



PACIS 2010 Tutorial T1

The Design Science Research Method

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Abstract

In this tutorial, we will review the evolution of design science (i.e., systems development) research in the information systems field. The process, opportunities, risks, and challenges in conducting design science research will be elaborated. The complementary relationships between systems development research methodology and other research methodologies will be explained. Examples of researches in design science will be discussed to illustrate how to apply such an approach to information systems research. Participants are encouraged to bring their design science research projects into the discussion.

Outline

1. A Brief Historical Design Science Research Method
2. Review of Landmark Frameworks and Literature
3. The Lifecycle of Design Science Research
4. Risk Mitigation in Design Science Approach
5. Design Science Research Guidelines
6. The Timing and Interactions among Research Methods
7. Evolution of Emerging Technologies and Its Impacts to Design Science Research
8. Case Studies of Design Science Research
9. Conclusion

Brief Biography

Minder Chen received a B.S. in Electrical Engineering from National Taiwan University in 1979, an M.B.A. from National Chiao Tung University in 1983, and a Ph.D. in Management Information Systems from the University of Arizona in 1988.

He is currently Associate Professor of Management Information Systems and Chair of Business and Economics Program at the Martin V. Smith School of Business and Economics, California State University Channel Islands. He was formerly an Associate Professor of Information Systems and Operations Management in the School of Management at George Mason University. While at GMU, he was the Director of Technology Program (an Executive Master Program in Information Technology Management) and Area Coordinator of the Decision Science and Management Information System area. His primary research interests

include service management, electronic commerce, Web service and SOA, business reengineering and change management, computer-aided software engineering, collaboration technologies and virtual teams, IT offshore outsourcing, and object-oriented systems development methodology. He has published papers in *Service Science*, *Decision Support Systems*, *International Journal of E-Business*, *Journal of Management Information Systems*, *Database*, *Journal of Organizational Computing*, *Expert Systems with Applications*, *IEEE Transactions on Knowledge and Data Engineering*, *International Journal of Human Computer Studies*, *Journal of Electronic Commerce Research*, *Journal of Computer Information Systems*, *IEEE Transactions on Systems, Man, and Cybernetics*, *Journal of Small Group Research*, *Information Systems and e-Business Management*, *Information Systems Management*, *Industrial Management and Data Systems*, and *IEEE Software*.

He has been involved in studying methods and tools for business process reengineering and software reuse for DOD's Corporate Information Management Office. He has also worked with governments and private-sector businesses, such as Fairfax County Government, US Court, Industrial Technology Research Institute, DOD Center for Information Management, American Management Systems, and Wizdom Systems Inc. in their information engineering, client/server migration, and business reengineering efforts. He has given presentations and seminars in China, U.S.A., Taiwan, Singapore, Hong Kong, and Spain on service management, electronic commerce, systems development methodology, group decision support systems, and "I-Ching (The Book of Changes) and Management".

He is the co-editor-in-chief of *Service Science* journal, Associate Editor of *Electronic Commerce Research Journal*, Program Co-Chair of the Third Workshop of E-Business, December 2004. He co-edited a special issue on Web Services and Electronic Commerce at *Journal of Electronic Commerce Research* (2003). He is the invited keynote speaker on "XML Web Services and E-Business" at International Conference on Information Systems 2002 in Spain, sponsored by Microsoft. He gave a keynote speech on design sciences research at the 18th International Conference on Information Management, Taipei, May 2007.



PACIS 2010 Tutorial T2

Case Study Method

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Abstract

We have long learned that European-oriented case research is inclined towards interpretivism (e.g. Walsham 1995), while American-oriented case research is inclined towards positivism (e.g. Eisenhardt 1989). While these two traditions have been well accepted by case researchers in the Information Systems community, as a practitioner, I've learned that a more pragmatic approach is needed to bring out the indigenous nature of Asian organizations. To achieve this, I've adopted the approach of "soft positivism" or "scientific realism" (Kirsch, 2004; Madill et al., 2000). This approach allows me to conduct data analysis with certain expectations based upon prior theory (as done in positivism approach), while also allowing some unexpected findings and explanations to emerge from the data, as is more typical of interpretivist approaches. In this workshop, I will talk about my experience in making sense of what it takes to publish in top-tier journals. I will also introduce a framework (Structured-Pragmatic-Situational) that I've developed and used as a guide in my case research. I will use examples of my own published work to illustrate the 8-steps necessary to achieve success in publishing case studies.

Outline

1. European and American Approach to Conducting Case Study
2. Structured-Pragmatic-Situational Approach (SPS)
3. Fieldwork
4. Publishing Case Studies in Journals and Conferences

Brief Biography

Dr. Shan Ling PAN is an Associate Professor and the Coordinator of Asian IT Case Series (<http://aitcs.nus.edu.sg>) in the Department of Information Systems of the School of Computing, National University of Singapore. He is also the Program Director of the Strategic Technology Management Institute (STMI). Dr. Pan's primary research focuses on the recursive interaction of organizations and information technology, with a particular emphasis on issues related to work practices, cultures and structures. Specifically, he is interested in understanding the complex issues related to the adoption, implementation and use of enterprise systems within and across organizations. Dr. Pan is/was an Associate Editor of Information Systems Research, European Journal of Information systems, Information and Management, and Communication of the AIS. His research work has been published in

Information Systems Research, IEEE Transactions on Engineering Management, European Journal of Information Systems, Journal of the American Society for Information Systems and Technology, MISQ Executive, Journal of Strategic Information Systems, Information Systems Journal and among others.



PACIS 2010 Tutorial T3

Operationalizing Theoretical Sampling within A Grounded Theory Research

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Abstract

Even though the grounded theory approach in general and theoretical sampling in specific are designed to take advantage of ongoing emergence of interesting events, happenings and phenomena, very few prior accounts offer sufficient details as how these opportunities can be effectively positioned, evaluated and capitalized. To build on our existing understanding, this tutorial is designed to illustrate some of the theoretical sampling issues and challenges commonly faced by researchers during the research process. Specifically, an extended framework of theoretical sampling is proposed and explained during the tutorial. This extended framework not only adds more detailed illustrations to theoretical sampling that is very briefly mentioned by Strauss and Corbin (1998), but also synthesizes three strands of research activities, namely data collection, data analysis and theory comparison to actualize the iterative nature of a grounded theory research. Researchers, experienced or not, will find this extended framework valuable not only in untangling the rather messy and complex processes and activities carried out during a research, but also in integrating them to make a research based on the grounded theory approach more accessible and transparent.

Outline

1. Background introduction of grounded theory, its key characteristics, strengths and weaknesses
2. Theoretical sampling and its related benefits and challenges
3. An extended framework of theoretical sampling
4. An integrative approach towards grounded theory

Brief Biography

Dr Jimmy Huang is a reader of information systems at the Information Systems & Management Group of Warwick Business School, the University of Warwick. His research interests are related to organizational and social phenomena within the context of IT and/or process innovation implementation.