurgence of interest in each one is unfolding at the same time is auspicious. Viewed together, action research and design science exhibit parallels suggestive of how the two may complement and strengthen each another.

1 The ideas in current paper have their genesis in an earlier paper (Susarapu and Lee, 2005). Any problems wrought by the additional ideas or changed ideas in the current paper are entirely my own responsibility.

2 Special issues on action research have been published by Information, Technology, and People (Volume 14, Issue 1, March 2001, guest editors Francis Lau and Ned Kock) and MIS Quarterly (Volume 28, Number 3, March 2004, senior editors Richard Baskerville and Michael D. Myers). MIS Quarterly has published a major explication of design science in the context of “develop[ing] and communicat[ing] knowledge concerning both the management of information technology and the use of information technology for managerial and organizational purposes” (Hevner, March, Ram, and Park, Volume 28, Number 1, pp. 75-105). Currently, MIS Quarterly also has a call for papers for a special issue on design science research (senior editors Salvatore T. March and Veda C. Storey).
Contributing to and being encouraged by the resurgence of interest in action research and design science has been the corresponding resurgence of interest in improving the relevance of information-systems research. In general, a scientific field’s relevance refers to the usefulness of its theories for solving problems in the “real world” – problems faced by individuals, organizations, and societies. The academic discipline of information systems has achieved great rigor in its research, but not great relevance. Rigor in research neither automatically nor unproblematically endows it with relevance (Benbasat and Zmud, 1999). One may characterize the problem as a dilemma between rigor and relevance, where there is seemingly an inverse relationship between the rigor and the relevance of research (Kock, Gray, Hoving, Klein, Myers, and Rockart, 2002). In this light, both action research and design science garner interest because they offer ways of resolving the rigor-relevance dilemma.

A *raison d’être* of action research is, by definition, action, where the purpose of such action is to solve an immediate, real-world problem. Action research carries out interventions in natural organizational settings populated by the very people whom the action researcher is studying and intends to directly and immediately benefit. Design science likewise focuses on solving problems and performing tasks encountered in the real world. Design science requires the design of an artifact (such as an information technology) to enable it to address a real-world problem. In explicitly making the solving of practical problems the motivation for its rigorous research, design science also offers an approach to resolving the rigor-relevance dilemma.

The high priority that both action research and design science give to relevance stands in sharp contrast to the secondary or residual attention paid to practical considerations in much information-systems research, which could be properly described as pure or basic research. Basic research does not preclude practical considerations in its development of a theory, but is satisfied in simply assuming that real-world applications for the theory (or subsequent theories that build on it) will occur at some point in the future and that, in the meanwhile, continued basic research will strengthen the foundation of scientific theory required for real-world applications to materialize. One might argue that the resurgence of interest in action

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3 A more accurate wording would be: “the purpose of the action is to remedy or solve an immediate problem in the real world, make progress towards achieving a goal in the real world, or perform a task in the real world.” In the remainder of this essay, “problem solving” will also connote “achieving a goal” and “performing a task,” where such problems, goals, and tasks are those of the practitioner, not the action researcher or design scientist.