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Open Access Publishing and the Future of Information Systems Research

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OPEN ACCESS PUBLISHING AND THE FUTURE OF INFORMATION SYSTEMS RESEARCH

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Abstract

The advent of the Internet and the subsequent adoption of open access schemas are changing the nature of the scholarly discourse. In response, we will stimulate a debate about the role and desired form of open access publishing in the context of the IS discipline. In particular, we explore the potential contribution of establishing an open access disciplinary repository of working papers and work in progress. Furthermore, we propose its design principle and illustrate our thesis with a working prototype of such disciplinary repository entitled Sprouts (http://sprouts.aisnet.org). Finally, we call for participation and further action in realizing a global repository of IS research in progress.

Keywords: Open Access, Working Papers, ePrints, Online Repositories, Sprouts, Scholarly Publishing

LA PUBLICATION EN OPEN ACCESS ET L'AVENIR DE LA RECHERCHE SUR LES SYSTÈMES D'INFORMATION

Résumé

L'avènement de l'Internet et l'adoption conséquente des schémas de l'Open Access remet en cause la nature même de tous les discours savants. Afin d'y répondre, notre objectif est d'ouvrir le débat sur le rôle, la forme et l'apport potentiel d'un guide du bon usage de l'Open Access fondé sur de nombreux et sérieux travaux. Nous illustrerons notre thèse avec la présentation d'un protocole nommé Sprouts (http://sprouts.aisnet.org) et souhaitons ainsi initier des actions nouvelles pour la réalisation d'un outil de référence et faire encore plus progresser la recherche sur les systèmes d'information.

Panel Objective

The panel aims to stimulate new thinking about the role of open access publishing, the potential of its application in the form of disciplinary repositories of working papers and other work-in-progress, its anticipated repercussions on our work practices, and its long-term implication for the impact of IS scholarship and the well-being of our community at large.

Background and Aspirations

The academic enterprise relies on effective dissemination and exchange of information. Knowledge sharing is a critical success factors that enables a community of scholars to deal successfully with the inherent ambiguity and complexity of research at the boundaries of knowledge. It also enables them to build a cohesive knowledge base that reinforces their collective influence and institutional backbone.

Following a long tradition in which books served as the main vehicle for knowledge distribution, in the past 50 years, it appears that scholarly journals have taken the lead. Nonetheless, in spite of the success of journals as the preferred medium of scholarly knowledge delivery, their proliferation vis-à-vis the range of associated resources required to maintain their livelihood is becoming unsustainable for libraries as well as for the community of scholars at large (Guedon 2001). In view of the economics of publishing, it becomes apparent that the prevailing system must be changed and that the puissant capabilities of electronic networks can provide a viable remedy (Elliott 1997).

Irrespective of economic considerations, the advent of the Internet and the subsequent adoption of Open Access[1] publishing schemes are changing the nature of our scholarly discourse (Björk 2007). Nonetheless, much of the debate so far has been focused on the economics of knowledge production and who should bear the cost of publishing and distributing scholarly knowledge (European Commission 2006, Houghton et al. 2006). We would like to steer the conversation in another direction following Harnad (1999), Kling (2004) and others, who enthusiastically envisioned and evangelized the Internet as a mean of communication in which scholars would exchange early drafts of research papers prior to publishing in peer-reviewed journals.

This essay explores opportunities and implications of effective distribution of work-in-progress, targeting a wide-range and globally distributed community of scholars with an emphasis on the IS research community. Generally, we split printed scholarly outputs into two main categories: manuscripts that have been or are about to be published in a traditional refereed journal and all the rest, which includes any scholarly output that is not in a traditional peer-reviewed journals. For lack of a common label for the later category, we refer to them as "*working papers*" in the most inclusive way to describe, among others, conference and workshop proceedings, institutional working papers, technical reports, self-archived work, early drafts, and similar embryonic research writings.

Next, we propose a centralized disciplinary repository of working papers using a standardized metadata and providing each paper with a unique permanent address. Our proposal draws on the publishing model of "arXiv"— the pioneering e-prints disciplinary repository, where over half a million manuscripts have been deposited since the early 1990s[2]. An open access disciplinary repository (as opposed to local institutional repositories) can enable effective scholarly exchange within the global IS community. It can also support the multiple languages of its members, help identify potential collaborators outside one's immediate network, provide a range of enhanced textual and visual search capabilities, serve as a common portal of archived work and create a source of fresh ideas.

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[1] Building on the widely cited definition of Budapest Open Access Initiative (2002), we use Open Access to describe freely available work that anyone with Internet access can "read, download, copy, distribute, print, search, or link" with the stipulation that authors retain control over the integrity of their work and have the right to be properly acknowledged and cited (Drott 2006). For further information about Open Access, see Suber (2007) or Budapest Open Access Initiative (2002).

[2] arXiv is e-print service in the fields of physics, mathematics, non-linear science, computer science, quantitative biology and statistics. It is available at http://arxiv.org/

The Need for an Open Access Disciplinary Working Papers Repository

World explorers like Marco Polo and Vasco da Gama did not build roads or harbors. They marked narrow paths and sailed in uncharted water focusing on fast-paced movement, exploration, discovery, and reporting back home as soon as possible. In their arena of world exploration and discovery, insightful information and its speedy delivery had a priority over the level of details. Agility, that is, sensing the new environment and rapidly responding to new findings was the prime motivation.

Today, at the forefront of knowledge, we take a different approach. We move slowly and carefully, as if we move in an imaginary mine field. We carefully attempt to avoid errors and aim to balance rigor and relevance. Yet, in spite of the efforts, we often sacrifice relevance for sake of rigor. Nobody likes to sacrifice rigor, but we all accept it as necessary collateral damage for the sake of the Truth. That's the norm, at least in the IS research community.

This panel is not about the longstanding debate between rigor and relevance. We do not deny the value of scholarly rigor, but we also do not embrace it as the ultimate and only value of our work. We submit that as a community of scholars, we need to provide boundary spanners more literary outlets where they can reveal and test their ideas; outlets at the fringe where anyone can spark a professional conversation with no need to undergo a multi-year revision cycle, just a simple face-validity assessment.

Imagine how much time can be saved for each deficient paper that stayed at the working paper phase and never gets into the premier journals review cycle. Now multiply this time by about 90% of the papers in the review cycle. It is sad that editors of premier journals are proud to have high rejection rates and that we perceive this as an indicator of high quality; while no sensible manager is proud if the quality control of a line rejects more than 1%, we are happy to accept only 10%. That is very costly and not sustainable. We must find a way to reduce the load on premier journals and to construct additional, less demanding outlets for initial exposure of the less developed papers.

The e-business revolution was initiated and carried out by new business models and technologies that enable disintermediation and shorter value chains. We propose adopting the same approach for embryonic scholarly publishing: a shorter path from authors to readership with low-scale review; no stern gatekeepers, no long review cycles, fewer hours spent by reviewers, editors, and revising authors, and no more costly dissemination of printed martial. Ideas should be developed in an iterative fashion. We always recommend seminar and conference presentations before submission to a journal. A working paper outlet is one more step along that way.

We would like to stress that working papers are not intended to be on a par with those published in premier journals. Their purpose is to make key insights available expeditiously in an accessible public forum and at minimal opportunity cost to the community. Good ideas will be further developed in the traditional rigorous fashion, and the fads will vanish into dust. From a community of scholars' perspective, the overall quality will not suffer; it will actually go up as ideas become available faster and reach broader audience.

Repository Design Principles

Approaching scholarly publishing from a social perspective and emphasizing its communicative role, Kling and McKim (1999) suggests that an effective outlet of academic manuscripts should demonstrate the following characteristics: publicity, trustworthiness, and accessibility. An open access disciplinary repository of working papers seems to be a natural publishing venue that satisfies these criteria—

> *Publicity*: a centralized repository provides one portal for all articles with enhanced search capabilities as well as customized information feed using subscription email lists, RSS feeds and similar means of on-demand information dissemination.

> *Trustworthiness*: all articles are subjected to a quality assurance process that accepts only contributions that pass muster by an editorial review entrusted to maintain a minimum quality standard.

> *Accessibility*: open access, permanent unique web address, and proper indexing ensure free and stable access to all documents.

In all, a disciplinary repository of working papers should provide a fast-turnaround outlet for authentic research and work-in-progress and should be readily available based on the principles of Open Access. Following are 10 principles that characterize the desired environment of such repository:

1. Publishing is a conversation - Publishing is a form of epistolary conversation among community members. We submit, respond, appreciate, challenge, discuss and reflect through writing manuscripts.

2. Everyone is welcome - In principle, like any public conversation, academic publishing and its results should be open for anyone who chooses to participate.

3. Every voice counts - Diversity and pluralism of opinions is a source of innovation and an indicator of a healthy community.

4. Civil conversation, not a sermon (about the Truth) - Anything that is appropriate in a town-hall meeting or a departmental seminar should meet the basic standard for publishing. We let time separate the wheat from the chaff.

5. Interesting, fast, or accurate-choose two - We accept that no manuscript is ever perfect. We emphasize speedy delivery of interesting papers that has the potential to fuel the conversation and invigorate our thinking.

6. Positive lens - In every paper, there are some interesting ideas or at least a kernel of a worthy point. Readers are encouraged to find, appreciate and build on these ideas instead of continually seeking discrepancies, gaps, and errors.

7. Open access - Anyone, member or not, should have free access to read and use our papers in a not-for-profit environment.

8. Communal act and service - Publishing is a communal act—everyone should be involved in writing and assessing as a community service.

9. Nurturing the next generation - Editors and reviewers are expected to nurture the less experienced authors.

10. Credit is given where credit is due - Ideas do not come out of thin air. If papers are the fruits we bear, we should recognize duly and explicitly our debt to those who contributed the seeds, fertilize and nurtured them. This includes other authors, mentors, reviewers, readers, students, friends and patrons who in turn shape our thinking and make our writing possible.

Moving from Theory to Practice: Sprouts Working Papers on Information Systems

Building on the grand vision of open access disciplinary working paper repository, *Sprouts: Working Papers on Information Systems* (Sprouts) has been developed as a fast-turnaround outlet for work-in-progress carried out primarily by scholars of the information systems field and members of AIS, the Association for Information Systems. *Sprouts* is envisioned as a worldwide community-based outlet that can replace or supplement fragmented, existing, institution-based repositories of the various departments, research groups and universities. *Sprouts* supports multiple languages and is open for any individual or research group.

Sprouts is devoted to all types of research carried out by members of the IS community. It is open for a broad, theoretically based view of information and systems that encompasses human, social and technical aspects. It is guided by the conviction that information technologies form an essential driver in creating a better world and enabling people and organizations to achieve their missions and thrive. The repository is also open for interdisciplinary work that broadens the base of scholarship in organization studies, management, design, and information systems through linkages with the full breadth of the arts and sciences. *Sprouts* is geared for any interesting theory driven or theory building work in the context of information environments, systems and organizations, with no limitation of size, genre, or method. Innovative and challenging work and research genres are especially encouraged.

Although *Sprouts* does not preclude locally based venues such as working paper series or self-archived conference proceedings, it eliminates the need to maintain and support homegrown outlets and makes them redundant. Furthermore, significantly enhanced versions of the papers can be submitted later to journals or conferences provided that the normal requirements of originality are not violated.[3]

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[3] Meeting the originality requirements should not be a concern given the unavoidable transformation of the final manuscript following a revision in response to editorial comments. A postscript or note referring readers to a newer version published elsewhere can be added.

In its fully developed release, *Sprouts* can provide the following key features:

- One stop community portal for working papers, proceedings and research in progress
- Allowing quantitative and qualitative data sets to be available for access by all scholars
- Multi-language support to enable global participation
- Stable permanent address for each article
- Uniform and clean user interface with multiple viewpoints
- Standardized metadata to enable enhanced search and indexing by crawlers with OAI support
- Statistics of views and downloads per article, organization, country and the like
- Customized auto notification of particular new articles available
- A periodical digest email with all new additions community wide
- Visual representation of semantic links to identify implicit relationships among articles and bodies of work
- Making traces of readers available to facilitate growth of networks around shared interests
- Data import and export tools
- Up-to-date technology and extensible design
- Providing a safe space for nascent ideas and research programs to grow strong as they are able

Sprouts is available as a resource for the AIS community at http://sprouts.aisnet.org

Panel Format

Aligned with the conference theme--"Ethics, Design and Consequences of IT," the panelists will offer different perspectives on practical and ethical considerations of scholarly publishing of IS research in the context of Open Access and its consequences for the IS scholars community. Building on a Town Hall Meeting format, in addition to the panelists, we will invite short commentaries from the editors of the leading IS journals and related stakeholders.

Panelists will be limited to a ten-minute opening statement and invited commentators will be limited to a three-minute statement. The session is planned as follows:

- Michel Avital - Panel overview, rationale, aspirations and possible strategies for open access publishing.
- Bo-Christer Björk - The premise and potential of Open Access publishing for a distributed community of scholars.
- Kevin Crowston - Why IS* doesn't matter: The evolution of scholarly publishing.
- Ann Majchrzak - Envisioning a future where we "eat our own dog food": how to support collective wisdom of the IS crowd.
- Editors of the leading IS journals and other related stakeholders - invited commentaries.
- Audience - Q&A, open discussion, comments and suggestions. We seek to engage the audience in the conversation and to allow as many exchanges as possible within the allotted time.
- Richard J. Boland - summarizes the emerging themes and concludes the session with a discussion of its implications and potential for scholarly endeavor in the IS field.

At minimum, we hope that the panel will stimulate new thinking about the role of open access publishing, its immediate application, and its long-term implication for the discipline. We hope to transform the discussion in the ICIS panel into a sustainable action that will serve the community of information systems researchers at large.

Panel Participants

Michel Avital is Associate Professor of Information Management at University of Amsterdam. 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 an interest in generative systems design for innovation, collaborative systems development methodologies, knowledge sharing in heterogeneous environments, and unconventional research methods and methodologies. He is also a co-founder and editor of *Sprouts: Working Papers on Information Systems*.

Bo-Christer Björk is Professor of Information Systems Science at the Hanken School of Economics, in Helsinki, Finland. He is the founder of the *Journal of Information Technology in Construction* (ITcon), one of the earliest refereed scholarly Open Access journals, and was also involved in the establishment of a subject-based based e-print repository for construction IT papers (ITC Digital library). He is also the chairperson of the Finnish national committee for Open Access (FinnOA). Besides being an active OA proponent he is actively engaged in research concerning the scientific publishing process and how it changes due to the new possibilities offered by the Internet.

Richard J. Boland is Professor of Information Systems and Professor of Cognitive Science at Case Western Reserve University, and a Fellow of the Judge Business School at the University of Cambridge. His research interests include the design of distributed cognition systems, visualization of complex reasoning, innovation in project networks and the dynamics of knowledge creation and sharing. He is founding editor of *Information and Organization* (initially titled *Accounting, Management and Information Technologies*.)

Kevin Crowston is a Professor in the School of Information Studies at Syracuse University. His current research interests focus on new ways of organizing made possible by the use of information and communications technology. He approaches this issue in several ways: empirical studies of coordination-intensive processes in human organizations; theoretical characterizations of coordination problems and alternative methods for managing them; and design and empirical evaluation of new kinds of computer systems to support people working together. Specific topics include the virtual organizations, development practices of Free/Libre Open Source Software teams and the application of document genre to the World-Wide Web.

Ann Majchrzak is Professor of Information Systems in Marshall School of Business at University of Southern California. Her research interests are in understanding how IT can support worker agility and ingenuity within collaborative settings. This has led to research on IT support for distributed teams, knowledge sharing and creation (including high-risk, volatile, and emergent contexts), corporate wiki use, IT support for collaborative innovation, and the like. She is currently a senior editor at *Organization Science*. Past service positions have included chair of the OCIS division for the Academy of Management, associate editor for *Information Systems Research*, and associate editor for *MIS Quarterly*.

Acknowledgements

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