

General References on Design Science Research

- Alexander, C. (1964). Notes on the Synthesis of Form. Cambridge, MA., Harvard University Press.
- Carroll, J., and Kellogg, W. (1989). Artifact as Theory Nexus: Hermeneutics Meets Theory-Based Design. In Proceedings of CHI '89, ACM Press.
- Dasgupta, S. (1996). Technology and Creativity. New York, Oxford University Press.
- Gregg, D., U. Kulkarni, et al.(2001). "Understanding the Philosophical Underpinnings of Software Engineering Research in Information Systems." Information Systems Frontiers 3(2): 169-183.
- Hevner, A., March, S., Park, J. and Ram, S. (2004). "Design Science in Information Systems Research." MIS Quarterly 28(1): 75-105.
- Hevner, A. and March, S. (2003). "The Information Systems Research Cycle." IT Systems Perspective 36(11): 111-113.
- Kuhn, T. (1996). The Structure of Scientific Revolutions. Chicago, University of Chicago Press.
- Lakatos, I. (1978) The Methodology of Scientific Research Programmes (John Worral and Gregory Currie, Eds.), Cambridge, Cambridge University Press.
- March, S. and Smith, G. (1995). "Design and Natural Science Research on Information Technology." Decision Support Systems 15 (1995): 251 - 266.
- Maturana, H. and Varela, F. (1987). The Tree of Knowledge: The Biological Roots of Human Understanding. Boston, New Science Library.
- McCarthy, J. (1980). "Circumscription - A Form of Non-Monotonic Reasoning." Artificial Intelligence 13: 27-39.
- McKay, J. and Marshall, P. (2005). A Review of Design Science in Information Systems. Australian Conference on Information Systems. Sydney.
- Owen, C. (1997). "Design Research: Building the Knowledge Base." Journal of the Japanese Society for the Science of Design 5(2): 36-45.

Orlikowski, W. and C. Iacono (2001). "Desperately Seeking the "IT" in IT Research - A Call to Theorizing the IT Artifact." Information Systems Research 12(2): 121-134.

Pierce, C. S: Collected Papers. Harshorne, C. and P. Weiss, Eds. Cambridge, MA, Harvard University Press, (1931 - 1935).

Purao, S. (2002). "Design Research in the Technology of Information Systems: Truth or Dare." GSU Department of CIS Working Paper. Atlanta.

Rossi, M. and Sein, M. (2003). Design Research Workshop: A Proactive Research Approach. Presentation delivered at IRIS 26, August 9 – 12, 2003. http://tiesrv.hkkk.fi/iris26/presentation/workshop_designRes.pdf last accessed January 16, 2004.

Simon, H. (1996). The Sciences of the Artificial, Third Edition. Cambridge, MA, MIT Press.

Takeda, H., Veerkamp, P., Tomiyama, T., Yoshikawam, H. (1990). "Modeling Design Processes." AI Magazine Winter: 37-48.

Varela, F. (1988). "Structural Coupling and the Origin of Meaning in a Simple Cellular Automata." The Semiotics of Cellular Communication in the Immune System. E. Scaraz, F. Celada, N. Michenson and T. Tada. New York, Springer Verlag.

Walls, J., Widmeyer, G. and El Sawy, O. (1992). "Building an Information System Design Theory for Vigilant EIS." Information Systems Research 3(1), 36 - 59.

Winter, R. (2008). "Design Science Research in Europe." European Journal of Information Systems 17(5): 470-475.

References on Philosophical Grounding of Design Science Research

Ackoff, R. (1962). The nature of science and methodology. In R. Ackoff. Scientific Method: optimizing applied research decisions (Chapter 2). New York, John Wiley.

In this chapter, Professor Ackoff explains three outcomes of any research endeavor: (1) an answer to a research question; (2) a solution (e.g. an abstract or designed material artifact) to a problem or (3) a more effective and/or efficient procedure for answering questions or solving problems.

Berger, P. and Luckman, T. (1966). The Social Construction of Reality: a treatise in the sociology of knowledge. Garden City, NY, Doubleday.

Bunge, M. (1984). Philosophical Inputs and Outputs of Technology. History and Philosophy of Technology. G. Bugliarello and D. Donner. Urbana, IL, University of Illinois Press:263-281.

Carroll, J., and Kellogg, W. (1989). Artifact as Theory Nexus: Hermeneutics Meets Theory-Based Design. In Proceedings of CHI '89, ACM Press.

Dasgupta, S. (1996). Technology and Creativity. New York, Oxford University Press.

Gregg, D., Kulkarni, U. and Vinze, A. (2001). "Understanding the Philosophical Underpinnings of Software Engineering Research in Information Systems." Information Systems Frontiers 3(2): 169-183.

Gregor, S. (2006). "The Nature of Theory in Information Systems." MISQ 30(3): 611-642.

Gregor, S. and D. Jones (2007). "The Anatomy of a Design Theory." Journal of the Association for Information Systems (JAIS) 8(5): Article 19.

Guba, E. and Lincoln, Y. (1994). Competing Paradigms in Qualitative Research. The Handbook of Qualitative Research. N. Denzin and Y. Lincoln. Thousand Oaks, CA, Sage: 105-117.

Hendry, R. (2004). "Are Realism and Instrumentalism Methodologically Different?" Online working paper, Department of Philosophy, University of Durham, UK, last accessed January 11, 2004. URL: <http://hypatia.ss.uci.edu/lps/psa2k/realism-and-instrumentalism.pdf> Author e-mail: r.f.hendry@dur.ac.uk

Hevner, A., March, S., Park, J. and Ram, S. (2004). "Design Science in Information Systems Research." MIS Quarterly 28(1): 75-105.

Khun, T. (1996). The Structure of Scientific Revolutions. Chicago, University of Chicago Press.

Latour, B. (1987). Science in Action: How to follow scientists and engineers through society. Cambridge, MA, Harvard University Press.

March, S. and G. Smith (1995). "Design and Natural Science Research on Information Technology." Decision Support Systems 15, 251 - 266.

Markus, M. S., M. (2008). "A Foundation for the Study of IT Effects: A New Look at DeSanctis and Poole's Concepts of Structural Features and Sprit." Journal of the Association for Information Systems (JAIS) 9(3/4): 609-632.

Niehaves, B. (2007). "On Epistemological Diversity in Design Science - New Vistas for a Design-Oriented IS Research?" in the proceedings of ICIS 2007, Montreal.

Pierce, C. S: Collected Papers. Harshorne, C. and P. Weiss, Eds. Cambridge, MA, Harvard University Press, (1931 - 1935).

Purao, S. (2002). "Design Research in the Technology of Information Systems: Truth or Dare." GSU Department of CIS Working Paper. Atlanta.

Saraswat, P. (2004). "A historical perspective on the philosophical foundations of information systems." Document online at the website of <AIS SIGPhilosophy, AIS> at:<http://www.bauer.uh.edu/parks/fis/saraswat3.htm>

Here, Saraswat (2004) suggests that a <Systems Thinking> worldview is required to treat complex organizational IS. Also, he draws from the work of Roman architect, Marcus Vitruvius, to pose a new design framework for IS.

Searle, J., Ed. (1995). The Construction of Social Reality. New York, The Free Press.

References on Design Science Research Methodology

Buchanan, G. (1991). Modeling Operations Management Support Systems. Unpublished Doctoral Dissertation, Atlanta, GA. College of Business Administration, Georgia State University.

Fettke, P., Houy, C. and Loos, P. (2010). "On the Relevance of Design Knowledge for Design-Oriented Business and Information Systems Engineering." Business and Information Systems Engineering 2(6): 347-358.

Fettke, P., Houy, C. and Loos, P. (2010). On the Relevance of Design Knowledge for Design-Oriented Business and Information Systems Engineering - Supplemental Considerations and further Application Examples. in Publications of the Institute for Information Systems at the German Research Center for Artificial Intelligence (DFKI) Vol. 191. http://www.uni-saarland.de/fileadmin/user_upload/Professoren/fr13_ProfLoos/IWi_Heft_191_english.pdf

Gregg, D., Kulkarni, U. and Vinze, A. (2001). "Understanding the Philosophical Underpinnings of Software Engineering Research in Information Systems." Information Systems Frontiers 3(2): 169-183.

Hevner, A., March, S., Park, J. and Ram, S. (2004). "Design Science in Information Systems Research." MIS Quarterly 28(1): 75-105.

Jarvinen, P. (2004) On Research Methods. Tiedekirjakauppa TAJU publisher, Helsinki, Finland. ([Chapter 1](#); [Chapter 5](#))

Jarvinen, P. (2006) "[On A Variety of Research Output Types](#)." Department of Computer and Information Sciences working paper, University of Tampere, Finland.

Jarvinen, P. (2006) "[Research Questions Guiding Selection of an Appropriate Research Method](#)." Department of Computer and Information Sciences working paper, University of Tampere, Finland.

Jarvinen, P. (2007) "[Action Research is Similar to Design Science](#)." Quantity and Quality 41: 37-54

Lakatos, I. (1978) The Methodology of Scientific Research Programmes (John Worrall and Gregory Currie, Eds.), Cambridge, Cambridge University Press.

March, S. and Smith, G. (1995). "Design and Natural Science Research on Information Technology." Decision Support Systems 15 (1995): 251 - 266.

Mingers, J. (2001). "Combining IS Research Methods: Towards a Pluralist Methodology." *Information Systems Research* 12(3): 240-259.

Newell, A. (1990). Unified Theories of Cognition. Cambridge, Mass. USA, Harvard University Press.

Nunamaker, J., Chen, M. and Purdin, T. (1991). "System Development in Information Systems Research." *Journal of Management Information Systems*, 7:3, pp. 89 – 106.

Purao, S. (2002). "Design Research in the Technology of Information Systems: Truth or Dare." GSU Department of CIS Working Paper. Atlanta.

Shu, N. (1988). *Axiomatic Design Theory for Systems*. *Research in Engineering Design*, 10, pp. 189-209.

Shu (1998, p.189) poses that: " The design of effective systems is the ultimate goal of many fields, including engineering, business, and government. Yet system design has lacked a formal theoretical framework and thus, has been done heuristically or empirically". His paper then, set forth a formalism to design process based on function requirements, design parameters and process variables hierarchies.

Ulrich, F. (2006). *Towards a Pluralistic Conception of Research Methods in Information Systems Research*, Tel Aviv University, Department of Management, Research Report available at http://www.icb.uni-due.de/fileadmin/ICB/research/research_reports/ICBReport07.pdf

Vaishnavi, V., Buchanan, G. and Kuechler, W. (1997). "A Data/Knowledge Paradigm for the Modeling and Design of Operations Support Systems", *IEEE Transactions on Knowledge and Data Engineering*, Vol. 9, No. 2, March-April 1997, pp. 275 – 291.

Walls, J., Widmeyer, G., El Sawy, O. (1992). "Building an Information System Design Theory for Vigilant EIS." *Information Systems Research* 3(1): 36 -59.

Walls, J., Widmeyer, G., El Sawy, O. (2004). "Assessing Information System Design Theory in Perspective: How Useful was our 1992 Initial Rendition." *Journal of Information Technology Theory and Application* 6(2): 43-58.

Zelkowitz, M. and Wallace, D. (1998). "Experimental Models for Validating Technology." *IEEE Computer* 31(5): 23-31.

The authors describe 12 research techniques to validate a designed artifact; one or more could be incorporated into a robust design research methodology.

References on Understanding Design Science Research in the Context of Information Systems Research

Adams, L. and Courtney, J. (2004) "Achieving Relevance in IS Research via the DAGS Framework." Proc. of the 37th Hawaii International Conference on System Sciences.

Alter, S. (2003). "18 Reasons Why IT-Reliant Work Systems Should Replace 'The IT Artifact' as the Core Subject Matter of the IS Field." Communication of the AIS **12**(October): 365-394.

Applegate, L. (1999). "Rigor and Relevance in MIS Research - Introduction." MIS Quarterly **23**(1): 1-2.

Arnott, D. (2006). "Cognitive biases and decision support systems development: a design science approach." Information Systems Journal **16**: 55-78.

Benbasat, I. and Zmud, R. (1999). "Empirical Research in Information Systems: The Practice of Relevance." MIS Quarterly **23**(1): 3-16.

Brooks, F. (1996). "The Computer Scientist as Toolsmith II." Communications of the ACM **39**(3): 61-68.

Here, Brooks (1996) poses that "... the scientist builds in order to study; the engineer studies in order to build". He suggests that <Computer Sciences> is a bad name for the field, since it rather belongs to a <Engineering> discipline. Brooks indicates (p. 63) "we are concerned with making things, be they computers, algorithms, or software systems". According to Brooks, two criterion of success for a computer-based tool are: easy to use and <productive> or <usefulness>. He also proposes an old Greek criterion of wisdom as part of the assessment of a design: Is the tool/artifact true? is it beautiful? it is good?, which adds an <ethical> dimension to the assessment process of any design.

Caws, P. (1969). "The Structure of Discovery." Science **166**(December): 1375-1380.

Falconer, D. and Mackay, D. (1999). Ontological Problems of Pluralist Research Methodologies. 5th AIS Conference on Information Systems, Milwaukee, WI.

Fugetta, A. (1999). "Some Reflections on Software Engineering Research." ACM SIGSOFT Software Engineering Notes **24**(1): 74-77.

Gehlert, A.; Schermann, M.; Pohl, K.; Krcmar, H. (2009): Towards a research method for theory-driven design research. Paper presented at the Wirtschaftsinformatik 2009, Vienna, Austria. <http://aisel.aisnet.org/wi2009/42/>

Germonprez, M., Hovorka, D., and Gal, U. (2011). Secondary Design: A Case of Behavioral Design Science Research. *Journal of the Association for Information Systems (JAIS)*, Forthcoming

Glass, R. (1999). "On Design." IEEE Software **16**(2): 103-104.

Glass, R., Ramesh, V. and Vessey, I. (2004). "An analysis of research computing disciplines." Communications of the ACM, **47**(6): 89-94.

Although the authors do not use the term <design science research>, it is clear - from table 2, pp. 91- that the research approach called <formulative> in contrast with <descriptive> and <evaluative> is closely related to <design science research>.

Hempel, C. (1966). Philosophy of Natural Science. Englewood Cliffs, NJ, Prentice Hall.

Hopcroft, J. (1987). "Computer Science: The Emergence of a Discipline." Communications of the ACM **30**(3): 198-202.

Kleindorfer, G., O'Neill, L. and Ganeshan, R. (1998). "Validation in Simulation: Various Positions in the Philosophy of Science." Management Science **44**(8): 1087-1099.

Kolfschoten, G. and Vreede, G. de (2009). A Design Approach for Collaboration Processes: A Multi-Method Design Science Study in Collaboration Engineering. *Journal of Management Information Systems*, 26(1), 225-256.

Iivari, J. (2003). "The IS CORE VII: Towards Information Systems as a Science of Meta-Artifacts." Communication of the AIS **12**(October), Article 37.

Kuechler, W. and Vaishnavi, V. (2007). "[Design \[Science\] Research in IS: A Work in Progress](#)" in proceedings of 2nd International Conference on Design Science Research in Information Systems and Technology ([DESRIST '07](#)), May 13-16, 2007, Pasadena, CA.

Lee, A. (2000). Systems Thinking, Design Science and Paradigms: Heeding Three Lessons from the Past to Resolve Three Dilemmas in the Present to Direct a Trajectory for Future Research in the Information Systems Field. Keynote address at the 11th International Conference on Information Management. <http://www.people.vcu.edu/~aslee/ICIM-keynote-2000> last accessed January, 16, 2004.

LeRouge, C. and Lisetti, C. (2005). "Triangulating Design Science, Behavioral Science, and Practice for Technological Advancement in Tele-Home Health." International Journal of Healthcare Technology and Management **7**(5): 348-363.

March, S., Hevner, A. and Ram, S. (2000). "Research Commentary: An Agenda for Information Technology Research in Heterogeneous and Distributed Environments." Information Systems Research **11**(4): 327-341.

Markus, M., Majchrzak, A. and Gasser, L. (2002). "A Design Theory for Systems that Support Emergent Knowledge Processes." MIS Quarterly **26**(3): 179-212.

Morrison, J. and George, J. (1995). "Exploring the Software Engineering Component of MIS Research." Communications of the ACM **38**(7): 80-91.

Newell, A. and Simon H. (1976). "Computer Science as Empirical Inquiry: Symbols and Search." Communications of the ACM **19**(3): 113-126.

Norman, D. (1988). The Design of Everyday Things. New York, Doubleday.

Parnas, D. (1998). "Successful Software Engineering Research." ACM SIGSOFT Software Engineering Notes **23**(3): 64-68.

Peppers, K., Tuunanen, T., Gengler, C., Rossi, M., Hui, W., Virtanen, V., Bragge, J. (2006). The Design Science Research Process: A Model for

Producing and Presenting Information Systems Research. in proceedings of DESRIST 2006, Claremont, CA., 83-106.

Peppers, K., Tuunanen, T., Rothenberger, M. and Chatterjee, S. (2007). "A Design Science Research Methodology for Information Systems Research." Journal of Management Information Systems 24(3): 45-77.

Petroski, H. (1996). Invention by Design: How Engineers Get from Thought to Thing. Cambridge, MA, Harvard University Press.

Petter, S., Vaishnavi, V. and Hsieh, J. (2003). "Linking Theory with Practice: A Research Approach and Illustration of its Use in Software Project Management." Working Paper, Department of Computer Information Systems, Georgia State University.

Popper, K. (1980). Science: Conjectures and Refutations. Introductory Readings in the Philosophy of Science. R. Hollinger and A. Kline. New York, Prometheus Books: 29 - 34.

Robey, D. (1996). "Research Commentary: Diversity in Information Systems Research: Threat, Opportunity and Responsibility." Information Systems Research 7(4): 400-408.

Schon, D. (1993). The Reflective Practitioner: How Professionals Think in Action. New York, Basic Books.

Tichy, W. (1998). "Should Computer Scientists Experiment More?" IEEE Computer 31(5): 32-40.

Tichy proposes that, from a formal statistical theory of design of experiments, computer scientists (and by implication, IS design science research academics) have not achieved the level of maturity of other empirical disciplines.

Tsichritzis, D. (1997). The Dynamics of Innovation. Beyond Calculation: The Next Fifty Years of Computing, P. Denning and R. Metcalfe (Eds). New York, Springer-Verlag: 259-265.

Truex, D. (2001). "Three Issues Concerning Relevance in IS Research: Epistemology, Audience and Method." Communications of the AIS, 6:24.

Vaishnavi, V. and Kuechler, W. (2004). "Design Science Research in Information Systems" January 20, 2004, last updated September 30, 2011.

URL: <http://www.desrist.org/desrist> Authors e-mail: vvaishna@gsu.edu kuechler@unr.edu [Pertti Jarvinen's [critique of the 2004 version of the DR web site](#)]

Weber, R. (1987). "Toward a Theory of Artifacts: A Paradigmatic Base for Information Systems Research." *Journal of Information Systems*(Spring): 3-19.

Winograd, T. (1996). *Bringing Design to Software*. Reading, MA, Addison Wesley.

Winograd, T. (1997). The Design of Interaction. *Beyond Calculation: The Next Fifty Years of Computing*. P. Denning and R. Metcalfe (Eds). New York, Springer-Verlag: 149-162.

Yetim, F. (2011). " Bringing Discourse Ethics to Value Sensitive Design: Pathways toward a Deliberative Future " *AIS Transactions on Human Computer Interaction* 3(2): 133-155.

References on Theory and Theory Development in Design Science Research

Arazy, O., Kumar, N. and Shapira, B. (2010). "A Theory-Driven Design Framework for Social Recommender Systems." *Journal of the Association for Information Systems (JAIS)* 11(9): 455-490.

Baskerville, R. and Pries-Heje, J. (2010). "Explanatory Design Theory." *Business and Information Systems Engineering* 5: 271-282.

Germonprez, M., Hovorka, D., Collopy, F. (2007). A Theory of Tailorable Technology Design, *Journal of the Association for Information Systems (JAIS)*, 8(6), 315-367.

Goldkuhl, G. (2004). "Design Theories in Information Systems - A Need for Multi-Grounding." *Journal of Information Technology Theory and Application* 6(2): 59-72.

Gregor, S. (2006). "The Nature of Theory in Information Systems." *MISQ* 30(3): 611-642.

Gregor, S. and Jones, D. (2007). "The Anatomy of a Design Theory." *Journal of the Association for Information Systems (JAIS)* 8(5): 312-335.

Gregor, S. (2009). "Building Theory in the Sciences of the Artificial," in *Design Science Research in Information Systems and Technologies*, proceedings of DESRIST 2009, Malvern, PA USA, ACM.

Holstrom, J., Ketokivi, M. and Hameri, A. (2009). "Bridging Practice and Theory: A design Science Approach." *Decision Sciences* 40(1): 65-87.

Houy, C., Fettke, P. and Loos, P. (2011). On Theoretical Foundations of Empirical Business Process Management Research. in the proceedings of the 2nd International Workshop on Empirical Research in Business Process Management (ER-BPM-11), University Blaise Pascal, Clermont-Ferrand, France.

Kuechler, W. and Vaishnavi, V. (2008). "On Theory Development in Design Science Research: Anatomy of a Research Project." *European Journal of Information Systems* 17(5): 1-23.

Kuechler, W., Park, E. H. and Vaishnavi, V. (2009). Formalizing Theory Development in IS Design Science Research: Learning from Qualitative Research. AMCIS '09, San Francisco, CA USA.

Kuechler, W. and Vaishnavi, V. (2011). "A Framework for Theory Development in Design Science Research: Multiple Perspectives." under third review for *Journal of the Association for Information Systems (JAIS)*.

Lee, A. and Hubona, G. (2009). "A Scientific Basis for Rigor in Information Systems Research." *MIS Quarterly* 33(2): 237-262.

Müller, B. O., S. (2011). The Artifact's Theory - a Grounded Theory Perspective on Design Science Research. in proceedings of the 10th Internationale Tagung Wirtschaftsinformatik. Zurich, Switzerland: 1176-1186.

Nunamaker, J., Chen, M. and Purdin, T. (1991). "Systems Development in Information Systems Research." *Journal of Management Information Systems* 7(3): 89-106.

Pries-Heje, J. and Baskerville, R. (2008). "The Design Theory Nexus." *MIS Quarterly* 32(4): 731-755.

van Aken, J. (2004). "Management Research Based on the Paradigm of the Design Sciences: The Quest for Field-Tested and Grounded Technological Rules." *Journal of Management Studies* 41(2): 219-246.

Venable, J. (2006). *The Role of Theory and Theorising in Design Science Research*. DESRIST 2006, Claremont, CA.

Walls, J., Widmeyer, G. and El Sawy, O. (1992). "Building an Information System Design Theory for Vigilant EIS." *Information Systems Research* 3(1): 36 -59.

Walls, J., Widmeyer, G. and El Sawy, O. (2004). "Assessing Information System Design Theory in Perspective: How Useful was our 1992 Initial Rendition." *Journal of Information Technology Theory and Application* 6(2): 43-58.

Weber, S., Beck, R. and Gregory, R. (2011). *Combining Design Science and Design Research Perspectives - Findings of Three Prototyping Projects*. in proceedings of HICSS 2011.

References on Design and Design Science Research

Alturki, A., Gable, G., and Bandara, W. (2011). "A Design Science Research Roadmap," in: *Service-Oriented Perspectives in Design Science Research*, H. Jain, A. Sinha and P. Vitharana (eds.), Springer Berlin / Heidelberg, pp. 107-123.

Archer, L. (1984). "Systematic method for designers," in: *Developments in design methodology*, N. Cross (ed.), Wiley, Chicester ; Brisbane, pp. 57-82.

Au, Y. (2001). "Design Science I: The Role of Design Science in Electronic Commerce Research." *Communication of the AIS* 7(Article 1).

Baskerville, R. (2008). "What Design Science is Not." *European Journal of Information Systems* 17(5): 441-443.

Baskerville, R., Pries-Heje, J. and Venable, J. (2009). *Soft Design Science Methodology*. in proceedings of *Design Science Research in Information Systems and Technology (DESRIST)*, Philadelphia.

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* pp. 11-15.

Bayazit, N. (2004). "Investigating Design: A Review of Forty Years of Design Research," *Design Issues* (20:1), pp. 16-29.

Carlsson, S.A. (2006). "Towards an Information Systems Design Research Framework: A Critical Realist Perspective," *Proceedings of the First International Conference on Design Science in Information Systems and Technology*, Claremont, pp. 192-212.

Carlsson, S. (2007). "Developing knowledge through IS design science research: For whom, what type of knowledge, and how.," *Scandinavian Journal of Information Systems* (19:2), pp. 75-85.

Chow, R., and Jonas, W. (2008). "Beyond Dualisms in Methodology: An Integrative Design Research Medium "MAPS" and some Reflections.," *Undisciplined! Design Research Society Conference*, Sheffield, UK, pp. 1-18.

Cleven, A., Gubler, P., and Huner, K. (2009). "Design alternatives for the evaluation of design science research artifacts," in: *Proceedings of the 4th International Conference on Design Science Research in Information Systems and Technology*, ACM, Philadelphia, Pennsylvania.

Cleven, A., Wortmann, F., and Winter, R. (2010). "Process Performance Management – Identifying Stereotype Problem Situations as a Basis for Effective and Efficient Design Research," in: *Global Perspectives on Design Science Research*, R. Winter, L. Zhao and S. Aier (eds.), Springer, Berlin, pp. 302-316.

Cole, R., Purao, S., Rossi, M., and Sein, M. (2005). "Being Proactive: Where Action Research Meets Design Research," *International Conference on Information Systems (ICIS)*, Las Vegas, Nevada, USA.

Cross, N. (1982). "Designerly ways of knowing," *Design Studies* (3:4), pp. 221-227.

Cross, N. (1993). "Science and design methodology: A review," *Research in Engineering Design* (5:2), pp. 63-69.

Cross, N. (2002). "Designerly Ways of Knowing: Design Discipline Versus Design Science," *Design Issues* (17:3), pp. 49-55.

Cross, N. (2002, 13th February 2002). Design as a Discipline, the Inter-disciplinary Design Quandary Conference Retrieved 10 June, 2011, from <http://nelly.dmu.ac.uk/4dd//DDR3-Cross.html>

Donnellan, B., and Helfert, M. (2010). "The IT-CMF: A Practical Application of Design Science," in: *Global Perspectives on Design Science Research*, R. Winter, L. Zhao and S. Aier (eds.), Springer, Berlin, pp. 550-553.

Eekels, J., and Roozenburg, N. (1991). "A methodological comparison of the structures of scientific research and engineering design: their similarities and differences," *Design Studies* (12:4), pp. 197-203.

Fischer, C., and Gregor, S. (2011). "Forms of Reasoning in the Design Science Research Process," in: *Service-Oriented Perspectives in Design Science Research*, H. Jain, A. Sinha and P. Vitharana (eds.), Springer Berlin / Heidelberg, , pp. 17-31.

Friedman, K. (2003). "Theory construction in design research: criteria: approaches, and methods," *Design Studies* (24:6), pp. 507-522.

Gacenga, F., Cater-Steel, A. and Tan, W. (2011). "Towards a Framework and Contingency Theory for Performance Measurement: A Mixed-Method Approach," 15th Pacific Asia Conference on Information Systems (PACIS), Brisbane, Australia.

Gill, T., and Hevner, A. (2011). "A Fitness-Utility Model for Design Science Research," in: *Service-Oriented Perspectives in Design Science Research*, H. Jain, A. Sinha and P. Vitharana (eds.), Springer Berlin / Heidelberg, pp. 237-252.

Gregor, S. (2002). "Design Theory in Information Systems," *Australian Journal of Information Systems: Special Issue 2002*, pp. 14-22.

Hevner, A., Chatterjee, S., and Iivari, J. (2010). "Twelve Theses on Design Science Research in Information Systems," in: *Design Research in Information Systems*, Springer US, pp. 43-62.

Hevner, A. and Chatterjee, S. (2010). Design research in information systems:

theory and practice Springer, New York, p. 320.

Hjalmarsson, A., Rudmark, D., and Lind, M. (2010). "When Designers Are Not in Control – Experiences from Using Action Research to Improve Researcher-Developer Collaboration in Design Science Research," in: *Global Perspectives on Design Science Research*, R. Winter, L. Zhao and S. Aier (eds.), Springer, Berlin, pp. 1-15.

Jonas, W. (2007). "Research through DESIGN through research: A cybernetic model of designing design foundations," *Kybernetes* (36:9/10), pp. 1362 - 1380.

Junglas, I., Niehaves, B., Spiekermann, S., Stahl, B.C., Weitzel, T., Winter, R., and Baskerville, R. (2010). "The inflation of academic intellectual capital: the case for design science research in Europe," *European Journal of Information Systems* (00).

Kuechler, W. and Vaishnavi, V. (2008). "The emergence of design research in information systems in North America." *Journal of Design Research* 7(1): 1-16.

Kuechler, B., and Vaishnavi, V. "Extending Prior Research with Design Science Research: Two Patterns for DSRIS Project Generation," in: *Service-Oriented Perspectives in Design Science Research*, H. Jain, A. Sinha and P. Vitharana (eds.), Springer Berlin / Heidelberg, 2011, pp. 166-175.

Lohman, C., Fortuin, L., and Wouters, M. (2004). "Designing a performance measurement system: A case study," *European Journal of Operational Research* (156:2), p. 267.

McNaughton, B., Ray, P., and Lewis, L. (2010). "Designing an Evaluation Framework for IT Service Management," *Information & Management* (47:4), pp. 219-225.

Nunamaker, J. and Chen, M. (1990). "Systems development in information systems research," *System Sciences, 1990.*, Proceedings of the Twenty-Third Annual Hawaii International Conference on, pp. 631-640.

Offermann, P., Blom, S., Levina, O., and Bub, U. (2010). "Proposal for Components of Method Design Theories," *Business & Information Systems Engineering* (2:5), pp. 295-304.

Offermann, P., Blom, S., Schönherr, M., and Bub, U. "Artifact Types in Information Systems Design Science – A Literature Review," in: *Global Perspectives on Design Science Research*, pp. 77-92.

Offermann, P., Levina, O., Schonherr, M., and Bub, U. (2009). "Outline of a design science research process," in: *Proceedings of the 4th International Conference on Design Science Research in Information Systems and Technology*, ACM, Philadelphia, Pennsylvania, pp. 1-11.

Osterle, H., Becker, J., Frank, U., Hess, T., Karagiannis, D., Krcmar, H., Loos, P., Mertens, P., Oberweis, A., and Sinz, E. (2011).

"Memorandum on design-oriented information systems research," *European Journal of Information Systems* (20), pp. 7-10.

Patas, J., Milicevic, D., and Goeken, M. (2011). "Enhancing Design Science through Empirical Knowledge: Framework and Application," in: *Service-Oriented Perspectives in Design Science Research*, H. Jain, A. Sinha and P. Vitharana (eds.), Springer Berlin / Heidelberg, pp. 32-46.

Piirainen, K., and Briggs, R. (2011). "Design Theory in Practice – Making Design Science Research More Transparent," in: *Service-Oriented Perspectives in Design Science Research*, H. Jain, A. Sinha and P. Vitharana (eds.), Springer Berlin / Heidelberg, pp. 47-61.

Piirainen, K., Gonzalez, R., and Kolfschoten, G. (2010). "Quo Vadis, Design Science? – A Survey of Literature," in: *Global Perspectives on Design Science Research*, R. Winter, L. Zhao and S. Aier (eds.), Springer, Berlin, pp. 93-108.

Pries-Heje, J., Baskerville, R., and Venable, J. (2008). "Strategies for Design Science Research Evaluation," *16th European Conference on Information Systems (ECIS)*, Galway, Ireland, pp. 255-266.

Roozenburg, N.F.M., and Eekels, J. (1995). *Product design: fundamentals and methods* Wiley, Chichester ; New York, pp. xiii, 408.

Rossi, M., and Sein, M.K. (2003). "Design Research workshop: A proactive research approach," *26th Information Systems Research Seminar in Scandinavia*, Haikko, Finland.

Samuel-Ojo, O., Shimabukuro, D., Chatterjee, S., Muthui, M., Babineau, T., Prasertsilp, P., Ewais, S., and Young, M. (2010) "Meta-analysis of Design

Science Research within the IS Community: Trends, Patterns, and Outcomes," in: Global Perspectives on Design Science Research, R. Winter, L. Zhao and S. Aier (eds.), Springer, Berlin, pp. 124-138.

Sein, M., Henfridsson, O., Purao, S., Rossi, M. and Lindgren, R. (2011). "Action Design Research." MIS Quarterly 35(1): 35-56.

Son, S., Weitzel, T., and Laurent, F. (2005). "Designing a process-oriented framework for IT performance management systems," The Electronic Journal of Information Systems Evaluation (8:3), pp. 219-228.

Toleman, M. (1996). "The Design of the User Interface for Software Development Tools," in: Department of Computer Science, University of Queensland, Brisbane, p. 222.

Tovey, M. (1984). "Designing with both halves of the brain," Design Studies (5:4), pp. 219-228.

Vaishnavi, V., and Kuechler, W. "Design Research in Information Systems," (2008) in: Design Science Research Methods and Patterns, V. Vaishnavi and W. Kuechler (eds.), Auerbach, pp. 1-393.

Venable, J. (2010). "Design Science Research Post Hevner et al.: Criteria, Standards, Guidelines, and Expectations," in: Global Perspectives on Design Science Research, R. Winter, L. Zhao and S. Aier (eds.), Springer, Berlin, pp. 109-123.

vom Brocke, J., and Lippe, S. (2010). "Taking a Project Management Perspective on Design Science Research," in: Global Perspectives on Design Science Research, R. Winter, L. Zhao and S. Aier (eds.), Springer, Berlin, pp. 31-44.

Wieringa, R. (2010). "Relevance and Problem Choice in Design Science," in: Global Perspectives on Design Science Research, R. Winter, L. Zhao and S. Aier (eds.), Springer, Berlin, pp. 61-76.

Zahedi, F., and Sinha, A. (2010). "Ontology Design for Strategies to Metrics Mapping," in: Global Perspectives on Design Science Research, R. Winter, L. Zhao and S. Aier (eds.), Springer, Berlin, pp. 554-557.