

Chapter 2

Rigor and Relevance in Information Systems Research: A Comprehensive IS Research Process Model

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ABSTRACT

There is an ongoing debate and discussion around rigor and relevance of Information Systems (IS) research. The published work so far on this subject remains largely confined to IS scholarly journals. Several models have been proposed that portray some kind of relationship between rigor and relevance with the common assumption that rigor and relevance are in some way or other related to each other and a tradeoff is needed between them for the right balance. Interestingly, much of the debate has been held within the confines of IS academic research circles without any significant participation from the practitioners. Nor did it have any overall context or framework for a meaningful and thorough discussion. This chapter proposes several models to guide IS researcher to help appropriately position the research using Rigor and Relevance Quadrants Model, triangulate the research using Triangulation Model, and achieve the right balance using a comprehensive IS Research Process model.

INTRODUCTION

Rigor versus relevance has been a burning topic among academic circles conducting research in the field of Information Systems. The ongoing debate on rigor and relevance can be traced from

the IS conferences and academic journals from early 1990s to till date. The initial contribution to this debate can be attributed to Peter Keen at the 1990 International Federation for Information Processing (IFIP) conference at Copenhagen (Bhattacharjee, 2001). Several articles have been published again in the late 1990s. The winter 1998 issue of *Information Resources Management*

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Journal published two articles and MIS Quarterly devoted a significant portion of the March 1999 issue to the topic. Most of the discussion was around the right trade-off between rigor and relevance. The discipline of Information Systems is relatively young compared with other well-established fields of research such as physics, chemistry, and engineering. The early academic researchers in IS depended on research methodologies from other established fields. While academic research requires rigor, the applied nature of IS research requires relevance (Steinbach & Knight, 2006). The focus has always been on the rigor of research methodologies used in IS research to lend legitimacy and credibility in broader academic circles. The early researchers tended to follow empirical research in a behaviorist style similar to natural sciences. The research was based on the positivist tradition that became synonymous with the rigor in IS research. However, the domain of IS research has significantly expanded beyond early computer age into human dominated socio-technical systems that include IS development projects, and enterprise systems. Information Systems has evolved as a multi-disciplinary area primarily dealing with software engineering but with a human aspect in its business problem domain, system usage and in systems development project undertakings. The IS researchers will need to look at pluralistic tradition of research methodologies appropriate to the specific areas of IS and business problem domain. What is needed here is an appropriate set of research methodologies and tools that would provide the right level of rigor to the research process and yield credible and repeatable results. The goals and objectives of these research projects should be closely aligned with the interests of relevant academic and business stakeholders.

This chapter examines the rigor and relevance debate so far published in IS journals and proposes comprehensive set of models to guide IS research. The section on background starts with the examination of definitions of rigor and relevance of IS

research. IS rigor and relevance problem scenario is presented to provide high level business context for better understanding of the problem. It then discusses the concerns expressed on rigor and relevance and summarizes the recommended actions to improve them. The rigor and relevance relationship models are discussed in the next section. Key themes and core issues of the debate are identified and summarized to build Rigor and Relevance Quadrants Model, IS Research Triangulation Model, and IS Research Process Model to guide a more relevant and sufficiently rigorous IS research. A three step model has been proposed to appropriately *position* the research based on research goals and objectives and desired characteristics of research, and *triangulate* to determine the right alignment between the IS research, research methodology, and business practice knowledge domains. Then IS Research Process Model has been proposed at the end to *plan and control* the research project to achieve the right balance between rigor and relevance and create both academic and business value. The section on Future Research Directions discusses the limitations of the proposed models and suggests recommended enhancements as part of future research. The chapter ends with a Conclusion section summarizing the material covered in this chapter. It is hoped that the models presented in this chapter can help guide an IS research to achieve the right level of rigor and required relevance to successfully investigate into a research problem in IS domain.

BACKGROUND

Definitions of Rigor and Relevance of IS Research

The whole debate hinges around rigor and relevance of IS research. The concept of rigor of IS research comes into play while determining appropriate research methodologies for conduct-

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