
HOW SHALL WE MANAGE OUR JOURNALS IN THE FUTURE? A DISCUSSION OF RICHARD T. WATSON'S PROPOSALS AT ICIS 2004

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ABSTRACT

Journals are the lifeblood of all academic professions, including information systems. At the 2004 International Conference on Information Systems (ICIS), Rick Watson, then President of the Association for Information Systems (AIS), presented proposals for improving IS journal management that included accrediting reviewers, creating a market for journal articles, and moving our journals to the next level of Internet sophistication. This paper reports on a panel of journal editors convened at ICIS 2005 to discuss the Watson proposals and their implications. The editors were those of the Journal of the Association for Information Systems, the Journal of MIS, and

Management Information Systems Quarterly in the United States and the Journal of Information and Technology in the United Kingdom. The paper presents their views and a reply by Watson.

Keywords: accreditation of reviewers, electronic publishing, IS publications, journal management, market for articles, refereeing, page charges

I. INTRODUCTION

THE ISSUE

At the 2004 International Conference on Information Systems (ICIS), Rick Watson, then President of the Association for Information Systems (AIS), put forth a series of proposals about how the IS profession should manage its journals in the years ahead. His proposals called for:

1. Improved reviewing of papers by accrediting reviewers in order to improve the quality of their work
2. Creating a market for journal articles in which editors would bid for articles accepted by the accredited reviewers
3. Moving our journals to the next level of Internet sophistication.

Watson cited advantages that include higher quality reviews, fairness to authors by shifting the balance of power between journals and authors, shorter times to decision and publication, better use of reviewers (our field's scarcest resource), using Internet capabilities that are available but not used, and creating a leading position for AIS in showing the scientific community what could be done to improve communication of results through the Internet.

These proposals deserved airing before the IS community. Although people in the field may disagree with specifics of the plan, its implementation, or even the whole plan, the proposal serves as a starting point for discussing how we

improve the publication process in our field. As a result, a panel was gathered to discuss the issue at the 2005 ICIS meeting. This paper is a report on that panel.

WHY A PANEL OF EDITORS?

The panel consisted of four people who edit our journals: Kalle Lyytinen (*Journal of the Association for Information Systems (JAIS)*), Carol Saunders (*Management Information Systems Quarterly (MISQ)*), Leslie Willcocks (*Journal of Information and Technology (JIT)*), and Vladimir Zwass (the *Journal of MIS (JMIS)*). They are the principals who make the decisions about how their journals are to operate, usually working in conjunction with the journal's senior editors and publications committees (for non-profits) or the commercial publisher. Their decisions carry significant weight in how journals are managed and run. Their support and understanding are needed for change. The panel and this paper offer the community an opportunity to interact and share feelings about what the future should be.

THE QUESTIONS ADDRESSED

Controversial is probably as good way to describe Watson's (or any) proposal that breaks the status quo. For example, one panelist e-mailed: "I like the idea of reviewer certification and a reviewer data base. The challenge is how the suggestions might be implemented. The panel could, in part, focus on HOW the ideas could be implemented.....Of course, there might be disagreement about whether some or all of the ideas should be implemented....so that could lead to healthy debate." Another panelist pointed out that the problem is systemic with reviewing being only a part, and then raised objections on such issues as the limiting factors of reviewer pools, authors not able to specify where they want to be published, and the page limits created by fixed budgets that make it difficult to expand the number of articles published.

The Watson proposals are also intertwined with a movement in the last several years in various scientific fields to make all journals free by having authors or their institutions pay hefty page charges for publication.

The panelists discuss the wisdom, the implications, and the implementation of:

- Referee accreditation and standards.
- Markets for articles.
- The role of e-publishing.
- Their own proposed solutions to the problems of publication.

ORGANIZATION OF THIS PAPER

The panel's presentations at ICIS 2005 used a conventional format. Following an introduction by the chair, each panelist, in turn, presented their position – pro, con, or neutral – on each of the Watson proposals. Rick Watson then presented his response to the discussion. Because the same topics recur in the one-speaker-at-a-time format that was used, it is not possible to see the systemic picture for each proposal from such a sequential presentation. Therefore, in this article version, the panelists' remarks are organized by topic and alphabetically within each topic. Thus, Sections II through V deal one at a time with the four questions posed to the panel. The panel chair's concluding remarks are in Section VI. Section VII presents Rick Watson's response to the Panel. In addition, this article presents Watson's original proposal (Appendix I), and remarks by two of the panelists on page charges (Appendix III).

II. THE VIEWS OF THE PANELISTS – REFEREEING

KALLE LYYTINEN

A critical aspect of the process of improving the academic quality of our scholarship is the institutional environment, which defines expectations of authorship and review responsibilities, and determines how authors and reviewers meet one another during the academic review process. This process can be changed and influenced both by technological choices and by shaping competencies and skills associated with reviewing and writing academic articles. In this stage of the evolution of the IS community, it is important that we set up our policies carefully so that we allocate our scarce resources in the best way. In this and the following sections, I will address each of the four questions raised in Section I with this special goal in mind.

Accrediting reviewers who can assess the quality of the work in IS. Improving the quality of reviews and preparing good reviewers is an important goal for any scholarly community, because reviewing affects what gets published, and how we learn as a community about good research and writing. Thus, improving the quality of reviews by controlling for the quality of reviewers forms an important aspect of this process.

Yet, I do not believe that Rick's suggestion for reviewer accreditation (or rather certification) is necessarily the best and most effective way to accomplish our goal. I'm doubtful that all the good outcomes proposed by Rick would even follow from building such a system. Certification creates a need to institutionalize a practice which is poorly understood with high variance, and we know very little as to what explains this variance. At the same time, creating certification standards is demanding and a complex operation with significant opportunity cost for the community.

At this stage, improving global education of how to do reviews, and locally improving practices which recognize good reviewing by editorial board

appointments and other types of recognition (like reviewer awards), is a better and easier-to-implement solution. Most of the top level journals in our field follow the educational approach. They share reviews with all the reviewers and authors as a means for teaching people how reviews are conducted, and how editorial decisions are made based on them. For tenure and appointments and other types of personal assessments, maintaining a personal portfolio of reviews and their ratings by AEs or SE's could be one option to explore in the future.

CAROL SAUNDERS

Reviewer certification: I would like to separate the reviewer certification issue from the reviewer database issue. I agree with Kalle and Vladimir on the problems of reviewer certification. Certification is likely to be unsuccessful in institutionalizing an ill-defined process. Determining who certifies the reviewers is a non-trivial issue.

I agree with Rick's underlying premise that reviewers need to be trained. When Associate and Senior Editors start their terms with a journal, they could benefit from training, about reviewing and the journal's review process, conducted by their journal's existing editorial board members. Additional training could be provided if editors were to take a more active role providing feedback to reviewers and AEs.

I see the positive elements of certification to be:

- Overcoming the present reviewer bias toward rejection. In particular, reviewers impose higher and higher standards based on their perceived quality of the journal requesting the review.
- Reducing the workload of editors. As journals submissions increase, editors become increasingly overworked. If reviewers are certified, this

workload should decrease because editors could rely more heavily and consistently on reviewers' evaluations.

- Reducing (hopefully, eliminating) poor quality reviews. Currently, aside from a form to fill out, reviewers are given no instruction or feedback on what constitutes a quality review.

Certification clearly is not a panacea. It also may be difficult to implement. The following issues would first need to be resolved:

- Who decides what a good review is? Each of us has notions about quality, but the notions differ from person to person.
- Who decides who the certifiers will be? The certifiers will be important gatekeepers. They would need to be fair and well-qualified reviewers.
- Do reviewer evaluations become like student evaluations? That is, a pro forma activity indicating popularity and biased by attitudes about the author, the reviewer, and the paper?
- Who builds, maintains, and pays for the infrastructure and how long would it take? A certification infrastructure requires intense activity to start, ongoing activity to keep it going as people change interests, new researchers come into a subfield and others exit it, a computer to house it, and funds to pay for the programmer and other work involved. I don't believe that relying on volunteers is a guaranteed way of solving this problem on a reasonable timescale.

Reviewer database: I would REALLY like to see something like a reviewer database, shared among journals, come into existence. I believe there is asymmetry in the use of reviewers. Some reviewers do a lion's share of the work. It would be helpful to editors, and senior editors, to be able to access a full picture of a person's reviewing efforts. The database could provide such a picture. It would contain a person's contact information, areas of expertise (both

methodologies and topic areas), reviewing history, promptness, and current commitments. It would make it possible to incorporate more people into the reviewing process and ultimately would lead to a broader base of researchers on editorial boards. Finally, it would lead to fewer (hopefully no) overloaded reviewers.

The obstacles to building and maintaining such a database are similar to those for creating a list of certified reviewers (i.e., who would pay for it, who would build and maintain it?). Furthermore, attention would need to be given to how the database is structured to keep the reviewing process double blind. I think these issues are addressable, and the resulting database should be worth the effort to develop and maintain.

LESLIE WILLCOCKS

I agree with Rick Watson's analysis – there is general dissatisfaction with reviewing, inefficient matching of articles to journals, and an unfulfilled potential with regard to Internet usage. On improving reviewing, I like the suggestions of Kalle and Carol very much, and agree with Rick Watson on creating more courses on how to review, and the content that he suggests. However, his approach of certifying reviewers is not THE answer, and may be overly bureaucratic. My own view is that the choice and vetting of referees is manageable at the editorial level of each journal, and ultimately does have to be handled there. Chief, senior, and associate editors have direct experience of reviewers, can choose not to send out poor reviews, or recommend to authors only the useful parts of a review, and can also help in educating and improving reviewers.

As I will discuss later, I actually disagree with Rick's efficient market hypothesis for journals, and also for the need for electronic journals in quite the way he suggests. But at this stage, rather than reiterating many of the points made by the other editors I would like to make a more general point. This is that the

problems and suggestions Rick Watson identifies do not amount to the big problems that we need to solve. What are these? Rather than focusing just on reviewing, let me consider the whole journal process.

As Editor. A major problem is too many papers of variable quality. The Journal of Information Technology, for example, rejects 86% of what is submitted; a lot of these in a pre-screening process, and that figure is not untypical for the higher ranking journals. Authors are a significant part of the problem where they do not read the journal's mission statement, or show poor research and presentation skills. All too many are quite instrumental in going through the motions of research and publication. What I find lacking all too often are the scholarship, the passion, and the valuable contribution.

A second major problem is keeping turnaround time down for papers. At JIT, we aspire to nine months total from receipt to reviews to publication. I am aware that some journals take two years or more for this process. As a result, and only partly in jest, I have been thinking of creating, as editor, the *Journal Of Ancient Practices in Information Systems (JAPIS)*, so that papers that grow outmoded as a result of the review process will have a home somewhere. I am sure there would be big demand, and after all that reviewing the papers would be rigorous, and in ancient practices terms, still relevant!

A third major problem as editor is a general issue for European and other 'international,' i.e., non-U.S., journals which is, in my case, getting JIT articles cited by U.S. academics. This is a difficult one to crack. We can all offer our own reasons for this phenomenon, but it would be useful if authors actually carried out comprehensive literature reviews, rather than the limited ones focusing almost entirely on U.S. journals (and books) we all too typically see.

Lastly, as a small point, from an editor's point of view, the arrangements of using e-mail and word processing for handling papers works fine, and the electronic arrangements suggested by Rick would not lead to any gain in efficiency.

As Author. A number of major problems are experienced here. One is split reviews. Typically I observe a Rule of Three. That is one reviewer likes the paper and makes some constructive suggestions for improvement, one dislikes the paper and edges towards rejection, and the third thinks it could fly with a great deal of work. Furthermore, what do I do when a senior or associate editor says, as some have done: “Answer all the reviewers’ points”? In such cases, authors need stronger guidance and a clearer map as to what actually needs to be addressed.

As an author I am even more worried about turnaround time than as an editor. For example, two of my recent papers that I judged ‘good’ were just accepted after two years, and 18 months, after submission. Publication would take another six to nine months. A related problem is the *ISR/MISQ* ‘bottleneck’. Too many papers are chasing too few publication spots. In these circumstances, how can what is published appear ‘relevant’ in such a fast moving field? And what are the consequent adverse effects on: (a) the research subjects we are pressured into choosing to offset long turnaround times, and (b) how our field is perceived by non-IS or practitioner readers?

As a small point, as an author I do not experience the problems Rick refers to in terms of accessing materials in the form of theories, literature etc., so his suggestions on alleviating these issues are useful but do not address a major problem.

As Reviewer. I, like many others, receive too many requests to review papers. On this point Rick is right – there is a shortage of reviewers. But a corollary is that too many of these are poor papers with no hope of publication in the journals to which they were submitted. I would encourage more journals to adopt pre-screening so that the papers that get to reviewers are the ones that stand a real chance, if with work, of getting published. Obviously each journal will draw the line differently on what papers to reject at pre-screening, but reviewing poor

papers is both disheartening, and also involves a great deal of critical and constructive work that could be much better employed elsewhere.

As a reviewer, to address Rick's point on advanced electronic means, actually email works just fine.

As Reader. Despite being carried out rigorously, too many published papers add little to our learning and knowledge. It is almost as if papers that cannot be faulted for their rigor get through the system immaterial of the value of what they say. They are a triumph of method over content, with many all too reminiscent of what C. Wright Mills called in his day 'abstracted empiricism.'

Again what strikes me as a reader is how many papers offer uncritical or superficial use of theories and frameworks from other disciplines. Can we not, as IS authors, be better read and more critical? The papers also contain too much incremental testing but too little (scholarly) risk, innovation, and imagination. Are we driving these characteristics out of our authors by how we educate them, discipline them, and run our journals?

But having redefined what the major problems are that we need to solve, at the same time I do not wish to sound too negative. The notion of a crisis in the IS field and the regular reappearance of 'discipline anxiety' – these things underrate both the importance of the substantive real world issues that IS as a field should and can research, and the already existing huge backlog of rich, very good work. The problems I spelled out are resolvable, and at the journal level are balance issues, as I will suggest below.

VLADIMIR ZWASS

In this section and the ones that follow, I express my reactions to Rick Watson's creative and imaginative ideas and then summarize what I see as the transition to the, of necessity highly speculative, future.

From my vantage point as the editor of a top-ranked and long-established (now completing its 22nd year of publication) journal, I see the reviewing process as working well. *JMIS* has an extensive referee corps which has always served and continues to serve as the primary guarantor of the publications' quality. The process is supported by the exceptionally strong Editorial Board that consists of the leaders of the IS field. Even after the recent expansion of the *Journal* by about a third, its acceptance rate is still single digit. The most common path to becoming a *JMIS* referee is publication in the *Journal*. After initial coaching in certain cases, the authors of the papers that attain the level of publication in the *Journal* generally make good, or excellent, reviewers. It needs stressing that it is incumbent upon the editors to know the strengths of the referees and appoint a referee panel – rather than simply a certain number of referees – that should be able to provide a 360-degree evaluation of the paper, both in terms of its contribution to the subject matter and the soundness of its methodology.

It follows that I do not see a reviewer certification process as helpful in scholarly publication. Any such process would raise the question: *Quis custodiet ipsos custodes?* For those of us whose Latin needs refreshing and rephrasing: Who will certify the certifiers? For those of us who would consider the time and costs of the process: Where will those resources come from, as the certification would have to be an on-going effort? The effort would suffer from unintended consequences, namely the perception of reviewer certification as certifying competence.

It is possible to offer many of the benefits of the reviewer database in what I consider an appropriately decentralized and highly economical manner. The faculty directory of isworld.org can be expanded by adding reviewing fields. The content of such fields can be debated, and the submission of data can be voluntary. They would certainly include information, as specific as possible, about the individual's fields of expertise. They may also contain the reviewing experience in terms of journals, years of refereeing, and the willingness to take

on future assignments. This solution would be organic, realistic, and low-cost. The quality of a journal cannot devolve on the quality of a reviewer database: that wouldn't work.

III. THE VIEWS OF THE PANELISTS – A MARKETPLACE FOR ARTICLES

KALLE LYYTINEN

I would like to reiterate the significant cost of institutionalizing any new practice. Whether it is how we evaluate reviewing skills or how we allocate articles to journals or reviewers, the change needs to be assessed in light of the potential benefits. Here the cost/benefit argument applies even more than with reviewer certification. I do not think that the claimed benefits of creating the market would cover the additional costs of maintaining market structures. There is no information that the current system even works badly in ways that cannot be salvaged within the process, or that the proposed market would offer a better way to match papers and best expertise with available time and effort. It appears that the proposal would move much of the power of what is published where from authors to editors, while at the same time ignoring the additional burden placed upon editors to run bidding processes. I am also skeptical about how much the process would really help in finding the best reviewers for each paper because editors do have much less information about the paper than the authors when they send the paper to a journal and suggest reviewers. The proposal also relies on the myth of market efficiency in handling all types of human transactions. It ignores the broader social context that largely affects good reviewing. Many of the excellent reviews we receive today (and most of them are earnest and careful comments on the strengths and weaknesses of the paper) are due to shared values, moral obligation, and tacit knowledge to find and use reviewer knowledge across multiple social networks. These elements can easily disappear if only markets reign.

CAROL SAUNDERS

I have problems with the recommendation for a market for journal articles. I'm not sure how this proposal could be operationalized, and if it were operationalized, I'm not convinced that it would be good for the IS discipline.

The marketplace does encapsulate some good ideas. One is that reviewers won't review articles more than once. The procedure avoids a paper being rejected by a reviewer, resubmitted elsewhere and the editor of the new journal sending the (perhaps slightly revised) paper to the same reviewer. Even more important is the conservation of the discipline's scarcest talent, good reviewers. This proposal should ensure that good reviewers are less burdened.

Another advantage is that the marketplace may be a more efficient method of finding the best fit for an article than the author selecting a place to send the paper arbitrarily. A fourth advantage is that authors may not need to bend excessively to meet all of a specific reviewer's comments since different editors may place their own emphasis on what is important to change and what is not.

However, these advantages are relatively slight compared to the disadvantages. I believe that the infrastructure costs of creating such a system and the problems of resolving multiple bids (two or more editors asking for an article) more than offset the small gains achieved. My greatest concern is that niche journals that do a good job of serving a defined subdiscipline may lose in bidding wars against ranked journals. As is typical with efficient markets, such niche journals may not survive. While this outcome is desirable in some respects, it may mean losing some viable, well-recognized forums for subdisciplines in favor of more efficient publishing in more highly-ranked journals with broader coverage. Consequently, it may be harder for the subdisciplines to maintain their identity.

Much of what is proposed can be avoided if the reviewing process cycle could be shortened, if an effective system for training reviewers and retrieving their names could be developed, and if discipline norms are established. For example, a

desirable norm would be that if a paper is sent to a reviewer two (or more) times, and the reviewer rejected it the first time, the reviewer should send it back if he or she is unlikely to accept the new version. Conversely, authors should modify a previously rejected article before submitting it to another journal. In some cases, the age of the references shows that the paper was merely recycled, not improved.

LESLIE WILLCOCKS

I agree that our present procedures are inefficient in matching articles to journals. I disagree, however, that the application of an efficient market hypothesis for journals is a consequential issue. One can have too much faith in the efficiency of markets generally, let alone when applied to scholarship. My fellow panelists make all the points I would want to make, and more; and I agree with their suggestions for improving the situation.

VLADIMIR ZWASS

In my opinion, the quality of a scholarly journal cannot emerge from a bidding process in a central market of papers. It would be far simpler to dispense with the journals in that case, and to offer the papers as publications from a database. If we are to believe in the role of scholarly journals with their reviewing and editorial processes, then the “market” makes no sense. If we are to believe in the “market,” then the journals do not make sense. On the other hand, a prior review from an identified journal could be recognized by another venue of submission – both if such a review is submitted by an author and in the cases when a paper that has not been revised before such resubmission to another venue encounters the same reviewer. Economy of reviewer resources would result.

IV. THE VIEWS OF THE PANELISTS -- INCREASED ELECTRONIC CONTENT

KALLE LYTTINEN

J AIS is already an electronic journal. Therefore, in this sense my answer is easy and a short one: We created one which forms a major community experiment in a largely conservative environment, especially within business schools. But despite this main focus, we are currently exploring possibilities of also publishing a paper version of J AIS because there are important reputation and archival reasons for producing paper copies that cannot be ignored. John King and I shared these concerns previously with Carol Saunders in a discussion of whether to make *MISQ* partially electronic. Both John and I were opposed to it (I guess successfully). The recent editorial in *MISQ* (Volume 30, Issue 4, December 2005) addresses this topic with a similar mindset.

Currently, my main reason for being conservative here is the institutional force of libraries and library systems and their practices associated with maintaining and archiving knowledge through paper based documents. Until there is a widely accepted and maintained standard solution for installing an electronic infrastructure in addressing this problem, I do not think it is wise to promote electronic-only versions of academic archival journals across the whole community. Another reason is that indexing and search capabilities are still skewed (ironically) to journals which are primarily paper based.

CAROL SAUNDERS

I echo Kalle's comments on electronic journals, particularly in regard to maintaining images over time and archiving. Also, please see my December 2005 editorial about the challenges of electronic publishing by going to <http://www.misq.org/archivist/vol/no29/Issue4/EdComments.pdf>.

Electronic journals offer enhanced searching capabilities, enhanced multimedia capabilities, and a central repository for the discipline. These benefits are extremely important and worth pursuing. Here again, electronic journals introduce a number of questions that must be answered:

- Will authors assume responsibility for the need to encode information? Whereas conventional articles are easily published on the web (e.g., *Communications of AIS* and *Journal of AIS* do so now), more complex multimedia papers that include voice, video, complex visualizations, and animation require author input of the multimedia aspects of the papers. The authors are the ones who create the material. Yet, the effort in creating multimedia is time consuming and many authors are not multimedia literate. The net effect is that authors decide that it is more important to use their time to work on the next research project than to do the multimedia work. A classic example is the difficulty that the *MIS Quarterly* had in trying to sustain *MISQ Discovery*.
- Who builds and maintains the infrastructure? Storing multimedia increases the size of the storage required for an article and disseminating multimedia requires large bandwidths for downloading in a reasonable time. In particular, large bandwidths are not available in many developing countries.
- Who will maintain the archives? One of the values offered by a journal is that it is a long-term archive of what is done in the field. At present, the archives for our two electronic journals are maintained by AIS, their publisher. For our paper journals, the libraries that subscribe and the journals themselves serve as repositories. As both the number and the size of electronic journals increases, the storage of the electronic archive becomes an important issue. Furthermore, electronic media change over time. Where eight track tape was once standard, it is now becoming USB drives. The one thing we can be sure of is that the storage technology will

change and that the archives will have to be converted to the new medium.

LESLIE WILLCOCKS

I agree with Rick that the journals in IS do not fulfill the potential of the Internet. But as we know, IT capability is all too often a matter of IT solutions in search of business (or here, publication system) problems. I think this is somewhat the case with Rick's proposals. Yet I am not convinced that electronic journals, encoded information, and a central, structured repository is necessary or inevitable, or deal with urgent or major problems. A good case can be made that we are still doing OK being in the partly paper, partly electronic world and learning as we go. Again my co-panelists make many sensible points, backing an evolution at the speed of problems as they are experienced.

VLADIMIR ZWASS

The most exciting part of Rick Watson's proposals is to meet the future now by a *tout court* move to electronic publishing. It is helpful here to begin the discussion by reviewing the roles of the publication in scholarly journals and, in particular, the role of the top-ranked journals in the discipline. I believe that the publication of these journals, and the papers in them, has a number of epistemological functions and several instrumental ones. Among the most important epistemological functions are:

- Validation of newly generated knowledge,
- Dissemination of thus validated knowledge,
- Maintaining the repository of accumulating knowledge,
- Providing the means for a further elaboration of knowledge,
- Formation and maintenance of scholarly community,
- Definition and elaboration of the research discipline or a field, and
- Education, and inculcation of values.

The instrumental roles of scholarly journals relate, among others, to the following:

- Formal faculty (or researcher) status evaluation, promotion, and remuneration,
- Informal operation of networks of scholars,
- Grants, and
- Exerting individual intellectual influence.

The list of these roles in the sociology of scholarship can be expanded, and their meaning analyzed to an advantage through the Foucauldian lens of enforcing regimes of truth or by resorting to Latour's enrollment and translation, with an admixture of the Kuhnian analysis of the conservative roles of scholarly establishments. When taken together, such analyses generally show how the instrumental roles impair the epistemological ones. Such an expanded discussion is, clearly, a task for another day, as is the detailed parsing of the comparative advantages and drawbacks of the two publishing modes with respect to the above roles in scholarship.

The primary epistemological role that pure e-journals are at this time unable to play in a convincing manner is that of being collectively a lasting repository of a discipline's knowledge. Their disabilities in the instrumental roles result from this fundamental perceived disability. At this time with existing publishing infrastructure and scholarly repository arrangements (e.g., academic libraries), e-journals are at a significant disadvantage. This disadvantage stems in large part from the absence of cultural acceptance. In more objective terms, technological obstacles exist to the preservation of the digital heritage over generations of scholars, and of information technology. Careful arrangements, both institutional and technological, are necessary to ensure that the stored digital information continues to be accessible on lasting media with the ever new hardware and software. The U.S. Library of Congress is in the process of conducting a study

with this objective. There is no doubt that the force field is arranging itself in this direction.

Other research communities are presently attempting to combine the objectives of open source publishing with those of e-publishing. Their progress should be followed closely. Among the more important ones are the results of Paul Grinsparg's initiatives and arXiv in physics, which have also been ported to other fields, Harold Varmus's efforts and PLoS in biology and life sciences, as well as BioMed Central. There are, of course, 500 IS-related journals listed in one of our databases, many of them newly emerged electronic venues. However, there is no discipline where pure e-journals are among the leading publishing outlets. This situation is so even in physics, whose long-established preprint culture and strong individual initiatives would predispose it to such leadership.

A conclusion can be drawn that, at this time, the IS discipline is best served by its leading journals in both print and electronic formats. They are thus able to play both the epistemological and instrumental roles required of them. Experimentation that would fully exploit the power of the e-media is highly desirable, and it is hoped that a respected journal that would effectively commit itself to this task would emerge soon. Watchful, and knowledgeable, waiting for the hockey stick to turn up is advisable: The move to e-publishing will occur rapidly when the appropriate institutional arrangements come into place.

V. THE VIEWS OF THE PANELISTS -- WHERE DO WE GO FROM HERE?

In their remarks the panelists expressed views about what should be done from here forward. These ideas are accumulated in this section. Note that not every panelist talked about his/her vision of the future for each of the major points in Rick Watson's proposals.

KALLE LYTTINEN

With respect to refereeing, my proposal is to run reviewer workshops in our leading conferences including ICIS, ECIS, and PACIS. These workshops should include discussions with good AEs and presentations by them. They should discuss the do's and don'ts of reviewing. Since there are differences among journals, they should also discuss what different journals expect from reviewing. This approach would be a low cost improvement to move the community forward.

JAIS has performed similar activities with its theory writing workshops at both ICIS and AMCIS. In these workshops we try to share within a community how reviews are carried out by going over them and discussing them openly. We also discuss how to address reviewer's concerns. We plan to extend this practice in future years to other conferences including ECIS and PACIS. My feeling, based on the quality of reviews and also the quality of manuscripts coming from these regions, is that there is in general a higher need for such learning. In carrying out this task, we seek collaboration with other leading IS journals, and we currently have a plan to run these meetings at an AIS meeting¹

.Maintaining Referee Pools. Overall, I find reviewers are not the main challenge in publishing good work in *JAIS* as a whole. Each journal seems to follow a

¹ Such a meeting was run at AMCIS 2006 in Acapulco, Mexico.

different strategy to maintain a good referee pool. In *J AIS*, we approach this challenge by trying to compose:

1. The best available referee pool by seeking top quality scholars within the editorial board when adding new members to the board. We use careful screening and negotiation among the SE team.
2. By using members of the editorial board, primarily as reviewers, and thus gaining better control of what is the quality of the main review base. In this sense, we do not have a typical three-tier structure consisting of reviewers, AEs and SEs, followed in some other journals, and we exercise editorial quality control among a smaller group of SEs (currently nine).
3. By focusing on a developmental approach to reviewing that focuses on the early screening of papers by SE's. Therefore, we have many SEs, and we place heavy emphasis on developing a joint and shared mission of the journal and its quality/reviewing standards. In this way we seek to relieve the reviewers from the burden of reviewing a large number of bad papers and to use their time more productively to elevate good papers into excellent contributions.
4. By advocating flexibility in how we assign SEs and reviewers to papers by seeking to find the best expertise available. Therefore, we sometimes use SEs and many times reviewers that we know to be the best experts on the topic. Developing a referee pool in the form of an editorial board is tricky and more complex than what one would do if just only best expertise would be maximized. Journals like *J AIS* have to maintain expertise in a very broad area which is not always easy. Appointments must also take into account geographical origin, gender, age, tenure, and other issues.

The Main Challenge. Our main challenge as SEs is to educate the community to better understand when a manuscript is ready for journal submission at an A level. If we can manage this problem better, I believe we could do away with at least 50% of the reviewer shortage problems we currently face. We currently manage the problem by weeding bad things out by SE's heroic efforts, when these decisions should have been made by the authors, their colleagues, or other people in academic departments. The main responsibility of EIC's is basically to use his or her available resources in the most effective way in order to publish the best possible papers he or she can shape from the materials he or she receives.

Achieving this goal is currently hampered by the necessity of creeping through a constant mud of intellectual waste with his or her reviewers guard. As a result, EICs and SEs must often allocate some of the best resources available to intellectual pieces that do not need that level of sophistication or expertise. Sometimes you wonder if this is worth people's effort and time since they do it pro bono. We currently manage this flow of immature work by pre-screening and careful editorial judgments about when something is worth going out. However, in the future we may need to impose some sanctions if the current trend continues because we will run out of good SE capability. Sanctions associated with submitting manuscripts will most likely increase the threshold of submitting and thus improve the quality of submitted manuscripts. The main challenges still remain:

- How to do review allocations in ways which are flexible,
- How to give everyone access to our shared intellectual resources, while at the same time
- Guaranteeing that the available resources are allocated in ways that most intellectually benefit the community.

CAROL SAUNDERS

Rick Watson has proposed some intriguing ideas. The following are solutions that should help to solve the problems that he poses:

- Work with editors to focus on developmental reviews so that authors are not simply told that their work is rejected. Rather, the reviews will serve to help them improve the quality of their manuscripts so that they become publishable.
- Through a cooperative effort among editors, create and maintain a database of the effectiveness and capabilities of reviewers. Seek a sponsor, possibly the Association of Information Systems (AIS), to help underwrite and support these efforts.
- Train reviewers through making reviewing a topic in the doctoral program, through workshops conducted before conferences by editors, and through feedback from members of the editorial board on the quality of reviews submitted.
- Create discipline norms for the circumstances under which potential referees can recuse themselves from undertaking a review, as for example, when there is a conflict of interest or when they have already rejected the paper in an earlier review for another journal.
- Create methodology guides, prepared by experts in the discipline. These guides would offer standards for authors and would remind reviewers and authors of what should be included when writing up a study using a specific methodology. For example, the guides could describe the fit indicators that should be included when describing structural equation modeling results, or the necessary activities that should be performed when conducting (and describing) an interpretivist study. The guides could be published as wikis so that they can be organic and evolving.

- Encourage author feedback to editors in the instances of really good and really bad reviews. Editors may survey authors for their opinions on the quality of their paper's reviews. However, to ensure responsible input, some waiting period after the review packet has been received should elapse before that interaction takes place.
- Work to make electronic publishing a reality by researching ways to improve archiving and by developing a system to encourage authors to embed code in their articles. The open sourcing editing suggested by Vladimir should also be explored.

LESLIE WILLCOCKS

I have only a few ideas to add to the excellent ones of my co-panelists. I believe that many of the issues raised by Rick are manageable at the level of organizing and editing the individual journal. Bureaucratic and market solutions will not suffice. Good reviewers are a product of systems that create good scholars in the first place, i.e., good reviewers should emerge from every PhD program. Editors can mitigate the effects of poor reviewing by immediately steering authors towards the more constructive reviews, by educating reviewers as to what is expected, and by not using reviewers with an indifferent record on timeliness, balance, and quality. At the same time they can attract and keep good reviewers by instigating paper vetting mechanisms that ensure reviewer knowledge and insight are optimally leveraged.

Digitisation cannot substitute for quality of authors, reviewers, or editing but incremental digital developments that solve felt problems are welcome. On this, I tend to agree with Vladimir's position as set out below. Rick's proposals do attempt to take advantage of the technologies becoming available to us, but I am not clear that the 'technical fixes' suggested by Rick are going to be successful, or actually address our more perennial problems.

Our question for the academic publication system is this a time for redesign? It might be useful to provide a meta-model into which the panelists' detailed suggestions can be fitted. Figure 1 suggests possible directions and paths for change. My own view is that Rick overstates what digitization can do for the publication system, and identifies only some, and not the main problems with what is called in the diagram the business model and business process. I think I and my fellow panelists are suggesting various ways in which we can move towards a more effective set of business processes without identifying the need for a major shift in the business model. Once changes have been made, we then would consider rendering them more electronic. To me this approach is a more nearly optimal path, and the approach is supported by more general research into business transformation. In IS publication, we are not in a crisis but can always improve. Implement incremental process improvements – and the panelists have suggested many possible directions here – that can be technologised where useful to do so.

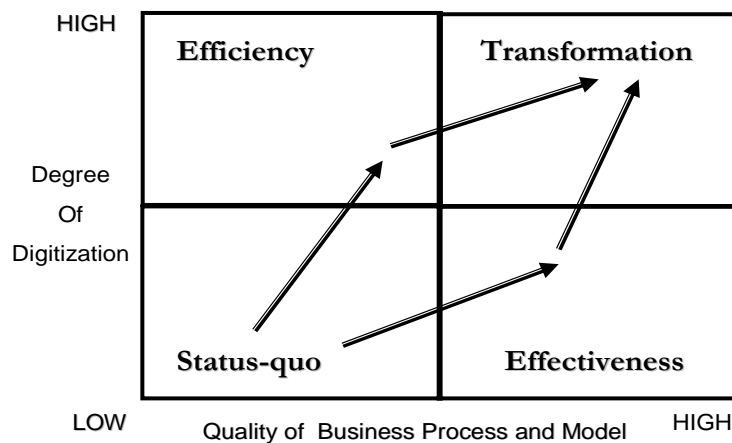


Figure 1. Quality of Business Model vs. Degree of Digitization

VLADIMIR ZWASS

In summary, the stewardship of a discipline's leading journals – its intellectual treasury – is a signal responsibility. The fundamental roles that the journals play need to be supported by the foundation of fiscal soundness and of their publisher's resources and skills. At this time, it appears that the print format accompanied by an electronic version of the journal is the best way to ensure the soundness of the publication arrangements for the leading journals. Experimentation with the full use of the electronic media for IS publishing is highly desirable. All of this is to be done in the transition to the e-publications, when the intellectual corpus of the discipline will be able to find support in the institutional, economic, and technological arrangements of electronic publishing.

VI. CONCLUDING REMARKS BY THE PANEL CHAIR

PAUL GRAY

The presentations by the four panelists were followed by thoughts about the Watson proposal by the chair and organizer of the panel. They included:

- Fundamental issues,
- Systemic problems that need to be resolved in the proposals for reviewing and for creating a market, and
- Problems and solutions associated with 'electronicity'.

Fundamental Issues. The IS community more than doubled since 2000. I recall Rick Watson's call for "2000 in 2000." That is, that the number of members of AIS should increase to 2000 with the turn of the century. By 2005, the membership was in the range of 4000.

Growth created a fundamental publication issue for our field. Three or four journals are considered “A” journals². The total capacity of the “A” journals stayed at the order of 100 papers per year since the early 1990’s despite the growth in researchers. Yet tenure, promotion, and periodic review processes judge our people based on the number “A” publications accepted. We are in a classic scarcity situation where demand far exceeds journal supply.

In an economy of scarcity, the basic principle followed by our “A” journals is: “don’t let a bad paper get through.” It is a case of errors of the 1st kind and the 2nd kind. We know that this criterion will inevitably result in some good papers being rejected.

Rick’s proposal for certifying reviewers (assuming it overcomes the objections raised to it by the panelists) seems to me to be designed to make the process fairer. In so doing, it may improve the review process so that the proportion of accepted good papers increases slightly, but by itself it does nothing to increase the number of papers that can be published, which is the locus of the bottleneck.

Systemic Problems. The proposal for a marketplace for journal articles may solve some problems at the margin for journals, but they create new problems for authors. The journal gains because the limiting factor for reviews is the available pool of editors and reviewers. The market concept should reduce the number of times an editor must dip into the pool, which is good for the journal. It is certainly, as Leslie Willcocks points out, a gain in efficiency. However, the arrangement (if it could be implemented) creates problems for the author:

1. An author is stuck with the initial reviews. They are made available in a database and are freely available for future use. Since the percentage acceptance rates are of the order of single digits for “A” journals, a

² Three (*ISR*, *JMIS*, *MISQ*) are invariably included in the A list. Some add a fourth such as *CACM*, *JAIS*, *Management Science*, or a European journal.

given paper is most likely to be declined. There seems to be no way for an author to revise the paper and obtain a fresh start (as would be the case if the paper were submitted to another journal), even if the initial review is inappropriate, poor, or biased.

2. Suppose Journal X wins the bid for a paper. What happens if the author really wants to publish in Journal Y (e.g., because Y is considered “A” in their university but X is not). The rights of the author need to be considered.

Reviewing is only one issue. The economics of paper-based publishing, with its nearly linear relation between cost and journal size, make it difficult to expand the number of articles published without finding new sources of funds. Will the market proposal result in creating space to publish more “A” articles, or would it simply rearrange the chairs on the *Titanic*?

Electronicity. The term electronicity was coined by Anat Hovav in her work on e-journals. Rick Watson is right that, at present, we have two e-journals (CAIS and JAIS) that are really print journals delivered in e-form. Yes, these journals allow the use of color, eliminate most page constraints^{3,4}, and reduce the time from submission to publication significantly. But these improvements are first order effects. They make only marginal use of the available electronicity.

The experience of CAIS illustrates the difficulties. CAIS published a few case studies over the years that include video. However, the video contains only talking heads that supplement the text. Voice, sound, animation, three-dimensionality, and other aspects of electronicity are not yet included.

³ The page limit is replaced by an implicit size limit determined by available communications speeds. For example, CAIS limited articles to 500KB to make it possible to download papers in a reasonable time in developing countries where high-speed modem connections are not available.

⁴ Hyperlinks, which are used extensively, expand the size of the paper to allow access to additional material.

The paucity of electronic content is not the result of the editors of CAIS rejecting such material⁵. It is just not being submitted to the journal. In my opinion, many of today's IS faculty are poorly skilled in the sophisticated use of technology. Moreover, authors respond to the reward system in place. They see little payoff from electronicity in the current tenure, promotion, and review process. High electronicity articles require much more work to create and to bring to publication than a conventional 30-page double-spaced paper. Many authors live in a conservative, business school environment where their work is not understood by their colleagues. Hence, judgments are made based on a count of the number of publications, not the innovativeness of the work. Furthermore, since current "A" journals cannot accommodate electronicity, authors behave rationally when they revert to conventional print technology.

What can be done? Viewed in the abstract, we in IS should be leading the transformation to e-journals. Yet the practicalities of this transformation require fundamental systemic changes. In brief, these changes include:

- Educating IS (and other) faculty so that they become skilled in using the ever-increasingly available electronicity and apply it in their publications.

Such upgrading requires an infrastructure perhaps similar to the use of summer training of IS faculty around 1980 when many people from other fields were brought into IS.

- Simultaneously, changing the reward structure so that electronicity and the work needed to create it are highly valued.

Changing the reward structure is not something IS (a small field with many of its members inside other departments or schools) can do by itself or

⁵ However, they did not go out to solicit electronicity. They waited for it to be submitted.

even lead. It requires a change in mindset in the whole academic community, a long, slow process.

- Changing the existing “A” journals and creating new “A” journals to include electronicity so that they can support our growing researcher population.

It is, quite frankly, a mystery to me that we stopped creating new research journals in the 1990’s that could be viewed as “A” level.

Having edited an electronic journal for seven years, I know their potential. The problems described need to be solved if that potential is to be realized. That will be a tough job for all of us.

VII. RESPONSE BY RICHARD T. WATSON

Three important developments in the business environment in the latter half of the last century – quality control, the move to markets, and the Internet – had little impact on academic work. I will deal with each of these issues in turn as I respond to the prior comments and use the opportunity to elaborate my viewpoints.

REVIEWING

The panelists acknowledge problems with reviewing, though they vary in the extent to which they believe the problem is major. From my perspective, reviewing is a major issue, because the reviewers and editors are the quality control system of academic journals. Nevertheless, we do very little to ensure consistency of reviewing. Reviewer and editor education is a highly variable apprenticeship model reliant upon what is learned in graduate school and gained through reviewing and editing experiences. There are no unifying approaches, such as the six-sigma program used to train many in industry, in the academic

world. If a quality control expert from business looked at our quality control system, he/she would be astonished by its archaic and capricious nature.

The reviewing standards problem is revealed indirectly in several of the panel's responses when they note that the quality of submissions is an issue for many journals. Acceptance rates are low, and too many of the articles submitted are unsuitable, as Leslie notes. The authors of these submissions are also the reviewers of other scholars' submissions. Authors whose work is not good enough for publication in a particular journal are sometimes also asked to judge the quality of articles submitted to the same or a similar quality journal. This can lead to a rejection mentality among the rejected. This is particularly the case of those journals with a three-tier review system that often need to draw from the pool of junior scholars to obtain sufficient reviewers.

I am heartened that as a result of this panel, several journals combined to offer reviewer education, beginning at AMCIS 2006. Carol provides some good ideas (e.g., methodology guides) for improving consistency. This idea is a good beginning, and yet more needs to be done. As scholars, we need to research some of the issues raised by the panel (e.g., What is a good review?). As Kalle points out, reviewing: "is poorly understood with high variance." If we want to improve the quality of reviewing, then we need to study the reviewing process and outcomes to find out how we can improve it. It is ironic, that as a scholarly community we rely heavily on the reviewing process, but we seem to know so little about it and accept wide variance as uncontrollable.

MARKETS

There is general agreement among the respondents, as I read their comments, that quality reviewers are a scarce resource. The problem is exacerbated by the dynamics of tenure and promotion, which are critically dependent on perceptions of journal quality, and compounded by reviewer variability. Thus, it is not surprising that many authors optimistically submit to the highest quality journals.

The rewards are very high, and because reviewers can vary considerably in their assessments, it is a bit like buying a lottery ticket. As one senior scholar told me early in my career, “It is a crap shoot.” As a result, the major journals have a high rejection rate, and the author is then faced with finding another outlet. The optimistic cycle of revision and submit usually continues until the article finds a home, by which time it might have gone through the review process several times. Incidentally, if we knew more about the reviewing process, we would have some firm data on the extent of this journal-article fit cycle and the resources it consumes. My concern is with finding the publication fit for a journal sooner so that less scarce resources are consumed and publication cycle times are shorter. I believe that the current system is inherently wasteful, and we need to find a better approach.

The first half of the 20th century witnessed an ideological battle about the allocation of scarce resources. Should the state centrally plan the allocation of resources or should allocation be the role of free markets? While markets have their imperfections, the evidence suggests they do a better job of allocating scarce resources than bureaucracies. Markets have several properties that seemed to have been overlooked by the panelists. For example, a buyer can withdraw a product at any point or set a floor price. In a market for articles, this means an author could withdraw a paper after reading the reviews or reject an offer to publish in a journal. As I believe the current system has power asymmetry (the power is with the reviewers and editors and not with the authors), a market should be designed to give more power to the authors, the creators of knowledge and the most important people in the system.

Perhaps markets aren't the solution – certainly the panelists are reluctant to adopt such a change – but we have to find a better way of allocating the scarce reviewing resource.

ELECTRONIC JOURNALS

All journals will eventually be electronic. In the age of global warming, it is socially and fiscally irresponsible to continue with a high cost paper-and-postal based model. We preach that IS is an enabler of change and argue that the CIO needs to part of the top management team because IS is critical to innovation; but our record of change and innovation is lamentable. We introduced electronic reviewing and electronic paper journals,⁶ but we can and should go much further.

I am surprised by the panelists' response. First, there seems to be a strong reluctance to give up paper. Many readers have already given up paper subscriptions for the convenience of the anywhere, free access electronic library subscriptions. The questions raised by Carol are important, and are the sort of research problems that IS academics should be actively involved in solving. Organizations have shifted most of their print production to electronic format, so there are good solutions available for implementation. Maybe Google will just scan all journals, and then the problem disappears.

Second, there is a reluctance to see IS as a leader in encoding knowledge. Rather, I think we should take the lead in a core field of our discipline, knowledge management. Indeed, I believe that as IS scholars we have a responsibility to reinvent the academic publication system rather than leave it to the physicists, as we did with HTML. Too much of IS scholarship is studying what others have invented, or codifying the experience of others when we could be more influential and respected if we were creators rather than reporters.

CONCLUSION

I did not expect the panelists to embrace my ideas wholeheartedly and join me on the barricades of revolution. Change in the dispersed and individualistic

⁶ Journals that convert the print version of a document to pdf.

academic community is slow, unless there is overwhelming recognition of an imminent threat. Rather, my goal when speaking as AIS President at ICIS 2004, when responding to the panelists' comments, and when presenting my views on other occasions, is to stimulate disagreement with the status quo and engage the community in thinking of alternative ways of operating the key elements of our community, and in the process, influencing the general academic community. I firmly believe that IS will have a much rosier future if it becomes the change agent for moving the academic community to the Information Age. We have the skills, we understand the power of the technology, but we need to change our mindset from passive observers to active inventors. We are too wedded to the retrospective conservatism of the social sciences when I believe some of us should be inventors of the future.

APPENDIX I

SELECTED SLIDES FROM "REDESIGNING PUBLICATIONS"⁷

1. THREE REFORMS

- Reviewing
- Journal Selection
- Article Content

2. SURVEY ON REVIEWING

Question 1: Do you believe the current system of reviewing scholarly articles is generally fair or unfair? (n=74 ICIS2004 attendees)

⁷ The data were collected in response to the AIS President's presentation on the subject by Richard T. Watson at the 2004 ICIS in Washington, DC. The address was recorded and streamed, and viewers were invited to respond to the issues raised. The full set of slides was presented at the SAIS2005 conference. The sample size (n) is shown where appropriate.

Fair	8%	Somewhat Unfair	36%
Somewhat fair	39%	Very Unfair	16%

Question 2: Do you believe it would be helpful to have some form of accreditation for reviewers of scholarly articles? (n=80)

Yes	66%
No	20%
Not Sure	14%

3. RECOMMENDATIONS FOR REVIEWING

Accreditation

-achieved by taking a course

-achieved through practice (after completing a given number of reviews of satisfactory quality, the reviewer is accredited)

Reviewing Guides

4. SURVEY ON REVIEWING SYSTEM

Question 3: Does the Publication System work? (n=75)

System needs change	71%
System works	28%
Not sure	1%

5. RECOMMENDATION FOR ARTICLE MARKET PLACE

Create a marketplace

Senior editors bid for papers based on AE's report

AE's can recommend papers to SE's

Communications of AIS, Volume 18, Article 14

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How Shall We Manage Our Journals in the Future? A Discussion of Richard T. Watson's Proposals at ICIS 2004 by P. Gray, K.J. Lyytinen, C.S. Saunders, L.P. Willcocks, R.T. Watson, and V. Zwass

-Market Makers

6. SURVEY QUESTION ON ARTICLE MARKET PLACE

Question 4: Create a market for articles? (n=81)

An improvement	31%	Prefer Status Quo	30%
Worth Council Study	33%	Not Sure	8%

7. ARTICLE CONTENT

MIS has no electronic journals

We have paper articles in electronic format with a few hyperlinks

8. RECOMMENDATIONS OF EMBEDDING MEANING IN PAPERS

Markup language for academic papers

Create a theory database

Extend DOCBOOK, a markup language for technical documentation

-Originally intended for authoring technical documents about computer hardware and software

-Requires some modification for academic articles

9. CONCLUSIONS

-Universal dissatisfaction with reviewing

-We have only begun to adapt to the Internet

-Lack of structure hinders productivity

-IS should lead the way.

APPENDIX II. SHIFTING COSTS TO AUTHORS

One of the implications considered by some of the panel members is the idea of shifting some of the costs of publication to authors. Two of the participants contributed their thoughts to this issue.

KALLE LYYTINEN

The issue of cost arises as paper-based journals struggle to increase their page counts and publish more papers because additional funds are needed to support the larger community. Only the cost of maintaining paper-based journals dictate the need for new cost structures and allocations. If and when increasing journal size is regarded as an important community goal, I welcome some sort of shift towards charging authors. Yet, charging is not an easy decision, because leading journals also perform an educational role in improving the quality of argument within a global community where not everybody is equal. We cannot exclude the voices of those who are disadvantaged in monetary or other intellectual resources, such as access to good collegial reviewing.

VLADIMIR ZWASS

Shifting a portion of the journal publication costs to the authors of the scholarly papers can be argued for based on the needs of some journals to cover their publication costs. Indeed, particularly in print format, the costs of publication and effective distribution are high. I do not subscribe to the argument that the author should defray some of these costs. I would expect that the papers published in respected journals contribute to the societal stock of knowledge and the flow of the knowledge generation and dissemination, and thus the institutions that are the beneficiaries of these stocks and flows – primarily the universities – are in a position to defray the costs. Arguing that the authors should pay for publication as the parties most interested in the publication has – to me – the flavor of vanity publishing.

Therefore, in general, I believe in the business model of scholarly publishing relying on most of the costs being defrayed by the institutional subscribers. Some of the partly cognate scholarly fields, for example, finance, evolved the culture in which relatively modest submission fees are found acceptable. These should be distinguished from the per-page publication fees. Although no doubt resulting in salutary brevity, the latter fees – that run to about \$1,500 to \$2,000 in the publications that rely on them - would favor grant-holders, faculty of generous institutions, and the contributors of multi-authored papers (another unintended consequence here?).

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