

Research Portfolio
KEN PEFFERS

Here I have tried to highlight what I think has been important in my research and the overall impact of my cumulative research record. The next section briefly describes the four papers to which I would point as my most important and enumerates the citation count for each. Then I list my papers in highly ranked journals, other papers, and editorships. Next I comment on citations to my work and my record of working with students and junior faculty members on research. I conclude by describing my record of external funding for research and work in progress.

Research Outcomes with High Impact

My four most important papers are described briefly here. The first three are among those that I have published in tier 1 journals. The fourth is in review with the *MIS Quarterly*.

Dos Santos, B.L., K. Peffers, and D. C. Mauer, "The Impact of Information Technology Investment Announcements on the Market Value of the Firm," *Information Systems Research*, March 1993, 4:1, 1-23. [citations: 348¹]

This was the first paper in the MIS research community to apply the “event study method”, from the finance discipline, to an MIS research problem. It investigated the effect of IT investments on the market value of the firm to determine if there were factors that lead to systematic abnormal returns from IT investments. This paper became a template for many subsequent MIS papers using this methodology.

Dos Santos, B.L. and K. Peffers, "Rewards to Investors in Innovative Information Technology Applications: First Movers and Early Followers in ATMs," *Organization Science*, May-June 1995, 6:3, 241-259. [citations: 115]

Whether IT investments systematically benefited firms was an important research question in the 1990s, as some research evidence suggested that they might not. This long-term longitudinal study, showed that some anticipated benefits never materialized, while others took a very long time to bear fruit.

Peffers, K., T. Tuunanen, M. Rothenberger, and S. Chatterjee, “A Design Science Research Methodology for Information Systems Research,” *Journal of Management Information Systems*, Winter 2007–8, Vol. 24, No. 3, pp. 45–78. [citations: 183. This includes 121 citations to the journal version, published in winter 2007-8, and 62 to the conference version of the paper.]

A substantial amount of IS research involves building systems or other artifacts in which knowledge is embedded. Since this research doesn’t fit the most commonly accepted research paradigm in the business academe, theory building and empirical testing, researchers have had some difficulty gaining acceptance for it in the best journals. In other domains, such as architecture and engineering, design research is well accepted, so there has been a move to incorporate design science research (DSR) into the mainstream of MIS and all three of the top MIS journals have signaled their acceptance of this research paradigm. However, until now, there has not been a

¹ All citation counts as of March 15, 2011, as reported in <http://scholar.google.com>.

rigorously developed methodology for conducting DSR, not even in the reference domains to which I have referred above. This paper designs and presents such a methodology. I expect that most DSR researchers will use this paper as a guide and that editors and reviewers will refer to it in their decisions and reviews. I note that even though the paper was published just two years ago, it has already been fairly widely cited.

Tuunanen, T and K. Peffers, "Targeted Service Co-design Theory," under review at the *Management Information Systems Quarterly*.

I have included this paper in the list of my important papers, even though it has yet to be published, because it develops and demonstrates a major new theory that is at the heart of the MIS research discipline and it frames an important problem for IS development in a completely new way. It has the potential to spark a major new stream of research.

Publications in Highest Ranked Journals

Peffers, K., T. Tuunanen, M. Rothenberger, and S. Chatterjee, "A Design Science Research Methodology for Information Systems Research," *Journal of Management Information Systems*, Winter 2007–8, Vol. 24, No. 3, pp. 45–78.

Peffers, K. and T. Tuunanen, "Planning for IS applications: a practical, information theoretical method and case study in mobile financial services," *Information & Management*, 42:3, 2005, 483-501.

Peffers, K., C. Gengler, and T. Tuunanen, "Extending Critical Success Factors Methodology to Facilitate Broadly Participative Information Systems Planning," *Journal of Management Information Systems*, 20:1, 2003, 51-86.

Peffers, K. and C. Gengler, "How to Identify New High-Payoff Information Systems for the Organization," *Communications of the ACM*, 46:1, January 2003, pp 83-88.

Dos Santos, B.L. and K. Peffers, "Competitor and Vendor Influence on the Adoption of Innovative Applications in Electronic Commerce," *Information and Management*, 1998, 34:3, 175-184.

Peffers, K. and B. L. Dos Santos, "Performance Effects of Innovative IT Applications over Time," *IEEE Transactions on Engineering Management*, November 1996, 43:4, 381-392.

Dos Santos, B.L. and K. Peffers, "Rewards to Investors in Innovative Information Technology Applications: First Movers and Early Followers in ATMs," *Organization Science*, May-June 1995, 6:3, 241-259.

Dos Santos, B.L., K. Peffers, and D. C. Mauer, "The Impact of Information Technology Investment Announcements on the Market Value of the Firm," *Information Systems Research*, March 1993, 4:1, 1-23.

Other Notable Research Outcomes

Refereed Journal Publications:

Tuunanen, T., K. Peffers, and S. Hebler, "A designed requirements engineering process for blind users," *J. of Info. Tech. Theory and Appl.*, (forthcoming) 2011.

Cassab, H., T. Tuunanen, K. Peffers, C. Gengler, W. Hui, V. Virtanen, "Discovery of new service concepts for global markets," *Service Science (INFORMS)*, accepted, 2010.

Tuunanen, T., K. Peffers, C. Gengler, W. Hui, and V. Virtanen, "Developing Feature Sets for Geographically Diverse External End Users: A Call for Value-based Preference Modeling," *Journal of Information Technology Theory and Application (JITTA)*, 8:2, 2006, 41-55.

Hallikainen, P., K. Peffers, T. Saarinen, "Deciding Which IS to Build and Assessing Success: Learning to Do It Better," *Journal of Information Technology Theory and Application (JITTA)*, 6:4, 2005, 41-52.

Peffers, K. and Y. Tang, "Identifying and Evaluating the Universe of Outlets for Information Systems Research: Ranking The Journals", *The Journal of Information Technology Theory and Application (JITTA)*, 5:1, 2003, 63-84.

Peffers, K., D. Avison, P. Ein-Dor, and R.W. Zmud, "Scholarly Products in IS: Will Advances in Electronic Media Promote Evolutionary or Radical Change," *Communications of the Association for Information Systems*, 11, 2003, 498-512.

Peffers, K. and W. Hui, "Collaboration and Author Order: Changing Patterns in Research," *Communications of the Association for Information Systems*, 11, 2003, 166-190.

Peffers, K. and W. Ma, "An Agenda for Research about the Value of Payment Systems for Transactions in Electronic Commerce," *The Journal of Information Technology Theory and Application (JITTA)*, 4:4, 2003, 1-16.

Peffers, K. and T. Saarinen, "Measuring the Business Value Of IT Investments: Inferences From A Study Of Senior Bank Executives," *Journal of Organizational Computing and Electronic Commerce*, 12:1, 2002, pp 17-38.

Peffers, K. and V.K. Tuunainen, "Leveraging Geographic and Information Technology Scope for Superior performance: An Exploratory Study in International Banking," *Journal of Strategic Information Systems*, 10:3, 2001, pp. 175-262.

Peffers, K., "The future of electronic commerce: a shift from the EC channel to strategic electronic commerce," *Journal of Information Technology Theory and Application*, 3:4, 2001, 7-16.

Peffers, K. and S. Bloom, "Internet-Based Innovations For Teaching IS Courses: The State Of Adoption, 1998-2000," *Journal of Information Technology Theory & Application*, 1:1, 1999, 1-6.

Peffers, K., B.L. Dos Santos and P. F. Thurner, "Motivation, Implementation, and Impact of Electronic Data Interchange among US and German Firms," *Information Services & Use*, 1998, 18, 177-189.

Peffers, K. and V.K. Tuunainen, "Expectations and Impacts of a Global Information System:

the Case of a Global bank from Hong Kong" *Journal of Global Information Technology Management*, 1998, 1:4, 17-37.

Hallikainen, P., J. Heikkila, Peffers, K., T. Saarinen, and F. Wijnhoven, "Evaluating Information Technology Projects: Procedures, Follow-through, Decision-making and Perceived Evaluation Quality," *J. of Global Information Management*, 1998, 6:4, 1-11.

Dos Santos, B.L. and K. Peffers, "The Effects of Early Adoption of Information Technology: An Empirical Study," *Journal of Information Technology Management*, 1993, VI:1, 1-13.

Editorships in prestigious journals and conferences

Guest Editor, *European Journal of Information Systems*, Special issue on IT Funding, anticipated publication in 2011.

Founding Emeritus Editor-in-chief, *Journal of Information Technology Theory & Application*, published by the Association for Information Systems, 2009—.

Editor-in-chief, *Journal of Information Technology Theory & Application*, 1998—2009.

Track Chair, *International Conference for Information Systems*, Las Vegas Nevada, December 2005.

Associate Editor, "Business Models, Markets, and Economy" Track, *International Conference for Information Systems*, Barcelona Spain, December 2002.

Special issue editor, *JITTA* special issue on "Is E-Commerce dead, past its prime, or just resting?" *Journal of Information Technology Theory & Application*, 4:3, 2001.

Other

35 publications and refereed appearances as editor or editor-in-chief

13 other refereed publications, e.g., book chapters and conference papers

35 paper presentations at conferences and seminars, not included above

Citations to Work by Others

A search of scholar.google.com reveals a cumulative total of 1197 citations to my published work. Of these citations, 584 are citations attributable to the three tier 1 papers described in the first section above and, of those, 348 are attributable to one of those papers. These figures support an argument that my research has had a substantial impact and influence on MIS research. They also suggest that much of this impact is attributable to these three tier 1 papers. The most recent of the three papers has been published so recently that subsequent authors have had little time to cite it in published work. The substantial number of citations already earned by this paper and its conference version suggest that it will be heavily cited.

One other paper, "Identifying and Evaluating the Universe of Outlets for Information Systems Research: Ranking The Journals", published in the *Journal of Information Technology Theory and Application*, with Tang Ya, earned a substantial number of citations (108). This paper produced a ranking of 114 MIS journals, using a value measure. Consequently, it was widely distributed and cited. I didn't include it among the important

research papers, because I consider it to be more of a disciplinary professional paper, than an MIS research paper.

Record of Working with Students and Junior Faculty Members on Research Projects

Papers written and published with students and junior faculty members

"A designed requirements engineering process for blind users," *J. of Info. Tech. Theory and Appl.*, (forthcoming) 2011. With Simeon Helbler, a student at the University of Auckland.

"Discovery of new service concepts for global markets," *Service Science (INFORMS)*, accepted, 2010. With Harold Cassab, a student at the University of Auckland.

"Evaluating Information Technology Projects: Procedures, Follow-through, Decision-making and Perceived Evaluation Quality," *J. of Global Information Management*, 1998, 6:4, 1-11, with Timo Saarinen, PhD student at Helsinki School of Economics (HSE) (and others).

"Expectations and Impacts of a Global Information System: the Case of a Global bank from Hong Kong" *Journal of Global Information Technology Management*, 1998, 1:4, 17-37, with V.K. Tuunainen, PhD student at HSE.

"Motivation, Implementation, and Impact of Electronic Data Interchange among US and German Firms," *Information Services & Use*, 1998, 18, 177-189, with P.F. Thurner, MBA student at U. of Louisville (and B. Dos Santos).

"Internet-Based Innovations For Teaching IS Courses: The State Of Adoption, 1998-2000," *Journal of Information Technology Theory & Application*, 1:1, 1999, 1-6, with S. Bloom, MBA student at Rutgers University.

"Leveraging Geographic and Information Technology Scope for Superior performance: An Exploratory Study in International Banking," *Journal of Strategic Information Systems*, 10:3, 2001, pp. 175-262, with V.K. Tuunainen, PhD student at HSE.

"Measuring the Business Value Of IT Investments: Inferences From A Study Of Senior Bank Executives," *Journal of Organizational Computing and Electronic Commerce*, 12:1, 2002, pp 17-38, with Timo Saarinen, Assistant Professor at HSE.

"An Agenda for Research about the Value of Payment Systems for Transactions in Electronic Commerce," *The Journal of Information Technology Theory and Application (JITTA)*, 4:4, 2003, 1-16, with W. Ma, PhD student at HKUST.

"Collaboration and Author Order: Changing Patterns in Research," *Communications of the Association for Information Systems*, 11, 2003, 166-190, with W. Hui, PhD student at HKUST.

"Identifying and Evaluating the Universe of Outlets for Information Systems Research: Ranking The Journals", *The Journal of Information Technology Theory and Application (JITTA)*, 5:1, 2003, 63-84, with T. Ya, PhD student at HKUST.

"Extending Critical Success Factors Methodology to Facilitate Broadly Participative Information Systems Planning," *Journal of Management Information Systems*, 20:1, 2003,

51-86, with T. Tuunanen, PhD student at HSE (and C. Genglar).

“Deciding Which IS to Build and Assessing Success: Learning to Do It Better,” *Journal of Information Technology Theory and Application (JITTA)*, 6:4, 2005, 41-52, with P. Hallikainen, PhD student at HSE (and T. Saarinen).

Graduate Committee Memberships

STUDENT	TITLE OF DISSERTATION	GRADUATION DATE (SEMESTER/YR)
Hsing Wen (Hotel School)	A Comprehensive Structural Model of Factors Affecting Online Consumer Travel Purchasing	S 2006
Osmo Soronen, HSE, served as opponent in the defense	A Transaction Cost Based Comparison of Consumers' Choice between Conventional and Electronic Markets	May 2007
Kim Syverson	Characteristics and success of information systems development efforts in public school systems.	Aug 2007
John Farrish	The relationship between project characteristics and the expert estimation of software development and maintenance	Aug 2007
Hena Govindji, Auckland, Mcom, external examiner	Exploring the use of flow for Consumer Information Systems Planning: A Case Study	Feb 2009

External Research Grants

In Progress

National Science Foundation, Research to Aid Persons with Disabilities, “A Designed Requirements Engineering Method for the Blind and the Shopping Assistant Application Prototype” with Sethuraman Panchanathan, Director of the Center for Ubiquitous Computing, Arizona State University, and Tuure Tuunanen, Professor, U. of Oulu, Finland. Application is in process for submission in August. Grant amount, ~\$500,000.

Funded

Hong Kong Research Grants Committee Competitive Earmarked Research Grant, A comparison of information systems planning results using critical success factors (CSF) and critical success chains (CSC) methods,” 2002-3, \$525,853.

HSBC Hong Kong, grant to distribute copies of *Journal of Global Information Technology Management* article with teaching note to 2700 researchers worldwide for use as a teaching case study, 1999 (\$7000).

National Science Foundation, Research Planning Grant for Minority Scientists and Engineers,

proposal IIS-9812093, September 1, 1998 to August 31, 1999, \$17,908. The proposal was "the most highly rated [grant proposal] in the spring panels," according to the NSF program director, and receiving "all excellent reviews."

Christian R. & Mary F. Lindback Foundation (Philadelphia), Minority Junior Faculty Award, 1997, \$14,473

Research in Progress

Tuunanen, T, K. Peffers, and C. Gengler, "A Theory for Engaging Strangers in Requirements Engineering," under review at the *Management Information Systems Quarterly*.

This paper designs a theory for engaging 'strangers,' people from outside the organization who are hard to engage in requirements determination activities, in activities to determine the best applications and features for new systems. It demonstrates the theory in the development of an application upgrade roadmap for a major commercial system.

Hebler, S., T. Tuunanen, and K. Peffers, "Blind User Requirements Engineering for Mobile Services," an abridged version of this paper is under review for presentation at the DESRIST 2010 Conference. The full version is in revision for resubmission to *Business & Information Systems Engineering (English version)* and *Wirtschaftsinformatik (German version)* .

This paper will show the results of an initial pilot attempt to develop a requirements elicitation methodology for use with blind persons.

Peffers, K. and J. Roman, "Research Questions that IS executives want answered: a value prioritized agenda," being revised in response to reviewer suggestions for *Information & Management*.

This paper develops an agenda for IS research based on interviews from CIOs.

Tuunanen, T., K. Peffers, C. Gengler, W. Hui, and V. Virtanen, "Developing Culturally Segmented Feature Sets for Mobile Applications Employing User Presence and Location Information," being revised for initial submission.

This paper will design a method to analyze cross cultural data that can lead to the development of culturally independent feature sets for new systems.