Chapter V
The Challenge of Transdisciplinarity in Information Systems Research:
Towards an Integrative Platform

João Porto de Albuquerque
University of Sao Paulo, Brazil

Edouard J. Simon
University of Hamburg, Germany

Jan-Hendrik Wahoff
University of Hamburg, Germany

Arno Rolf
University of Hamburg, Germany

ABSTRACT

Research in the Information Systems (IS) field has been characterised by the use of a variety of methods and theoretical underpinnings. This fact recently raised concerns about the rigour of scientific results of IS research and about the legitimacy of the IS academic field. On the other hand, a number of IS researchers have argued for a view that values diversity as a strength of the IS field. This chapter supports this viewpoint and analyzes the relation between IS research and concepts originating from theoretical debates around transdisciplinarity. We present results from a group of researchers of various disciplinary backgrounds towards an integrative platform for the orientation of transdisciplinary IS research. The Mikropolis platform provides researchers with a common language, allowing the integration of different perspectives through exchange of experiences and mutual understanding. We also discuss some practical issues that arise from the transdisciplinary cooperation in IS research.

INTRODUCTION

Research on Information Systems (IS) is constantly faced with the challenge of addressing the complexity of sociotechnical systems. As a problem-oriented field of study, IS research is concerned with the interplay between information and communication technologies (ICTs) and the organisational and societal contexts in which technologies are used, generally under the assumption that the outcomes of technology use depend as much on characteristics of the technology as on organisational and social actions that shape them (Avgerou, 2000).

While this common epistemic interest demarcates and to some extent unifies the IS field, a great variety of research approaches and methods have been used in IS research. This theoretical and methodological diversity can be traced back to the manifold disciplinary origins of IS from computer science and applied social sciences like organisation studies, management science, and organisational psychology. Thus, in addition to the traditional theoretical paradigm of *organisational rationalism* originated from concepts of the management and organisational sciences (Avgerou, 2000), recent IS sociotechnical research also builds upon theories from social sciences such as structuration theory (Orlikowski, 2000), critical theory (Ngwenyama & Lee, 1997), and actor-network theory (Monteiro & Hanseth, 1996).[1] Several corresponding research methods from the social sciences are used in IS research, both of *quantitative* (e.g., surveys) and *qualitative* nature (e.g., case study, ethnomethodology). Indeed, a recent survey (Glass, Ramesh, & Vessey, 2004) supports the picture of IS as an applied discipline that applies concepts of other disciplines.

The diversity of approaches and methods and the consequent lack of a unified theoretical core has generated concerns about the legitimacy of IS as an academic discipline (Benbasat & Zmud, 2003). Countering this viewpoint, a number of authors regard pluralism rather as necessary for the IS research to cope with the complex and multidimensional issues studied (Mingers, 2001). Following this line, Lyytinen and King (2004) propose the metaphor for the IS discipline as a "market of ideas in which scholars and practitioners exchange their views regarding the design and management of information and associated technologies in organized human enterprise"(p. 221). As such, the theoretical and methodological diversity of IS is seen as a valuable resource for the plasticity of the research in response to changes in ICT and organisation forms (Lyytinen & King, 2004).

Therefore, to fulfil its mission and address the complexity of IS and social practices, IS research should not harden and restrict itself to a theoretical "core" orthodoxy (Benbasat & Zmud, 2003), but rather dare the challenge of developing strategies for dealing with multiple research approaches, integrating different methods of inquiry, and articulating diverse theoretical backgrounds. Facing this challenge means replacing the hierarchical and homogeneous mode of scientific practice by a new form characterised by complexity, hybridity, nonlinearity, reflexivity, heterogeneity, and transdisciplinarity—the Mode 2 knowledge production described by Gibbons, Limoges, Nowotny, Schwartzman, Scott, and Trow (1994). Thus, a transdisciplinary approach to IS does not strive for a one-dimensional synthesis of the object IS around a unified theory at the centre, but assumes that the complex and intertwined relations between ICTs and human practices must be approached in multiple ways. Each of these perspectives sheds a different light to the understanding of the multidimensional object studied.

This chapter[2] argues for the relevance of transdisciplinarity for IS research by contrastively analysing the theoretical underpinnings of transdisciplinarity and IS, and thereafter reporting about practical experiences towards a transdisciplinary approach to IS research. This approach builds upon multidisciplinary collaboration, in