Chapter 12
Towards Private–Public Research Partnerships Combining Rigor and Relevance in DWH/BI Research:
The Competence Center Approach

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ABSTRACT

Business intelligence (BI) and data warehousing (DWH) research represent two increasingly popular, but still emerging fields in the information systems (IS) academic discipline. As such, they raise two substantial questions: Firstly, "how rigorous, i.e., fundamental, constituent, and explanatory, is DWH BI research?" and, secondly, "how relevant, i.e., useful and purposeful, is this research to practitioners?" In this article, the authors uphold the position that relevance and rigor are by no means dichotomous, but two sides of the same coin. Naturally, this requires well-defined approaches and guidelines—for scholarship in general and DWH/BI research in particular. Therefore, this paper proposes the competence center (CC) approach—a private-public partnership between academia and practice. The authors illustrate how the CC approach can be applied within the field of DWH/BI and suggest that a close link between research and practice supports both enhancing relevance to practice and strengthening rigor of research.

INTRODUCTION

For a long time the widely agreed upon understanding of research was that of a continuum extending from 'basic' to 'applied' research, where basic research is "performed without practical ends, intended to develop general knowledge and an understanding of nature and its laws" (Tushman & O'Reilly III, 2007 p 769), while applied research is aimed at developing "proprietary solutions to practical problems" (Eisenberg & Nelson, 2002, p. 90). Among others, Stokes (1997) questions this dichotomous understanding and proposes a quadrant model of scientific research. By assigning the name of a representative researcher to each quadrant he exemplifies the different research paradigms. Researchers in the so called 'Bohr's quadrant' mainly strive for fundamental understanding through pure and basic research, whereas scientists in the 'Edison's quadrant' are focusing on problem solutions. Scientists conducting research within 'Pasteur's Quadrant,' however, are inspired by both the quest for basic understanding through rigorous research and the consideration of its application in terms of practical relevance.

The information systems (IS) discipline has long led and is still leading a very similar debate on the rigor and relevance of IS research (Applegate, 1999; Benbasat & Zmud, 1999; Davenport & Markus, 1999): While work conducted by IS researchers is regarded highly rigorous it is at the same time criticized for becoming increasingly irrelevant to practice. That said, some researchers fear that IS research appears to more and more lose its ability to provide solutions for day-to-day practitioner problems (Saunders, 1998). Although some valuable suggestions on how to better relate IS research to practice have been made (Baskerville & Myers, 2004; Kavan, 1998; Robey & Markus, 1998) the discipline is still desperately seeking ways to achieve higher relevance and overcome the apparent dilemma of rigor versus relevance. In other words: IS researchers are striving for the Pasteur's quadrant.

Rigor and relevance have been intensely discussed in numerous research articles, panel discussions, and conference papers as the two super-ordinate objectives that high quality academic research ought to strive for (Rosemann & Vessey, 2008; Senn, 1998). We, however, agree with Applegate, a former member of the MISQ editorial board, who states that only "on the surface, [the issue] appears to be a simple dichotomy of rigor vs. relevance" (Applegate, 1999, p. 1). In this article we set out to look below the surface. Our research suggests that reaching the Pasteur's quadrant in academic research requires the consideration of at least two additional perspectives herein referred to as the quality perspective and the consistency perspective. Whereas the former regards the focus on process quality or on result quality of research projects, the latter addresses their consistency at a point in time or over time.

This paper first analyzes DWH and BI research, two vital sub-fields of the decision support systems (DSS) area (itself a prestigious area of the IS discipline (Arnott & Pervan, 2008)) with regard to rigor and relevance. Both DWH and BI came up in the mid- to late-1990s (Arnott & Pervan, 2005) and nowadays constitute crucial components within companies' management reporting infrastructure (Sircar, 2009). In recent years, much has been published about how to build data warehouses and about initial experiences companies have made with DWH. Especially opportunities and challenges adjunct to maturing data warehouses, e.g., impacts of early decisions on modeling techniques and platform selections as well as managerial aspects of DWH are still to be researched (Wixom, Watson, Reynolds, & Hoffer, 2008). BI currently turns out to be a highly appreciated subject for IT investments and as such calls for research attention (Arnott & Pervan, 2008). Academic BI research, however, is still in its early stages (Gibson, Arnott, & Jagielska,

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