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TECHNOLOGIES THAT TRANSFORM BUSINESS AND RESEARCH: LESSONS FROM THE PAST AS WE LOOK TO THE FUTURE

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ICIS 2010 PANEL STATEMENT

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Abstract

What are the technologies that will transform business and drive the research agenda for the IS field in the years to come? Which innovations, platforms, and paradigms will become dominant, and which others will ultimately pass into obscurity? In this panel discussion, we will seek answers to these questions from those with a unique and unmatched perspective. The leaders who have witnessed the birth and development of the IS field during the past 40-50 years will draw on their experiences and their deep knowledge of the field to identify the characteristics of technologies that have changed business in the past. They will also explain how and why today's innovations will change both research and practice going forward. Their insights have the potential to identify topics for researchers to examine now and in the years to come.

Keywords: *Innovation, IS research agenda, future of IS, history of IS*

Panel Theme and Goals

What are the technologies that will transform the business world and drive the research agenda for the IS field in the years to come? Over the past 50 years, mainframes, PCs, and wireless devices have changed the way business is transacted. Similarly, software innovations ranging from decision support systems (DSS) to enterprise resource planning (ERP) to customer relationship management (CRM) have similarly changed business processes. Infrastructural technologies – most notably the Internet – have made a wealth of data available and have enabled the widespread sharing of that data.

Unsurprisingly, the technological advances of the past have spurred research in a variety of areas. For instance, the development of decision support systems during the 1960s has been mirrored by an emphasis on this topic in elite journals from that time through the late 1990s (Banker and Kauffman 2004; Sidorova et al. 2008). Similarly, the emergence of the Internet as a tool for business in the 1990s has led researchers then and now to focus their attention on electronic commerce and website design (Sidorova et al. 2007). And the use of

information systems such as ERP and SCM in the current decade is helping shape the emerging topic of services science (Barrett and Davidson 2008; Horn 2005).

Which of today's heralded innovations have the potential to transform business and drive a portion of the IS research agenda in the coming decades? And more broadly, how might research on innovations evolve and change? For instance, will researchers continue to focus primarily on innovations, their adoption, and their impact, or will the emerging design science paradigm (Hevner et al. 2004) change the nature of innovation-related research?

In this panel discussion, we will seek insight from leaders who have witnessed the birth and development of the IS field during the past 40-50 years. These leaders will draw on their experiences and their deep knowledge of the field to explain how and why today's innovations will change both research and practice going forward. Their insights have the potential to identify topics for researchers to examine now and in the years to come.

Controversy

The panel topic is intended to generate varied responses to several specific questions. Panelists will be asked to draw on their years of experience in the field to answer these two initial questions.

- Historically, has the IS research agenda been driven by technological innovation – or vice-versa?
- In what ways is IS research retrospective and in what ways is it prospective? Who reaps the benefits of each approach?

After these initial two questions, the discussion will move to a more forward-looking perspective. Questions for this portion of the panel discussion are as follows.

- Over the next decade, what technology, platform, or paradigm has the potential to transform the IS function in public sector organizations? In private sector organizations?
- In light of the answers given here, what themes do you see emerging in research in the next decade?

Panelists and Moderator

The panelists who have agreed to participate include the following individuals:

- Michel Avital - is Associate Professor of Information Management at University of Amsterdam. The study of how information technology promotes innovation and extraordinary outcomes is a central theme of Michel's work. Building on positive modalities of inquiry, his research focuses on information and organization with an emphasis on the social aspects of information technologies. He has published articles on topics such as systems design, creativity, innovation, collaboration and competition, green IT and sustainable value, positive organizational scholarship and appreciative inquiry. He is an editorial board member of *Information Systems Research*, *Journal of the Association for Information Systems*, *Information and Organization*, *Journal of Information Technology*, *AIS Transactions on Human-Computer Interaction*, and *Communications of the Association for Information Systems*. He also serves in various organizing capacities in *ICIS*, *AOM*, *ECIS*, *AMCIS*, *MCIS*, and other topical conferences. Michel is an advocate of open access publishing and an avid proponent of cross-boundaries exchange and collaboration.¹
- Jeff Baker – is the panel moderator and presently works as a Research Associate at the Institute for Internet Buyer Behavior at Texas Tech University. He is also an Assistant Professor of Management Information Systems at the American University of Sharjah. His primary research interest is IT investment and strategy, with an emphasis on IT business value, strategic alignment, and strategies in electronic commerce. His research has appeared in the *Journal of the AIS*, *Communications of the AIS*, and in the proceedings of the *International Conference on Information Systems*. Jeff is also presently collaborating with Gordon Davis and James Wetherbe on a project that examines the history and evolution of the IS field.
- Gordon B. Davis - is known internationally as a principal founder and intellectual architect of the academic field of information systems. In 1967, along with his colleagues at the University of Minnesota, he initiated the first academic degree programs in management information systems and

¹ Full vita and statement of research interests available at <http://avital.feb.uva.nl/>.

established the Management Information Systems Research Center. Over the course of his career, he has published 20 textbooks and more than 200 journal articles. He served as executive editor of *MIS Quarterly* from 1997 - 2004, and was instrumental in the founding of the *International Conference on Information Systems*, as well as the formation of the Association for Information Systems. He is a past president of Association for Information Systems, a Fellow of the Association for Information Systems, a Fellow of the Association for Computing Machinery, and a winner of the Leo Award for Lifetime Exceptional Achievement in Information Systems. Currently, he is the Honeywell Professor of Management Information Systems Emeritus at the Carlson School of Business at the University of Minnesota².

- **Frank Land** – graduated from the London School of Economics in 1950, and joined the London food and catering enterprise J. Lyons, working on the first electronic computer designed for business use, the LEO I. He went on to become the first professor of Information Systems in the United Kingdom. He was instrumental in the establishment of the International Federation for Information Processing's IS curriculum guidelines. His research has focused on information systems and innovation and he has been widely recognized for his seminal contributions to research, theory development, and practice in Information Systems. He taught at London Business School, the Wharton School at the University of Pennsylvania, Sydney University, Bond University, Curtin University, and the Indian Institute of Management Ahmedabad. He is a winner of the Leo Award for Lifetime Exceptional Achievement in Information Systems and is currently Professor Emeritus in the Department of Information Systems at the London School of Economics³.
- **Howard Morgan** - was Professor of Decision Sciences at the Wharton School of the University of Pennsylvania and Professor of Computer Science at the Moore School at the University of Pennsylvania from 1972 through 1985. During his academic career he served as an editor of *Communications of the ACM*, *Management Science*, and other journals. Since 1983, he has supervised venture capital investments in high technology companies, including firms such as Renaissance Technologies Corporation, the Arca Group, Idealab, and First Round Capital. Howard serves on a number of public company boards, and has been an active consultant and speaker to users and vendors in the information systems area for more than 30 years. He has worked with many of the Fortune 100 companies and numerous government agencies⁴.
- **James C. Wetherbe** – has been rated as one of the top dozen consultants and lecturers on management and information technology by *Information Week*. He has consulted for a host of Fortune 500 firms, authored bestselling books, and served on the Boards for several major corporations. In addition, he has numerous research publications to his credit, served as an editor at *MIS Quarterly*, and directed the MIS Research Center at the University of Minnesota. He is first recipient of the *MIS Quarterly* Distinguished Scholar Award. He is currently the Robert Stevenson Chaired Professor of Information Technology at the Rawls College of Business at Texas Tech University, where he also serves as the Associate Dean for Research and Development⁵.

Panel Format

The panel will follow the following format. The panel topic and the speakers will be introduced. The five panelists will be given approximately 5 minutes each to address either or both of the two initial questions, for a total of 25 minutes. Panelists will be encouraged to respond to one another and to the audience's initial input as they make their remarks.

At this point, the members of the audience will be given time to comment on the panelists' remarks or question panelists about the topic. Approximately 15 minutes will be allotted for discussion.

Then, we will move to the forward-looking phase of the discussion. Panelists will be asked to describe a new or emerging technology, platform, or paradigm and how it will impact IS. They will also be asked about potential directions for IS research in the future. Panelists will be given approximately 6 minutes each, for a total of 30 minutes.

² Full professional profile available at <http://www.csom.umn.edu/Page6564.aspx?showcontent=94733&display=102&templateID=5024>

³ Full professional profile available at <http://www2.lse.ac.uk/researchAndExpertise/Experts/f.land@lse.ac.uk>

⁴ Full professional profile available at http://www.firstround.com/team/profile/howard_morgan/

⁵ Full professional profile available at <http://wetherbe.ba.ttu.edu/>

Questions from the audience will again be solicited in the final 15-20 minutes. Answers will be provided by the panelists and summarized by the panel moderator.

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