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# Long Live Design Science Research! .... And Remind Me again about Whether It Is a New Research Paradigm or a Rationale of Last Resort for Worthwhile Research that Doesn't Fit under Any Other Umbrella

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# LONG LIVE DESIGN SCIENCE RESEARCH! .... AND REMIND ME AGAIN ABOUT WHETHER IT IS A NEW RESEARCH PARADIGM OR A RATIONALE OF LAST RESORT FOR WORTHWHILE RESEARCH THAT DOESN'T FIT UNDER ANY OTHER UMBRELLA

ICIS 2012 PANEL STATEMENT

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## Abstract

*There is broadening and increasingly unquestioned acceptance of design science research (DSR). Recently, DSR may have provided an important bridge for overcoming or bypassing artificial barriers to accepting the legitimacy of certain types of research, but in some cases it is not obvious how DSR actually contributed to the research. Perhaps it is time to retire the assumption that DSR is somehow a new and different paradigm for doing research and to move on. Recognizing that the information-systems discipline is quintessentially rooted in design, this panel examines whether we actually need DSR to legitimize research that produces interesting and valuable results related to new constructs, models, methods, or instantiations.*

**Keywords:** *Template, formats, instructions, length, conference publications*

## Introduction

A remarkable and influential resurgence in the long tradition of design science research (DSR) in the information systems discipline has occurred following *MIS Quarterly's* 2004 publication of "Design Science Research in Information Systems" by Hevner, March, Park, and Ram. The resurgence has been accompanied by (and, no doubt, deserves credit for) a broadening and increasingly unquestioned acceptance of DSR as nothing short of an equal partner in the universe of information-systems research along with behavioral information-systems research in its many forms (such as positivist, statistical, interpretive, qualitative, critical, case-based, and others).

Gregor and Hevner's (2011) introduction to a recent special issue of *Information Systems and e-Business Management* on DSR reflects in many interesting ways how far research associated with DSR has come since the 2004 article. The following are some of the points in that introduction:

We see design science research as a particular perspective within IS research, focusing on the development of artifacts related to information and communications technology. DSR involves the analysis of the use and performance of designed artifacts to understand, explain, and, very frequently, to improve on the behavior of the social system that the artifacts become a part of. ... DSR has a clear applied orientation.

...

We recognize that there is a perception that there exists differing “camps” in the IS DSR community. The design-theory camp ... promotes the importance of showing a design theory as the basis for the building of a design artifact. The pragmatic-design camp ... is seen as agnostic to the need for design theory.

...

Hevner et al. (2004, p. 79) define the problem space for DSR as including “people, organizations and their existing or planned technologies.” They define the resulting artifact of DSR as “a construct, model, method, or instantiation.”

...

A specific DSR research project can make a contribution on one or more of these levels ranging from specific instantiations at Level 1 in the form of products and processes to more general contributions at Level 2 in the form of design principles (e.g. models and methods) or Level 3 in the form of emergent design theories about the phenomena under study.

The introduction to the special issue mentions five articles in the special issue covering the following topics: 1) a formal approach for analyzing or designing information flows in organizations, 2) a decision support method for enterprise IT architects, 3) a method to compare traditional and component-based information system models, 4) IS integration management via mergers and acquisitions, and 5) six criteria for DSR progress. Except for the last one, which is specifically about DSR, it is not obvious why a DSR approach is necessary for publishing a research paper about those worthwhile topics. A look at articles in leading journals before the 2004 DSR paper would probably find many topics that seem analogous to the first four topics in the special issue and do not use a DSR rationale. In other words, DSR may have provided an important bridge for overcoming or bypassing artificial barriers to accepting the legitimacy of certain types of research, but in some cases it is not obvious how DSR actually contributed to the research. Perhaps it is time to retire the assumption that DSR is somehow a new and different paradigm for doing research and to move on.

*Having learned what we have learned from the debates about DSR (e.g., Österle et al. 2011; Baskerville et. al., 2011; Levy and Hirschheim, 2012), and recognizing that the information-systems discipline is quintessentially rooted in design, perhaps it is time to ask whether we actually need DSR to legitimize research that produces interesting and valuable results related to new constructs, models, methods, or instantiations.*

## **Controversial Issues and Panelists’ Positions**

The panel members will contribute opening statements in the following areas, will respond to each other, and then will invite audience members to participate in the discussion.

1) (5 minutes) Allen Lee, as the panel chair, will draw on the points above to provide an introduction that includes the context for the panel. He will also affirm that all the panelists agree with the following premises:

-- We all believe that a purpose of research is to produce new knowledge.

-- We all favor creating concepts, methods, models, and instantiations that are new and valuable.

-- We all believe that creating and demonstrating the value of new concepts, methods, models, and instantiations can be an essential part of the IS field.

Allen will then summarize: From our joint starting position, the question for the panel and audience is about whether the DSR enterprise in the IS field has taken on some characteristics that are not realistic or beneficial, and therefore whether DSR energy should be redirected in some way.

2) (3 to 4 minutes for each of the 4 panelists) Each panelist will summarize his personal involvement with these issues.

\* Allen Lee will express his regret that the initial promise of the Hevner et al. article, which he in his role as a senior editor solicited and accepted for publication in *MIS Quarterly*, has been thwarted by the technology-centric and IT-artifact centric perspective now dominant in DSR.

\* Mike Chiasson will consider, based on his development of software systems over the past 16 years and his work in an interdisciplinary doctoral centre across design and management, that competing views of knowledge and its purpose with and through design may challenge the strictures around DSR that have so far prevented him from considering his work DSR.

\* Helmut Krcmar will say that, as a co-signer of the *European Journal of Information Systems Manifesto* several years ago, he sees no question at all about the value and legitimacy of research that produces useful artifacts during the development of new knowledge. This is what many European researchers rooted in an engineering-tradition, especially in the German-speaking community, have done for many years and intend to continue doing because it is timely, practical, valuable, and receives funding from practitioners who actually care about the results.

\* Steve Alter will express the belief that DSR has taken on ritualistic characteristics. Sharing his own first-hand experience, he will confess that he participated in that ritual during a revise-and-resubmit process for a possible journal publication related to work system theory. In that instance, a subsequent revision improved the manuscript by eliminating an artificial DSR rationale and focusing more directly on the substance of the paper and less on the packaging.

3) (15 minutes) We will allow fifteen minutes for questions or comments from the audience.

4) (3 to 4 minutes for each of the 4 panelists) Each panelist will comment on 3 or 4 questions that we will announce in advance (see below). After the panelists' comments, we will welcome additional comments from the audience. In his role as panel chair, Allen Lee will limit the time for each question so that we can get to at least 3 questions.

The 3 or 4 questions will be drawn from the following.

3a) Is there any reason why we need DSR checklists and guidelines in order to produce high level journal or conference articles? For example, is there any reason to believe that DSR guidelines and checklists have facilitated or hindered research related to constructs, models, methods, and instantiations?

3b) Should the ground rules and guidelines of DSR encourage or require researchers to adopt or espouse values and research methods that are inconsistent with the way people create and justify constructs, models, methods, and instantiations in the real world?

3c) Have DSR checklists and guidelines created an unneeded and unrealistic, quasi-positivist rationale and packaging for doing things that researchers and practitioners have done for centuries, but not in the ways prescribed by DSR checklists and guidelines?

3d) Is DSR more about ritualistic packaging than about doing things that are valid either scientifically or in the realm of business or engineering? I.e., is DSR becoming a ritualistic packaging of research that would be perfectly legitimate and meaningful without the DSR packaging?

5) In the remaining time, Allen Lee will encourage participation from the audience. Audience members may voice questions with the help of a microphone, in writing (on cards that will be distributed), and in the form of text messages (a mobile phone number will be announced).

## Biographies

Allen S. Lee has published numerous articles and book chapters that apply philosophical perspectives to research methods in information systems. He has been a full professor at Virginia Commonwealth University since 1998 and, in 2012, was named a Dean's Scholar Professor. He has served as associate dean at both VCU and McGill University, as editor-in-chief of *MIS Quarterly*, and as a founding senior editor of *MIS Quarterly Executive*. His publications have advocated for the use of qualitative, interpretive, and case methods, often in conjunction with quantitative, positivist, and statistical methods. In 2005, he was named a Fellow of the Association for Information Systems. A member of the Circle of Compadres of the Information Systems Doctoral Students Association of the KPMG PhD Project, he was also a founder of the organization Chinese American Professors of Information Systems.

Steve Alter is a Professor at the University of San Francisco. He served as co-founder and Vice President of Consilium, a manufacturing software firm that went public in 1989 and was acquired by Applied Materials in 1998. Upon returning to academia, he wrote a series of information systems textbooks. His latest book, *The Work System Method: Connecting People, Processes, and IT for Business Results*, extends the unique aspects of the textbooks in the form of a systems analysis method for business professionals. His articles have appeared in ICIS, ECIS, AMCIS, and HICSS proceedings and in journals such as *Harvard Business Review*, *Sloan Management Review*, *MIS Quarterly*, *IBM Systems Journal*, *European Journal of Information Systems*, *Decision Support Systems*, *Communications of the ACM*, and *Communications of the Association for Information Systems*.

Mike Chiasson is currently a professor of Information Systems and an Advanced Institute of Management (AIM) Innovation Fellow in the Department of Management Science at Lancaster University's Management School. Mike's research interests include the development, implementation, and outcomes of health care IT (particularly patient records systems) and enterprise systems. The theories employed in such work include actor-network theory, Habermas, pragmatism, deconstruction, and language-discourse philosophies of various kinds. The research methods have included interpretive case studies, action research, experimental and quasi-experimental methods, and social critique. His work has been published in various leading journals in the IS field including *MIS Quarterly*, *Journal of the Association of Information Systems*, *Information Systems Journal*, *Information and Organization*, *Journal of Information Technology*, *European Journal of Information Systems*, *Information Technology and People*, and other leading journals and conferences in IS and medical informatics.

Helmut Kremer holds the Chair for Information Systems, Faculty of Informatics, Technische Universität München (TUM), Germany and serves as Dean of the Faculty of Informatics. He is also a member of the faculty of the TUM Business School. He received a Ph.D. in business administration (University of Saarbrücken) and has worked as Post Doctoral Fellow at the IBM Los Angeles Scientific Center and as Assistant Professor of Information Systems (Leonard Stern Graduate School of Business, New York University and Baruch College, City University of New York). 1987 to 2002 he held the Chair for Information Systems, Hohenheim University, Stuttgart, Germany, where he served as Dean of the Faculty of Business, Economics and Social Sciences from 2000 to 2002. His research interests include Information and Knowledge Management, IT-enabled Value webs, Service Management, Computer Supported Cooperative Work and Information Systems in Health Care and eGovernment.

## References

- Baskerville, R., Lyytinen, K., Sambamurthy, V. and Straub, D. 2011. "A Response to the Design-Oriented Information Systems Research Memorandum," *European Journal of Information Systems* (20), pp. 11-15.
- Gregor, S., and Hevner, A. R. 2011. "Introduction to the Special Issue on Design Science," *Information Systems and e-Business Management* (9), pp. 1-9.
- Hevner, A. R., March, S. T., Park, J. and Ram, S. 2004. "Design Science in Information Systems Research," *MIS Quarterly* (28:1), pp. 75-105.

Levy, M. and Hirschheim, R. 2012 “Removing the Positivist Straight Jacket from Information Systems Design Science Research,” *European Conference on Information Systems 2012 Proceedings*.

Österle, H., Becker, J., Frank, U., Hess, T., Karagiannis, D., Krcmar, H., Loos, P., Mertens, P., Oberweis, A. and Sinz, E. J. 2011. “Memorandum on Design-Oriented Information Systems Research,” *European Journal of Information Systems* (20), pp. 7-10.