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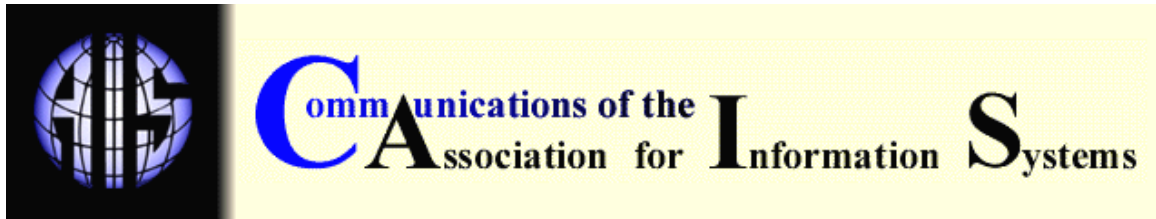
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AUTHOR EXPERIENCES WITH THE IS JOURNAL REVIEW PROCESS

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ABSTRACT

Research publication in peer-reviewed journals is an important avenue for knowledge dissemination. However, information on journal review process metrics are often not available to prospective authors, which may preclude effective targeting of their research work to appropriate outlets. We study these metrics for information systems (IS) researchers through a survey of actual author experiences of the IS journal review process. Our results provide a knowledge base of

- the length and quality of the review process in various journals;
- responsiveness of the journal office and publication delay; and
- correlations of metrics with published studies of journal rankings.

The data should enable authors to make effective submission decisions, as well as help to benchmark journal review processes among competing journals.

Keywords: peer review, journal review process, journal ranking, research productivity.

I. INTRODUCTION

The process of creating or discovering knowledge is flexible, and is typically determined by researcher interests, expertise, and ideas of collaborators. The dissemination of this knowledge may be achieved through teaching or by publishing the research. This study focuses on knowledge dissemination through publication in Information Systems (IS).

Existing research on knowledge dissemination of IS research focuses on author productivity [Gillenson and Stutz, 1991; Athey and Plotnicki, 2000; Blaszczyński, 2001; Chua, et. al., 2002; McCarthy, et. al., 2004], school productivity [Bapna and Marsden, 2002] and journal rankings. Research studies on journal rankings primarily endeavored to rank journals on different criteria; most recently on perceptions of quality [Nord and Nord, 1995; Walstrom et. al., 1995; Hardgrave and Walstrom, 1997; Whitman et al., 1999; Mylonopoulos and Theoharakis, 2001; Walstrom and Hardgrave, 2001], and earlier ones based on citations [Holsapple et al., 1994]. Koh [2003] reports the perceived importance of several IS journal review issues, through a survey of journal editors and researchers. The study suggests review time, quality of review, and journal editorial office responsiveness as important factors in the journal review process. When selecting a

publication outlet, the scope of a journal is available through the journal website, and its rank may be obtained by browsing through prior published rankings. However, researchers do not find much information available on other important factors of the review process.

Many IS researchers often face a difficult decision in choosing publication outlets for their research work, as some review process factors for those outlets are often not well-defined. For example, for time-critical research, a journal with quicker turn-around time (*ceteris paribus*) might be a better avenue for the work to reach the audience in the shortest time possible¹. In addition, process information is not consistent across individuals, and even across each manuscript submitted by the same individual.

This research focuses on quantifying certain metrics in the IS journal review process that are important, yet not well-known to prospective authors. We collected data on these metrics from authors who experienced the review process. This study provides an initial attempt to pool individual and anecdotal information of these factors into a knowledge repository for current researchers which may help them to make effective decisions on targeting journal outlets. Using concepts from process design and quality control literature [Stevenson, 2004], we determine if the review process is under control. Finally, we correlate our findings of these factors with journal rankings from published studies to detect if rankings are impacted by the factors identified by journal editors and researchers.

In the next section we detail our online survey design, followed by data analyses (Sections III and IV) and discussion (Section V).

II. THE SURVEY

To collect data pertaining to the review process, we developed an online survey instrument². We consolidated journal names from several of the previous studies referred to above to obtain fifty generally top-ranked IS journals to be included in the survey (Table 2 in Section III). Participants could also enter the names of journals that were not on the list. For each manuscript submitted within the last five years, participants are asked to share their actual experience on the following sets of review process factors³:

- number of rounds before a final decision was reached,
- time taken in each round,
- overall review quality,
- responsiveness of the editorial office during manuscript review,
- publication delay after the manuscript is accepted, and
- the research methodology used.

We asked several colleagues in different universities for input on the survey design. After pilot studies suggested the design was valid and well received, we sent emails to the ISWorld mailing list (isworld@lyris.isworld.org), serving the worldwide community, and to members of the MISRC-AIS Faculty Directory (<http://www.isfacdir.org>) soliciting researchers to participate in our survey. An embedded link in the email to our survey website enabled the interested survey participant to easily access the survey. Each participant was assured of anonymity and provided with a unique

¹ This is one reason why most computer science researchers, where the research results tend to be time-critical, emphasize conference proceedings more than journals.

² Print Screens of the complete survey are shown in Appendix I.

³ Some journals (such as CAIS and JAIS) began publishing less than 5 years ago at the time of the survey. For these journals, the data covers information since their inception.

Response ID, so they had the opportunity of returning to finish the survey if they needed to leave it before completion. The survey website was available from November 5, 2003 to February 3, 2004.

Participants were asked to indicate the status of each manuscript, and choose one of the following for the time taken in each round: i) less than 1 month, ii) 1 - 3 months, iii) 4 - 6 months, iv) 7 - 12 months, v) 1 - 1.5 years, and vi) greater than 1.5 years. Note that intervals are not necessarily equal in length. According to guidelines in a majority of journals, many state less than 6 months turnaround time in each review round. Hence we feel this interval arrangement is adequate as otherwise it leads to a dramatic increase in the number of intervals. To simplify the survey, we did not distinguish review cycles beyond the second round, and used a more general term "more reviews" to refer to it. We feel this simplification is appropriate since not many papers typically involve more than three rounds of review, at which stage the revision work is generally minor.

Participants also entered their perceived overall quality of a manuscript review (based on completeness, soundness, and usefulness) and the editorial office responsiveness on a 7-point Likert-scale, with 1 indicating very poor, and 7 indicating excellent. They could also enter comments with respect to the review quality and responsiveness. Lastly, if the manuscript is accepted, they report the time between the acceptance and its publication, or the elapsed time if not yet published. During the survey response process, participants were free to view their current total inputs at any given time.

III. RESULTS AND ANALYSES

Three hundred and seven respondents completed the survey, with a total of 1099 manuscripts reported. Table 1 shows the demographic profile – the majority of respondents were academics working at Ph.D. granting institutions. Figure 1 shows the complete response distribution.

Table 1. Demographic data

Job Title	PhD granting institution?		Total
	Yes	No	
Full Professor	74	24	98
Associate Professor	58	18	76
Assistant Professor	67	24	91
Instructor	5	2	7
Ph.D. student	20	2	22
Other	4	9	13
Total	228	79	307

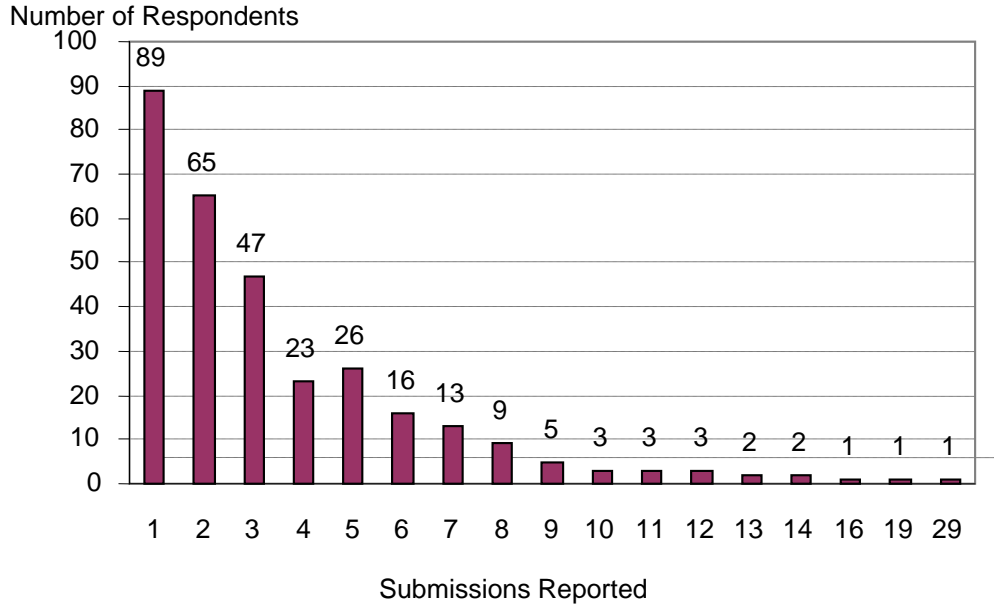


Figure 1. Response Distribution

Table 2 presents the number of responses to the original list of 50 journals, sorted in order of the number of responses. Apart from Administrative Science Quarterly and the International Journal of Man-Machine Studies, responses were received for all others in the list. One hundred and forty five journal names were added by respondents, with a majority with only one response.

Four of the added journals had at least 5 responses⁴:

Information Systems Journal	8
Journal of Information Systems Education	6
J. of Electronic Commerce Research	5
Journal of Information Technology	5

We combined the results of the original and user-added journals in the analysis that follows. In the interest of brevity, we present in this paper only the 39 journals with at least 5 responses.

Table 3 shows the status of submitted manuscripts in journals where at least 5 submissions were reported. Journals with 30 or more submissions reported are categorized as HIGH, those with 10 to 30 submissions are termed MEDIUM, while journals with reported submissions between 5 and 9 are termed LOW. Medium and low categories are identified as shaded regions in Table 3. In subsequent discussions, readers are requested to interpret the results for these journals with these categories in mind. For manuscripts with known final status decisions (acceptance or rejection), the percentage of Acceptances/(Acceptances + Rejections) for HIGH, MEDIUM, and LOW categories are 65.4%, 69.7%, and 74.4%, respectively. Note that these percentages do not necessarily indicate the actual acceptance rate for the journals in each of the three categories since there are still manuscripts under review, and survey participants might tend to over or under-report accepted submissions. However, these numbers should implicitly point to the difficulty levels of paper acceptance for journals in different categories.

⁴ Table A4 in Appendix 2 is a complete list of journals added by respondents. This list indicates the wide range of journals to which IS researchers submit their work.

Table 2. The 50 Journals Presented to Users

Journal name (in order of no. of submissions)	No. of Reported Submissions	Journal name (in order of no. of submissions)	No. of Reported Submissions
MIS Quarterly	77	Information Resources Mgmt. Journal	9
Management Science	71	J. of End User Computing	9
Information Systems Research	66	J. of Org. Computing and Electronic Commerce	9
Communications of the ACM	60	Journal of Database Management	8
Decision Support Systems	50	Organization Science	8
European J. of Oper. Res. (EJOR)	49	IEEE Computer	7
IEEE Transactions (various)	48	J. of The Oper. Research Society	7
Information and Management	46	IIE Transactions	6
J. of Management Info. Systems	44	J. of Global Info. Management	6
Operations Research	34	INFOR	5
J. of Computer Information Systems	29	Intl. J. of Technology Management	4
Decision Sciences	28	J. of the Amer. Soc. for Information Science	4
Communications of the AIS	23	Sloan Management Review	4
INFORMS Journal on Computing	19	ACM Computing Surveys	3
Computers and Operations Research	17	Computer Journal	3
The Data Base for Advances in Information Systems	17	J. of Information Technology Mgmt	3
European J. of Information Systems	17	J. of Systems and Software	3
ACM Transactions (various)	15	Harvard Business Review	2
Interfaces (INFORMS)	11	Knowledge Based Systems	2
Intl. J. of Human Computer Studies	11	Human-Computer Interaction	1
Academy of Management Review	10	IBM Systems Journal	1
International Journal of E-Commerce	10	Journal of the ACM	1
Journal of AIS	10	Org. Behavior and Human Decision Proc.	1
J. of Strategic Information Systems	10	Administrative Science Quarterly	0
Academy of Management	9	Intl. Journal of Man-Machine Studies	0

Table 3. Manuscript Status by Journal

Journal Name*	No. of submissions	No. of acceptances	No. of rejections	No. under review
MIS Quarterly	77	16	36	25
Management Science	71	35	13	23
Information Systems Research	66	26	27	13
Communications of the ACM	60	40	13	7
Decision Support Systems	50	30	9	11
European J. of Oper. Res. (EJOR)	49	34	2	13
IEEE Transactions (various)	48	24	10	14
Information and Management	46	19	8	19
J. of Management Info. Systems	44	18	19	7
Operations Research	34	26	5	3
SUM (30 or more submissions)	545	268	142	135
J. of Computer Information Systems	29	21	7	1
Decision Sciences	28	8	14	6
Communications of the AIS	23	17	6	0
INFORMS Journal on Computing	19	9	2	8
Computers and Operations Research	17	9	3	5
European J. of Information Systems	17	7	4	6
The Data Base for Advances in Information Systems	17	6	0	11
ACM Transactions (various)	15	7	3	5
Interfaces (INFORMS)	11	11	0	0
Intl. J. of Human Computer Studies	11	6	3	2
Academy of Management Review	10	5	2	3
International Journal of E-Commerce	10	6	1	3
J. of Strategic Information Systems	10	4	6	0
Journal of AIS	10	6	2	2
SUM (10 to 29 submissions)	227	122	53	52
Academy of Management	9	3	3	3
Information Resources Mgmt. Journal	9	4	1	4
J. of End User Computing	9	8	1	0
J. of Org. Computing and Electronic Commerce	9	7	1	1
Information Systems Journal	8	5	1	2
Journal of Database Management	8	5	2	1
Organization Science	8	4	0	4
IEEE Computer	7	2	5	0
J. of The Oper. Research Society	7	6	0	1
IIE Transactions	6	5	1	0
J. of Global Info. Management	6	4	1	1
Journal of Information Systems Education	6	3	2	1
INFOR	5	3	0	2
J. of Electronic Commerce Research	5	2	3	0
Journal of Information Technology	5	3	1	1
SUM (5 to 9 submissions)	107	64	22	21

*sorted in order of no. of submissions

Although the number of manuscripts submitted do not differ significantly among full, associate and assistant professors, almost 62% of manuscripts from full professors are accepted within 2 rounds of review (Table 4). This number drops to 47% for associate professors and 39% for assistant professors. The rejection figures show a mirror image, with 16%, 22% and 28% respectively. Full, associate and assistant professors report an increasing percentage of papers under review, with Ph.D. students reporting the highest (46%).

Table 5 reports the research methodology of submitted manuscripts, which might be of help to prospective authors as they decide to position and target their own research to different outlets. Note that on an aggregated scale, empirical research is reported by our respondents as the most used research methodology, except in some journals such as Management Science and Operations Research. The percentage of analytical versus empirical is approximately 63.5%, 59.4%, and 67.4% for the three categories, respectively. Note for any manuscript the respondent can report any combination of one or more research methodologies used.

Table 4. Manuscript Status by Job Rank

Job Rank	Manuscripts submitted	Accepted after			Rejected after			Under review
		1 st round	2 nd round	3 or more rounds	1 st round	2 nd round	3 or more rounds	
Full Professor	381	75 (19.69%)	160 (41.99%)	21 (5.51%)	47 (12.34%)	13 (3.41%)	3 (0.79%)	62 (16.27%)
Assoc. Professor	326	55 (16.87%)	97 (29.75%)	34 (10.43%)	57 (17.48%)	14 (4.29%)	4 (1.23%)	65 (19.94%)
Asst. Professor	305	41 (13.44%)	77 (25.25%)	13 (4.26%)	75 (24.59%)	9 (2.95%)	3 (0.98%)	87 (28.52%)
Instructor	10	7 (70.00%)			1 (10.00%)			2 (20.00%)
Ph.D. student	48	8 (16.67%)	10 (20.83%)		2 (4.17%)	5 (10.42%)	1 (2.08%)	22 (45.83%)
Other	33	10 (30.30%)	8 (24.24%)		4 (12.12%)	3 (9.09%)		8 (24.24%)

Table 5. Research Methodology of Submitted Manuscripts

Journal Name	Research Methodology		
	Analytical	Conceptual	Empirical
MIS Quarterly	8	15	50
Management Science	32	8	22
Information Systems Research	17	9	45
Communications of the ACM	13	23	36
Decision Support Systems	12	22	19
European J. of Oper. Res. (EJOR)	27	7	8
IEEE Transactions (various)	17	10	22
Information and Management	6	9	30
J. of Management Info. Systems	11	6	25
Operations Research	22	6	3
SUM	165	115	260
J. of Computer Information Systems	5	6	20
Decision Sciences	10	2	7
Communications of the AIS	2	11	4
INFORMS Journal on Computing	10	4	5
Computers and Operations Research	12	2	1
European J. of Information Systems	2	3	12
The Data Base for Advances in Information Systems	2	3	6

Journal Name	Research Methodology		
	Analytical	Conceptual	Empirical
ACM Transactions (various)	5	5	7
Interfaces (INFORMS)	1	1	5
Intl. J. of Human Computer Studies	1	2	8
Academy of Management Review	2	7	1
International Journal of E-Commerce	2	1	7
J. of Strategic Information Systems	1	4	7
Journal of AIS	2	3	6
SUM	57	54	96
Academy of Management	1	2	4
Information Resources Mgmt. Journal	1	4	5
J. of End User Computing	1	2	4
J. of Org. Computing and Electronic Commerce	2	4	2
Information Systems Journal	2	2	5
Journal of Database Management	4	3	3
Organization Science	0	3	2
IEEE Computer	2	4	1
J. of The Oper. Research Society	4	1	3
IIE Transactions	5	3	2
J. of Global Info. Management	1	0	3
Journal of Information Systems Education	2	2	5
INFOR	4	0	1
J. of Electronic Commerce Research	0	3	3
Journal of Information Technology	2	0	3
SUM	31	33	46

In most cases, manuscripts that are rejected undergo fewer rounds of review than those finally accepted for publication (Table 6). This finding is welcome, as it minimizes the wait for authors before a negative decision is reached. They are able to improve their manuscripts and identify other publication outlets in a timely manner. One notable exception is INFORMS Journal on Computing (under MEDIUM submission category), where the 2 rejected manuscripts reported an average of 2.5 rounds, while the 9 accepted ones took 1.67 rounds. Across the three categories, the structure is remarkably similar in the average number of rounds a manuscript takes before being accepted or rejected, with HIGH journals undergoing 2.06 rounds on average before acceptance, MEDIUM 1.79 and LOW reporting 1.78 rounds on average before acceptance. The figures for rejections vary from 1.21 to 1.3 rounds.

The time for first round of review varies significantly for journals under each category (Table 6). HIGH journals report an average of 6.9 months, MEDIUM about 6 months and LOW about 5.42 months. These figures include manuscripts for which the reviews were completed and reported to the authors, irrespective of the editorial decision after review (accept, reject, or further reviews). The second round reviews suggest a declining time requirement, with values of 4.44, 2.92 and 3.55 for HIGH, MEDIUM and LOW respectively. Further rounds of review require successively less time, naturally. One outlier was a manuscript in Communications of the ACM that reportedly took over 1.5 years after 2nd review. Dropping the outlier, the third and successive reviews require 4.04, 1.67, and 3.14 months for each category respectively. These timelines suggest that successive review times are considerably lower for journals in MEDIUM category, but do not reduce substantially for HIGH or LOW ones.

Table 6. Overall Submission and Review Details

Journal Name	Avg. rounds of review for accepted manuscripts	Avg. rounds of review for rejected manuscripts	Months in 1 st round		Months in 2 nd round		Months in 3 or more rounds	
			Avg. (No. obs.)	Std. Dev.	Avg. (No. obs.)	Std. Dev.	Avg. (No. obs.)	Std. Dev.
MIS Quarterly	2.63	1.42	4.9 (68)	3.70	4.6 (27)	4.37	3.3 (12)	2.26
Management Science	2.29	1.46	7.7 (63)	4.66	5.4 (34)	4.17	5.4 (10)	5.58
Information Systems Research	2.35	1.37	7.1 (61)	4.79	6.9 (31)	5.29	4.9 (12)	4.12
Communications of the ACM	1.60	1.31	5.8 (49)	4.59	3.6 (18)	3.54		
Decision Support Systems	1.77	1.00	6.3 (43)	4.79	4.3 (21)	5.01		
European J. of Oper. Res. (EJOR)	1.82	1.50	5.8 (38)	3.12	4.0 (21)	3.59	2.0 (3)	0.00
IEEE Transactions (various)	2.13	1.20	9.4 (38)	7.01	4.3 (24)	3.26	1.5 (4)	2.00
Information and Management	1.74	1.00	8.5 (26)	5.10	3.3 (12)	2.26	9.0 (1)	
J. of Management Info. Systems	2.11	1.11	4.5 (41)	3.19	2.8 (19)	1.34	1.6 (4)	0.75
Operations Research	2.15	1.60	9.1 (32)	5.97	5.3 (21)	3.51	4.6 (5)	5.81
MEAN – High submissions	2.06	1.30	6.90		4.44		4.04	
Std. Deviation	0.32	0.21	1.71		1.17		7.06	
J. of Computer Information Systems	1.33	1.00	3.3 (23)	2.85	2.2 (5)	1.44		
Decision Sciences	2.00	1.14	6.9 (25)	4.09	2.1 (7)	1.18		
Communications of the AIS	1.59	1.00	2.7 (20)	5.11	1.1 (10)	1.30		
INFORMS Journal on Computing	1.67	2.50	6.0 (15)	3.79	4.1 (7)	2.51	4.5 (1)	
Computers and Operations Research	1.67	1.67	5.8 (12)	3.03	3.5 (5)	1.37	0.5 (1)	
European J. of Information Systems	2.00	1.00	6.3 (13)	3.11	3.0 (6)	1.73		
The Data Base for Advances in Information Systems	2.00		6.3 (13)	4.04	5.6 (6)	2.82		
ACM Transactions (various)	2.00	1.67	10.7 (11)	6.99	3.5 (5)	1.37	2.0 (3)	0.00
Interfaces (INFORMS)	1.45		5.9 (10)	2.93	3.3 (4)	1.44		
Intl. J. of Human Computer Studies	1.83	1.33	7.2 (9)	2.76	3.5 (5)	1.37	0.5 (1)	
Academy of Management Review	2.00	1.00	4.9 (5)	2.53	2.8 (3)	1.44	2.0 (1)	
International Journal of E-Commerce	2.00	1.00	4.8 (9)	4.49	2.5 (5)	1.12	0.5 (1)	
J. of Strategic Information Systems	1.50	1.00	9.9 (9)	8.92	2.0 (2)	0.00		
Journal of AIS	2.00	1.00	3.2 (9)	1.58	1.8 (6)	0.61		
MEAN – Medium submissions	1.79	1.28	5.99		2.92		1.67	
Std. Deviation	0.25	0.46	2.30		1.13		1.57	
Academy of Management	2.00	1.00	3.9 (5)	3.05	2.5 (2)	2.83	4.5 (1)	
Information Resources Mgmt. Journal	2.00	1.00	4.9 (5)	2.53	3.7 (3)	1.44	2.0 (1)	
J. of End User Computing	1.63	2.00	5.7 (9)	4.08	2.5 (5)	1.12	2.0 (1)	
J. of Org. Computing and Electronic Commerce	2.00	1.00	4.1 (8)	2.33	5.1 (5)	5.64	9.0 (1)	
Information Systems Journal	2.00	1.00	3.4 (8)	4.88	2.8 (5)	3.55		
Journal of Database Management	2.00	1.00	2.6 (4)	1.25	2.0 (2)	0.00	0.5 (1)	
Organization Science	2.00		7.9 (5)	4.98	3.8 (4)	3.50		
IEEE Computer	1.00	1.00	5.6 (6)	2.82				
J. of The Oper. Research Society	1.83		4.8 (7)	2.08	1.3 (4)	0.87		
IIE Transactions	1.80	1.00	6.3 (6)	3.06	3.3 (2)	1.77	2.0 (1)	
J. of Global Info. Management	1.50	2.00	3.3 (6)	1.37	6.0 (3)	2.60		
Journal of Information Systems Education	1.67	1.50	4.6 (5)	5.81	5.8 (3)	7.97		

Journal Name	Avg. rounds of review for accepted manuscripts	Avg. rounds of review for rejected manuscripts	Months in 1 st round		Months in 2 nd round		Months in 3 or more rounds	
			Avg. (No. obs.)	Std. Dev.	Avg. (No. obs.)	Std. Dev.	Avg. (No. obs.)	Std. Dev.
INFOR	2.00		11.4 (5)	8.26	7.0 (4)	6.27		
J. of Electronic Commerce Research	2.00	1.00	8.3 (4)	4.97	2.0 (1)		2.0 (1)	
Journal of Information Technology	1.33	1.00	4.5 (5)	4.15	2.0 (1)			
MEAN – Low submissions	1.78	1.21	5.42		3.55		3.14	
Std. Deviation	0.31	0.40	2.30		1.77		2.84	

Figures A1 through A3 in Appendix III illustrate the percentage of time spent in each round of review for each journal in the three categories. As expected, the first round of review consumes the greatest portion of the total review time. Manuscripts undergoing three or more rounds occur more often for journals in the HIGH category than in MEDIUM or LOW category. Most of these third or more round review times are a significant fraction of the total review time. Figure 2 shows the actual time taken for each round of review for all journals in the three categories.

Within each journal, the times under review show large deviations. From a process control perspective, the data suggest that the review times vary widely. The implication that may be drawn is that editors who want to achieve a time-balanced outcome should exert more control on review timeliness.

The perceived quality of reviews are similar across different categories (Table 7), averaging about 4.5 on a 7 point scale, with authors reporting marginally higher quality reviews from MEDIUM journals. However, the variability of review quality is slightly higher in MEDIUM and LOW compared to the HIGH category. Within each journal, there is a wide variation of the perceived review quality. The nature of variability of review quality is similar to the variability of the time under review; however it is difficult to interpret variations of author perceptions of reviews of their manuscripts accurately.

The responsiveness of the editorial offices to author queries is also similar across different categories, with MEDIUM (4.85) marginally better than HIGH (4.40) and LOW (4.63) (Table 8). The delay between a manuscript's acceptance and publication also shows a similar pattern, with HIGH requiring 10.7 months, and MEDIUM and LOW requiring 7.73 and 8.12 months respectively. This is possibly a partial function of the number of submissions in the different journal categories. The delay is generally quite high across journals. Since delay in publication and dissemination of research knowledge creates a lag in new research ideas and productivity, journal editors may look into various methods to reduce the publication delay. Appendix 2 provides additional ranked lists on various review process metrics. Table A1 shows journal names ordered by the percentage of research methodology of each paper submitted to that journal. Table A2 presents the journals listed in order of review quality, editorial office responsiveness and publication delay, while Table A3 lists journals ordered by their average review time in each round.

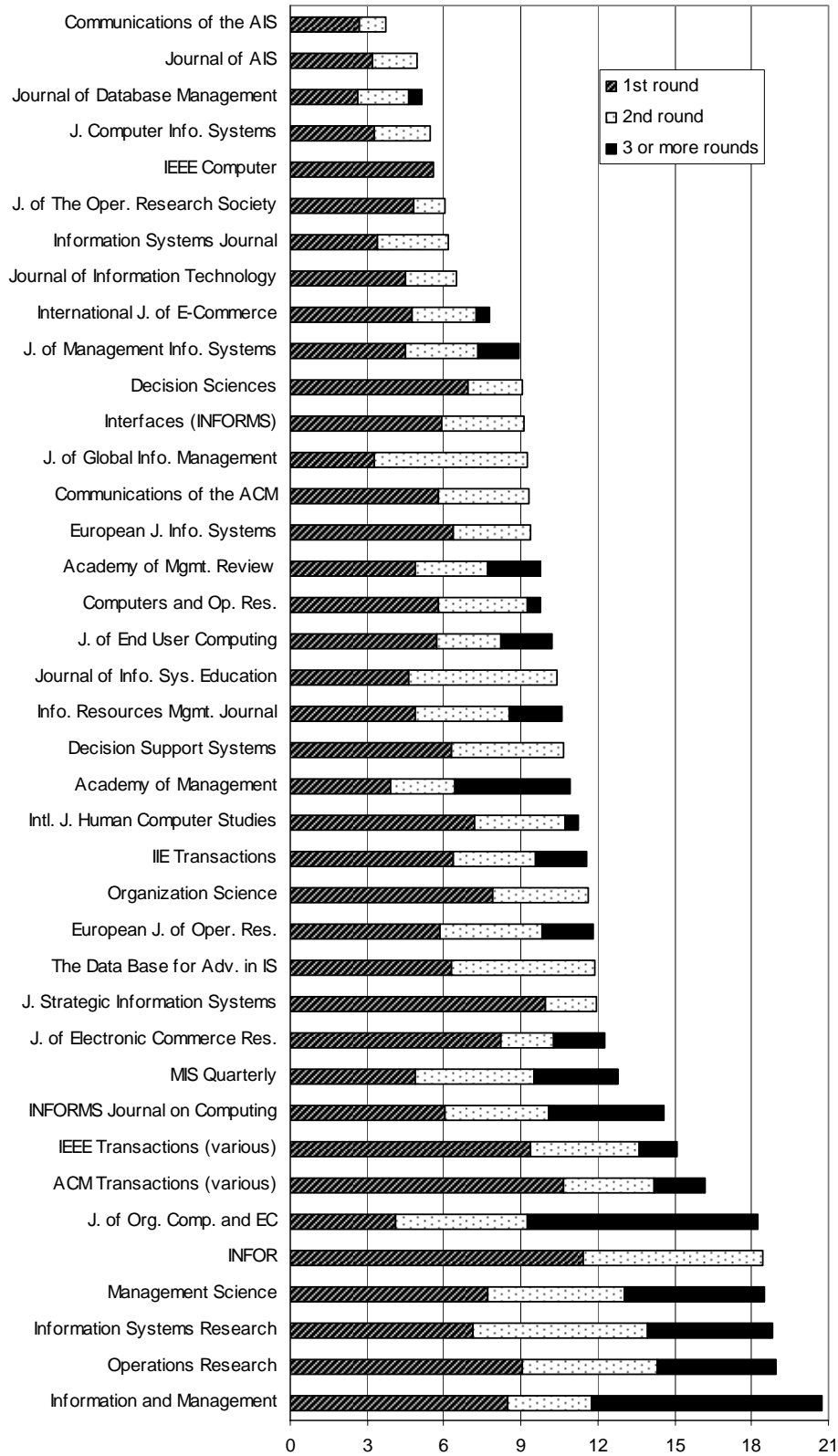


Figure 2. Time Spent in Review Process (months)

Table 7. Journal Review Statistics

Journal Name	Review Quality (scale 1 to 7, 1 is lowest)		Editorial Office Responsiveness (scale 1 to 7, 1 is lowest)		Publication Delay (months)	
	Avg.	Std. Dev.	Avg.	Std. Dev.	Avg.	Std. Dev.
MIS Quarterly	4.88	1.92	5.00	1.79	6.67	5.12
Management Science	4.97	1.73	4.77	2.10	10.72	9.04
Information Systems Research	4.84	1.76	3.78	2.07	9.33	8.50
Communications of the ACM	3.74	1.53	4.16	2.04	13.73	8.42
Decision Support Systems	4.02	2.01	3.98	2.27	9.42	7.43
European J. of Oper. Res. (EJOR)	4.40	1.70	4.31	2.33	16.17	9.36
IEEE Transactions (various)	4.20	1.94	4.04	2.12	9.75	5.98
Information and Management	4.23	1.75	4.26	1.92	8.92	5.62
J. of Management Info. Systems	4.39	1.88	4.64	2.11	5.92	2.15
Operations Research	4.85	1.68	5.03	2.23	16.02	8.71
MEAN – High submissions	4.45		4.40		10.66	
Std. Deviation	0.42		0.44		3.56	
J. of Computer Information Systems	4.44	1.74	5.89	1.63	5.84	2.64
Decision Sciences	3.26	2.30	3.44	2.28	4.25	2.75
Communications of the AIS	5.00	1.73	6.04	1.46	1.50	0.00
INFORMS Journal on Computing	5.24	1.64	5.47	1.74	8.33	6.23
Computers and Operations Research	3.88	2.19	4.38	2.25	9.00	4.50
European J. of Information Systems	3.19	2.01	4.50	1.67	9.75	10.34
The Data Base for Advances in Information Systems	4.50	1.51	3.56	2.00	8.06	4.94
ACM Transactions (various)	5.15	1.63	4.31	2.69	12.21	5.64
Interfaces (INFORMS)	5.73	1.10	5.73	2.10	15.67	11.48
Intl. J. of Human Computer Studies	4.60	1.07	3.90	1.79	6.25	3.21
Academy of Management Review	5.86	0.69	5.43	1.90	9.50	8.26
International Journal of E- Commerce	4.89	1.62	5.33	1.12	7.75	5.80
J. of Strategic Information Systems	4.30	1.57	4.20	1.93	7.88	2.25
Journal of AIS	5.00	2.18	5.78	1.20	2.25	1.50
MEAN – Medium submissions	4.64		4.85		7.73	
Std. Deviation	0.80		0.91		3.71	
Academy of Management	4.33	2.34	5.17	2.40	5.25	5.30
Information Resources Mgmt. Journal	4.20	1.92	4.40	2.41	7.50	2.60
J. of End User Computing	4.00	2.24	4.56	2.01	9.21	6.56
J. of Org. Computing and Electronic Commerce	5.11	1.27	5.11	1.83	14.00	9.93
Information Systems Journal	5.43	0.71	6.14	1.41	9.00	0.00
Journal of Database Management	5.00	1.85	4.88	2.36	9.90	4.93
Organization Science	3.50	3.02	3.50	3.21	10.13	5.66
IEEE Computer	3.14	2.12	5.43	1.72	3.00	2.12
J. of The Oper. Research Society	4.86	0.90	2.86	2.27	14.25	5.98
IIE Transactions	5.33	1.21	5.67	1.03	9.00	0.00

J. of Global Info. Management	4.50	2.07	5.17	2.64	5.63	2.25
Journal of Information Systems Education	5.33		5.50		4.50	
INFOR	5.20	1.30	3.80	2.77	13.50	7.79
J. of Electronic Commerce Research	4.80	1.51	4.00	2.35	2.50	1.73
Journal of Information Technology	3.25		3.25		4.50	
MEAN – Low submissions	4.53		4.63		8.12	
Std. Deviation	0.77		0.97		3.87	

Table 8 shows that the number of submissions to a journal does not have a significant relationship with the authors' perceived overall quality of review of the journal or the total review time taken (calculated by adding the average times reported in rounds 1, 2 and more). The review quality is also not correlated with the total review time taken, indicating that the time under review is not generally an indicator of the quality of the review. Both the total review time and the review quality is highly correlated with the responsiveness of the editorial office, suggesting that an active, responsive editorial office reduces the time taken for review and increases the quality of the review. Lastly, we find that the number of submissions has a significant impact on the average rounds of review before a manuscript is accepted. However, a potentially alternate explanation is presented in the next section.

Table 8. Correlations Between Review Process Metrics

No. of submission vs. Review quality	-0.094 (N=39)
No. of submission vs. Total review time	0.220 (N=39)
Review quality vs. Total review time	0.084 (N=39)
Review quality vs. Office responsiveness	0.491** (N=39)
Office responsiveness vs. Total review time	-0.421** (N=39)
No. of submission vs. Avg. rounds of review for accepted manuscripts	0.423** (N=39)

*p<0.05, **p<0.01

IV. COMPARISON WITH JOURNAL RANKING INFORMATION

In this Section we correlate the journal review process (data gathered from our survey) with three recent published journal rankings studies [Walstrom and Hardgrave 2001, Mylonopoulos and Theoharakis 2001, Whitman, et. al. 1999]. Table 9 lists the ranks for the journals that are common to this study and the three ranking studies. The rankings are presented as a basis for examining whether rankings are related to other quantities we measured, such as the number of submissions. Remember that the rankings shown in Table 9 are four to six years old at the time of our survey. Furthermore, the rankings differ in that each considered different sets of journals in their inquiries and, as far as we can tell, did not include all 39 journals that formed the basis for our data. For example, only 16 of our journals surveyed appeared in the Whitman et al. sample, which ranked at least ranks 31 journals. Differences may also involve what was considered an IS journal in each survey.

Table 10 presents the bivariate correlations between some important metrics. It is not surprising that the number of submissions and the average rounds of review are correlated significantly with the journal rankings in all the studies. This result indicates that most authors target the higher ranked journals, and these journals follow a more rigorous review process. This also potentially explains the significant correlations between the number of submissions and the average rounds for accepted manuscripts reported in Section III. However the review time taken (individual rounds or total time) does not show any significant effect, although the direction (sign) suggests that the process takes longer in higher ranked journals. In addition, the review quality does not show a significant relationship with a journal's rank, and in fact the direction (sign) suggests a

Table 9. Journal Ranking Table

Journal Name	Ranking from Walstrom & Hardgrave(2001)	Ranking from Mylonopoulos & Theoharakis(2001)	Ranking from Whitman, et. al. (1999)
MIS Quarterly	1	1	1
Management Science	5	5	2
Information Systems Research	2	3	4
Communications of the ACM	3	2	3
Decision Support Systems	10	9	13
European J. of Oper. Res. (EJOR)		42	
IEEE Transactions (various)	8	6	9
Information and Management	17	10	15
J. of Management Info. Systems	4	4	7
Operations Research	27	43	
J. of Computer Information Systems	29	41	22
Decision Sciences	6	8	5
Communications of the AIS		18	
INFORMS Journal on Computing	32		
Computers and Operations Research			24
European J. of Information Systems	20	11	
The Data Base for Advances in Information Systems	31		
ACM Transactions (various)	7	13	12
Interfaces (INFORMS)	37	39	20
Intl. J. of Human Computer Studies	22	44	
Academy of Management Review	18	22	
International Journal of E-Commerce		23	
J. of Strategic Information Systems	23	20	30
Journal of AIS		30	
Academy of Management	13	17	
Information Resources Mgmt. Journal	33	38	31
J. of End User Computing	34	37	
J. of Org. Computing and Electronic Commerce		31	
Information Systems Journal	28	16	16
Journal of Database Management	30		
Organization Science	11	15	
IEEE Computer		19	
J. of The Oper. Research Society			
IIE Transactions			
J. of Global Info. Management	36		
Journal of Information Systems Education	46	35	
INFOR	43		
J. of Electronic Commerce Research			
Journal of Information Technology			

Table 10. Impact of Rankings on Review Process Metrics

Ranking vs.	Ranking from Walstrom & Hardgrave, [2001]	Ranking from Mylonopoulos & Theoharakis, [2001]	Ranking from Whitman, Hendrickson, and Townsend, [1999]
No. of submissions	-0.724** (N=28)	-0.547** (N=29)	-0.808** (N=16)
Review quality	0.357 (N=28)	0.266 (N=29)	0.007 (N=16)
Avg. rounds of review for accepted manuscripts	-0.529** (N=28)	-0.376* (N=29)	-0.633** (N=16)
Avg. rounds of review for rejected manuscripts	0.274 (N=24)	0.179 (N=27)	-0.357 (N=15)
Avg. total review time	-0.080 (N=28)	-0.155 (N=29)	-0.230 (N=16)
1 st round review time	-0.170 (N=28)	-0.199 (N=29)	-0.051 (N=16)
2 nd round review time	0.139 (N=28)	-0.089 (N=28)	-0.498* (N=16)
3 or more rounds review time	-0.326 (N=16)	-0.340 (N=17)	-0.352 (N=10)
Editorial office responsiveness	0.385* (N=28)	0.331 (N=29)	0.243 (N=16)
Publication delay	0.035 (N=28)	0.147 (N=29)	-0.045 (N=16)

*p<0.05, **p<0.01

lower review quality for higher ranked journals. Another interesting observation was that the editorial office of a lower ranked journal is more responsive than that of a higher ranked journal, which is statistically significant for one study, and has the same direction in the other two studies.

V. LIMITATIONS AND CONCLUDING REMARKS

LIMITATIONS

As in all survey research, potential bias and under/over reporting from participants are possible. Respondents were asked to recollect submitted research over a five year period. Further, we do not consider possible journal management changes or new journals within this time period.

We recognize that the data are not valid for computing acceptance rates of journals. Journals such as Management Science and ISR report acceptance rates below 20%, and in some years below 10%. Yet the self reported data for these two journals is 40% to 50% (Table 3) based on submissions, and that does not count articles under review, some of which may well yet be accepted. We can only surmise that the self-selected respondents to our survey were successful as authors or were authors who did not want to share data on their failures.

We also recognize that we did not inquire to what extent papers were invited or dealt with subjects other than research (e.g., tutorials, professional issues) or parts of special issues. These conditions may affect the acceptance rate.

CONCLUSIONS

This study surveys factors in the IS journal review process, which is a core component in peer-reviewed knowledge dissemination. This paper is one of the first (if not the first) that reports actual experience on these factors, and further correlates these factors with rankings of journals from various published studies. Our results are based on 307 authors who underwent the review process in a broad list of journals in the last 5 years. Results from this research provide a

knowledge repository of crucial information on various review process metrics to prospective authors, and should aid them in targeting their research to appropriate outlets. We believe that our results will enrich the knowledge of the IS community and facilitate their professional advancement. This study may also be used by journal editorial offices as a benchmark vis-à-vis their peers to improve their efficiency and their effectiveness in the common goal of knowledge sharing.

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APPENDIX I: SURVEY QUESTIONNAIRE SNAPSHOTS

The screenshot shows a web browser window titled "Survey of IS Journal Reviews - Microsoft Internet Explorer". The page content is as follows:

Demographic Information:

Highest Degree Obtained: Doctorate Masters Bachelor Other

Current Job Position: Full Professor Associate Professor Assistant Professor Instructor Ph.D. Student Other

Working in Ph.D. Granting Institution?: Yes No

Years of Academic IS Experience: >20 10-20 6-10 1-5 None

Years of Industrial IS Experience: >20 10-20 6-10 1-5 None

Geographic Location: North America Europe Asia Australia/New Zealand Other

At the bottom of the form is a "Continue" button.

Survey of IS Journal Reviews - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Based on your recollection in the past 5 years, please answer the following for EACH manuscript submission:
(A paper rejected by one journal and later submitted to another journal counts as two different submissions)

Journal name:	Please select from list <input type="text"/>		
	If Other, please specify: <input type="text"/>		
Research methodology: (Check all that apply)	<input type="checkbox"/> Analytical <input type="checkbox"/> Empirical <input type="checkbox"/> Conceptual		
Manuscript Status: (Please select one radio button below and choose related times.)	Time Taken: (Please do not include time paper has been with you for revising)		
<input type="radio"/> Under 1st review	Currently under 1st review for <input type="text"/>		
<input type="radio"/> Accepted after 1st review	1st review completed in <input type="text"/>		
<input type="radio"/> Rejected after 1st review	1st review completed in <input type="text"/>		
<input type="radio"/> Revising after 1st review	1st review completed in <input type="text"/>		
<input type="radio"/> Under 2nd review	1st review completed in <input type="text"/>	Currently under 2nd review for <input type="text"/>	
<input type="radio"/> Accepted after 2nd review	1st review completed in <input type="text"/>	2nd review completed in <input type="text"/>	
<input type="radio"/> Rejected after 2nd review	1st review completed in <input type="text"/>	2nd review completed in <input type="text"/>	
<input type="radio"/> Revising after 2nd review	1st review completed in <input type="text"/>	2nd review completed in <input type="text"/>	
<input type="radio"/> Under more reviews	1st review completed in <input type="text"/>	2nd review completed in <input type="text"/>	Currently under more reviews for <input type="text"/>
<input type="radio"/> Accepted after more reviews	1st review completed in <input type="text"/>	2nd review completed in <input type="text"/>	More reviews completed in <input type="text"/>
<input type="radio"/> Rejected after more reviews	1st review completed in <input type="text"/>	2nd review completed in <input type="text"/>	More reviews completed in <input type="text"/>
<input type="radio"/> Revising after more reviews	1st review completed in <input type="text"/>	2nd review completed in <input type="text"/>	More reviews completed in <input type="text"/>
Overall Quality of Reviews: (Based on completeness, soundness and usefulness.)	<input type="text"/>	Comments: <input type="text"/>	
Responsiveness of Editorial Office:	<input type="text"/>	Comments: <input type="text"/>	
If Accepted, Time between Acceptance and Publication:	<input type="text"/>	If not yet published, please choose time from acceptance date and then check here: <input type="checkbox"/>	
<input type="button" value="Save Your Response"/>		<input type="button" value="Check Responses So Far"/>	

APPENDIX II. RANKED LISTS BASED ON VARIOUS METRICS

Table A1. Journals Ordered by Research Methodology of Manuscripts Submitted

Rank	Analytical	Conceptual	Empirical
1	Computers and Operations Research	Academy of Management Review	J. of Global Info. Management
2	INFOR	Communications of the AIS	Intl. J. of Human Computer Studies
3	Operations Research	Organization Science	Interfaces (INFORMS)
4	European J. of Oper. Res. (EJOR)	IEEE Computer	European J. of Information Systems
5	Decision Sciences	J. of Electronic Commerce Research	International Journal of E-Commerce
6	INFORMS Journal on Computing	J. of Org. Computing and Electronic Commerce	MIS Quarterly
7	Management Science	Decision Support Systems	Information and Management
8	IIE Transactions	Information Resources Mgmt. Journal	J. of Computer Information Systems
9	J. of The Oper. Research Society	J. of Strategic Information Systems	Information Systems Research
10	Journal of Database Management	Communications of the ACM	Journal of Information Technology
11	Journal of Information Technology	IIE Transactions	J. of Management Info. Systems
12	IEEE Transactions (various)	Journal of Database Management	J. of Strategic Information Systems
13	ACM Transactions (various)	ACM Transactions (various)	Academy of Management
14	IEEE Computer	Academy of Management	J. of End User Computing
15	J. of Management Info. Systems	J. of End User Computing	Information Systems Journal
16	J. of Global Info. Management	Journal of AIS	Journal of Information Systems Education
17	J. of Org. Computing and Electronic Commerce	The Data Base for Advances in Information Systems	Journal of AIS
18	Information Systems Research	Information Systems Journal	The Data Base for Advances in Information Systems
19	Decision Support Systems	Journal of Information Systems Education	Communications of the ACM
20	Information Systems Journal	INFORMS Journal on Computing	Information Resources Mgmt. Journal
21	Journal of Information Systems Education	MIS Quarterly	J. of Electronic Commerce Research
22	Academy of Management Review	IEEE Transactions (various)	IEEE Transactions (various)
23	International Journal of E-Commerce	Information and Management	ACM Transactions (various)
24	Journal of AIS	J. of Computer Information Systems	Organization Science
25	The Data Base for Advances in Information Systems	Operations Research	J. of The Oper. Research Society
26	Communications of the ACM	Intl. J. of Human Computer Studies	Decision Sciences
27	J. of Computer Information Systems	European J. of Information Systems	Decision Support Systems
28	Academy of Management	European J. of Oper. Res. (EJOR)	Management Science
29	Interfaces (INFORMS)	Interfaces (INFORMS)	Journal of Database Management
30	J. of End User Computing	J. of Management Info. Systems	INFORMS Journal on Computing
31	Information and Management	Computers and Operations Research	J. of Org. Computing and Electronic Commerce
32	Communications of the AIS	Management Science	Communications of the AIS
33	European J. of Information Systems	Information Systems Research	IIE Transactions
34	MIS Quarterly	J. of The Oper. Research Society	INFOR
35	Information Resources Mgmt. Journal	Decision Sciences	European J. of Oper. Res. (EJOR)
36	Intl. J. of Human Computer Studies	International Journal of E-Commerce	IEEE Computer
37	J. of Strategic Information Systems	INFOR	Academy of Management Review
38	J. of Electronic Commerce Research	J. of Global Info. Management	Operations Research
39	Organization Science	Journal of Information Technology	Computers and Operations Research

* calculated as the percentage of research methodology for each journal (as reported in Table 6)

Table A2. Journals Ordered by Review Statistics

Rank	Review Quality*	Editorial Office Responsiveness ^b	Publication Delay [#]
1	Academy of Management Review	Information Systems Journal	Communications of the AIS
2	Interfaces (INFORMS)	Communications of the AIS	Journal of AIS
3	Information Systems Journal	J. of Computer Information Systems	J. of Electronic Commerce Research
4	IIE Transactions	Journal of AIS	IEEE Computer
5	Journal of Information Systems Education	Interfaces (INFORMS)	Decision Sciences
6	INFORMS Journal on Computing	IIE Transactions	Journal of Information Systems Education
7	INFOR	Journal of Information Systems Education	Journal of Information Technology
8	ACM Transactions (various)	INFORMS Journal on Computing	Academy of Management
9	J. of Org. Computing and Electronic Commerce	Academy of Management Review	J. of Global Info. Management
10	Communications of the AIS	IEEE Computer	J. of Computer Information Systems
11	Journal of AIS	International Journal of E-Commerce	J. of Management Info. Systems
12	Journal of Database Management	Academy of Management	Intl. J. of Human Computer Studies
13	Management Science	J. of Global Info. Management	MIS Quarterly
14	International Journal of E-Commerce	J. of Org. Computing and Electronic Commerce	Information Resources Mgmt. Journal
15	MIS Quarterly	Operations Research	International Journal of E-Commerce
16	J. of The Oper. Research Society	MIS Quarterly	J. of Strategic Information Systems
17	Operations Research	Journal of Database Management	The Data Base for Advances in Information Systems
18	Information Systems Research	Management Science	INFORMS Journal on Computing
19	J. of Electronic Commerce Research	J. of Management Info. Systems	Information and Management
20	Intl. J. of Human Computer Studies	J. of End User Computing	Computers and Operations Research
21	J. of Global Info. Management	European J. of Information Systems	IIE Transactions
22	The Data Base for Advances in Information Systems	Information Resources Mgmt. Journal	Information Systems Journal
23	J. of Computer Information Systems	Computers and Operations Research	J. of End User Computing
24	European J. of Oper. Res. (EJOR)	ACM Transactions (various)	Information Systems Research
25	J. of Management Info. Systems	European J. of Oper. Res. (EJOR)	Decision Support Systems
26	Academy of Management	Information and Management	Academy of Management Review
27	J. of Strategic Information Systems	J. of Strategic Information Systems	European J. of Information Systems
28	Information and Management	Communications of the ACM	IEEE Transactions (various)
29	IEEE Transactions (various)	IEEE Transactions (various)	Journal of Database Management
30	Information Resources Mgmt. Journal	J. of Electronic Commerce Research	Organization Science
31	Decision Support Systems	Decision Support Systems	Management Science
32	J. of End User Computing	Intl. J. of Human Computer Studies	ACM Transactions (various)
33	Computers and Operations Research	INFOR	INFOR
34	Communications of the ACM	Information Systems Research	Communications of the ACM
35	Organization Science	The Data Base for Advances in Information Systems	J. of Org. Computing and Electronic Commerce
36	Decision Sciences	Organization Science	J. of The Oper. Research Society
37	Journal of Information Technology	Decision Sciences	Interfaces (INFORMS)
38	European J. of Information Systems	Journal of Information Technology	Operations Research
39	IEEE Computer	J. of The Oper. Research Society	European J. of Oper. Res. (EJOR)

* better rank signifies higher review quality.

^b better rank signifies faster editorial office responsiveness.

[#] better rank signifies shorter publication delay.

Table A3. Journals Ordered by Average Review Time*

Rank	Round 1	Round 2	Round 3
1	Journal of Database Management	IEEE Computer	Communications of the ACM
2	Communications of the AIS	Communications of the AIS	Communications of the AIS
3	Journal of AIS	J. of The Oper. Research Society	Decision Sciences
4	J. of Computer Information Systems	Journal of AIS	Decision Support Systems
5	J. of Global Info. Management	J. of Electronic Commerce Research	European J. of Information Systems
6	Information Systems Journal	J. of Strategic Information Systems	IEEE Computer
7	Academy of Management	Journal of Database Management	INFOR
8	J. of Org. Computing and Electronic Commerce	Journal of Information Technology	Information Systems Journal
9	J. of Management Info. Systems	Decision Sciences	Interfaces (INFORMS)
10	Journal of Information Technology	J. of Computer Information Systems	J. of Computer Information Systems
11	Journal of Information Systems Education	Academy of Management	J. of Global Info. Management
12	International Journal of E-Commerce	International Journal of E-Commerce	J. of Strategic Information Systems
13	J. of The Oper. Research Society	J. of End User Computing	J. of The Oper. Research Society
14	Academy of Management Review	Academy of Management Review	Journal of AIS
15	Information Resources Mgmt. Journal	Information Systems Journal	Journal of Information Systems Education
16	MIS Quarterly	J. of Management Info. Systems	Journal of Information Technology
17	IEEE Computer	European J. of Information Systems	Organization Science
18	J. of End User Computing	IIE Transactions	The Data Base for Advances in Information Systems
19	Communications of the ACM	Information and Management	Computers and Operations Research
20	Computers and Operations Research	Interfaces (INFORMS)	International Journal of E-Commerce
21	European J. of Oper. Res. (EJOR)	ACM Transactions (various)	Intl. J. of Human Computer Studies
22	Interfaces (INFORMS)	Computers and Operations Research	Journal of Database Management
23	INFORMS Journal on Computing	Intl. J. of Human Computer Studies	IEEE Transactions (various)
24	Decision Support Systems	Communications of the ACM	J. of Management Info. Systems
25	European J. of Information Systems	Information Resources Mgmt. Journal	Academy of Management Review
26	IIE Transactions	Organization Science	ACM Transactions (various)
27	The Data Base for Advances in Information Systems	European J. of Oper. Res. (EJOR)	European J. of Oper. Res. (EJOR)
28	Decision Sciences	INFORMS Journal on Computing	IIE Transactions
29	Information Systems Research	Decision Support Systems	Information Resources Mgmt. Journal
30	Intl. J. of Human Computer Studies	IEEE Transactions (various)	J. of Electronic Commerce Research
31	Management Science	MIS Quarterly	J. of End User Computing
32	Organization Science	J. of Org. Computing and Electronic Commerce	MIS Quarterly
33	J. of Electronic Commerce Research	Operations Research	Academy of Management
34	Information and Management	Management Science	INFORMS Journal on Computing
35	Operations Research	The Data Base for Advances in Information Systems	Operations Research
36	IEEE Transactions (various)	Journal of Information Systems Education	Information Systems Research
37	J. of Strategic Information Systems	J. of Global Info. Management	Management Science
38	ACM Transactions (various)	Information Systems Research	Information and Management
39	INFOR	INFOR	J. of Org. Computing and Electronic Commerce

* better rank signifies faster review time

Table A4. Journals Added by Survey Respondents

Journal name (in order of no. of submissions)	No.	Journal name (in order of no. of submissions)	No.	Journal name (in order of no. of submissions)	No.
Information Systems Journal	8	J.of Requirements Engrg.	1	Environmental Mgmt.	1
Journal of Information Systems Education	6	Malaysian Management Journal	1	European Management Journal	1
J. of Electronic Commerce Research	5	Mathematics of Operations Research	1	Expert Systems with Applications	1
Journal of Information Technology	5	Review of Business Information Systems	1	Forest Science	1
Industrial Management and Data Systems	4	Scandinavian Journal of Information Systems	1	Fuzzy Optimization and Decision Making	1
Omega: The Intl.Journal of Management Science	4	Small Group Research	1	Group Decision and Negotiation	1
Data and Knowledge Engineering	3	Transportation Science	1	Health Informatics Journal	1
Electronic Markets	3	Wirtschaftsinformatik	1	Human Systems Mgmt. t	1
Information Technology and People	3	Academy of Information and Management Science	1	ICEB (Hong Kong)	1
Innovation: Management, Policy & Practice	3	AIS Conference Proceedings	1	IEEE Annals of the History of Computing	1
Int. J. on Artificial Intelligence in Education	3	Artificial Intelligence Review	1	IEEE Intelligent Systems	1
International Journal of Production Economics	3	Australian Journal of IS	1	IEEE Software	1
Knowledge and Process Management	3	California Management Review	1	Info.Processing Letters	1
Operations Research Letters	3	Can. J.of Admin. Sciences	1	Information Society	1
System Dynamics Review	3	CIO Russia	1	Info. Systems Educators Journal	1
Applied Soft Computing	2	Communications of the IIMA	1	Information Systems Frontiers	1
Information and Organization	2	Computer & Education	1	Information Systems Management	1
Journal of Information and Software Technology	2	Computer Networks	1	Info. Technology, Learning, &Performance	1
Information Sciences	2	Computer Supported Cooperative Work	1	Informs Transaction on Education	1
Information Systems and e-Business Management	2	Computers and Education	1	Int J of Intelligent Sys-tems in Acct, Finance	1
Information Technology and Management	2	Computers in Human Behavior	1	Int Journal of Electronic Business	1
Informing Science:	2	Constraints	1	Interacting with Computers	1
International Journal of Information Management	2	Decision Sciences Journal of Innovative Education	1	International Journal of Electronic Commerce	1
Internet Research	2	Electronic Commerce Quarterly	1	International Journal of Logistics Information Man	1
J. of Information Systems Education	2	Electronic Commerce Research and Applications	1	International Journal of Media Management	1
JITTA	2	Electronic Commerce Research Journal	1	International Journal of Mobile Communications	1
International Journal of Operations and Production	1	Journal of Leadership Studies	1	The Information Society	1
International Journal of Public Administration	1	Journal of Management (JoM)	1	The J. of Scholarship of Teaching and Learning	1
International Journal of Uncertainty (IJUFKS)	1	Journal of Manufacturing Systems	1	University of Auckland Business Review	1

Internet Research for Networking and Policy	1	Journal of Multi-Criteria Decision Analysis	1	User Modeling and User-Adapted Interaction	1
Intl J of e-Learning	1	Journal of Organizational Dynamics	1	Utah Valley State College School of Business J.	1
Intl J of Information Management	1	Journal of Political Economy	1	VLDB Journal	1
Issues in Information Systems	1	Journal of Small Business Management	1		
IT & People	1	Journal of Strategic E-Commerce	1		
IT for Development	1	Journal on Mobile Networks and Applications	1		
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J. of Business and Behavioral Sciences	1	Knowledge Management Research & Practice	1		
J. of Education for Business	1	Law Office Economics and Management	1		
J. of Heuristics	1	M@nagement	1		
JITCA	1	Malaysian Journal of IS and Libra	1		
Journal d le société de management et information	1	Mathematical Methods of Operations Research	1		
J. of Information Technology Theory and Applications	1	Medical Decision Making	1		
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Journal of Accounting and Finance Research	1	Public Administration and Management	1		
Journal of Applied Management and Entrepreneurship	1	Public Policy and Management Review	1		
Journal of Australian Information Systems	1	Quarterly Journal of Electronic Commerce	1		
Journal of Biomedical Informatics	1	Revue Internationale en Gestion et Management de Paris	1		
Journal of Business Systems Research	1	SIAM Journal on Discrete Mathematics	1		
Journal of Combinatorial Theory (series B)	1	Siam Journal on Optimization	1		
Journal of Environmental Management	1	Simulation Practice and tTheory	1		
Journal of graph algorithms and applications	1	Telecommunication Systems	1		
Journal of Informatics Education and Research	1	Tetradia Analysis dDedomenon	1		

APPENDIX III. REVIEW STATISTICS

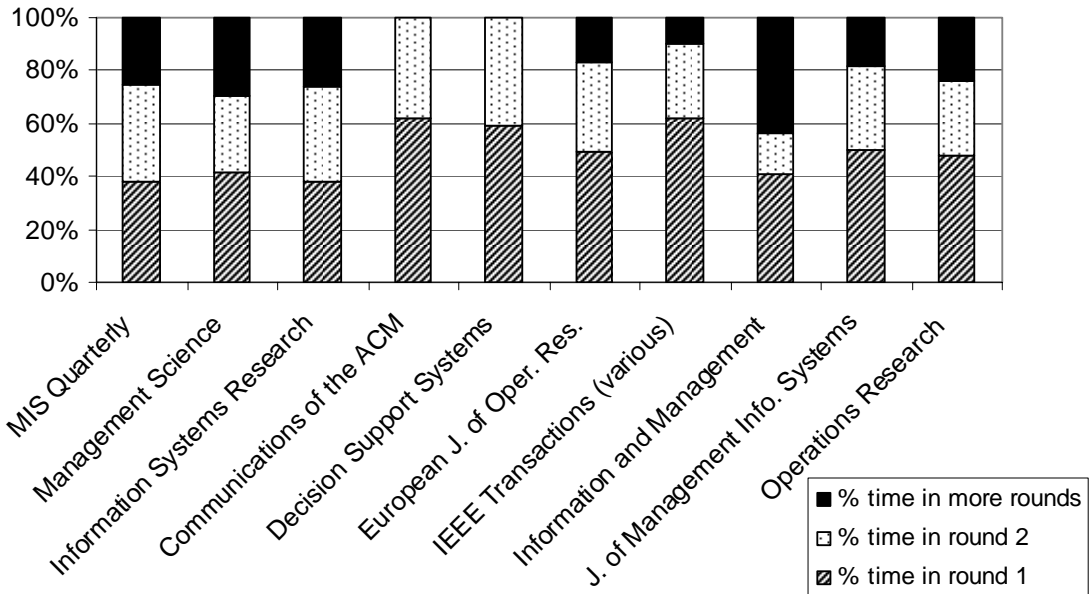


Figure A-1. Percentage of Time in Each Round of Review: High Category

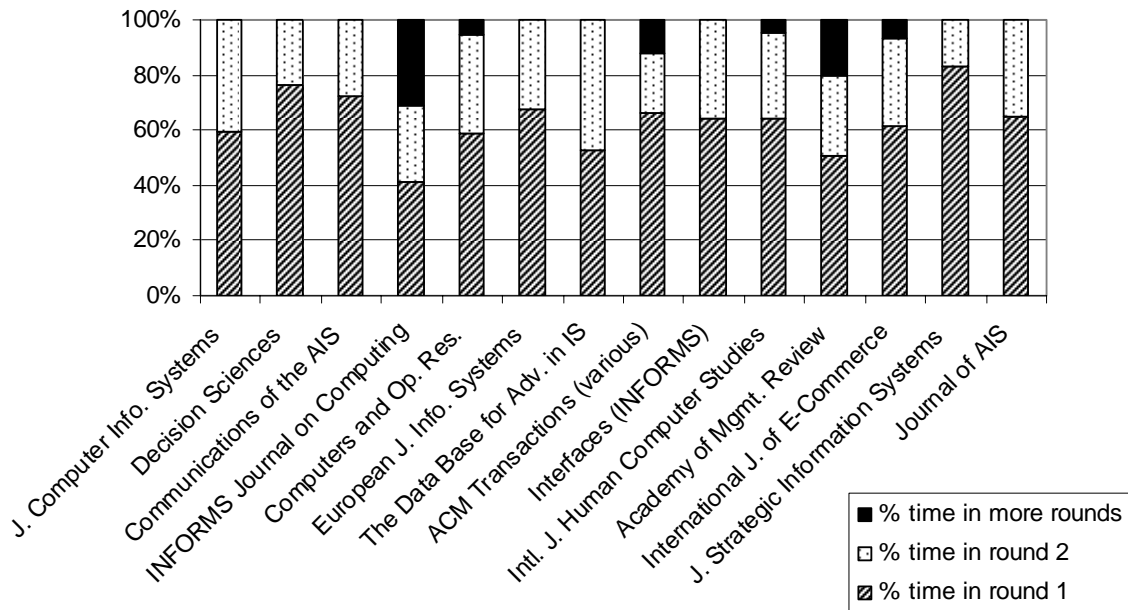


Figure A-2. Percentage of Time in Each Round of Review: Medium Category

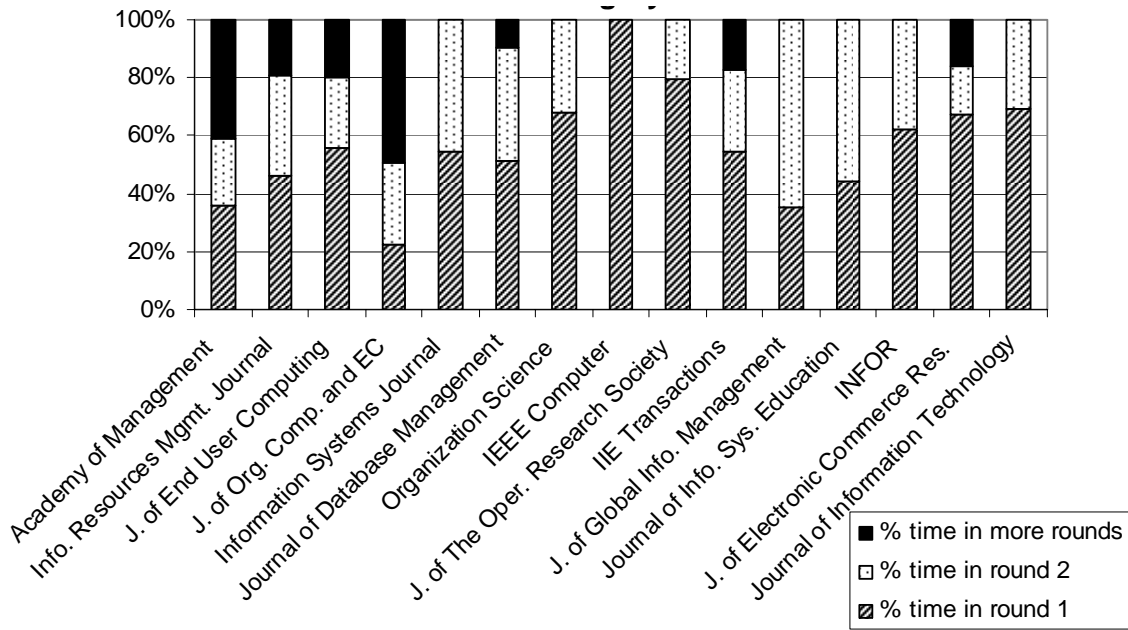


Figure A-3. Percentage of Time in Each Round of Review: Low Category

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LETTER TO THE EDITOR

IN SEARCH OF A NEW EDITORIAL PROCESS FOR IS RESEARCH PAPERS

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August 14, 2004

INTRODUCTION

“*Survival is not mandatory*” W.E. Deming⁵.

A colleague recently remarked that the impact factor of the *Communications of the AIS (CAIS)* is higher than that of the *Journal of the AIS (JAIS)*. He qualified the remark by stating somewhat depreciatingly, “but after all *CAIS* also publishes more articles”. This qualification seemed a bit puzzling, as it suggested that more knowledge output was a bad thing.

Shortly thereafter, Bhattacharjee et al. [2004] published an analysis of the review cycles of several IS journals. As expected, journals typically required about a year to accept articles (not considering the additional time taken from acceptance to publication), and showed considerable variance in their cycle times. Few journals were able to accept articles in less than 6 months, fastest among them being *CAIS*.

So the evidence seemed clear. *CAIS* apparently rushed articles through its review process. Speed, high volume, and little scrutiny. A formula for mediocrity? Or not? The *CAIS* ratings, after all, told a different story. All three recent reviews of IS and E-commerce journals ranked *CAIS* considerably ahead of *JAIS* [Peffer and Tang, 2003; Bharanti and Tarasewich, 2002; Mylonopoulos, and Theoharakis, 2001], and as high as fifth among all IS research journals [Peffer and Tang, 2003].

An interview I conducted with Jimmy Wales, the founder of the Wikipedia, offered a better explanation for the success of the *CAIS*. Wales (a former options trader turned Internet

⁵ This phrase was coined by W.E. Deming, in response to a comment about the difficulty of affecting long term change. Deming replied, “It is not necessary to change. Survival is not mandatory.” [Orsini, 2000].

entrepreneur and creator of highly popular webring) organized a volunteer-built encyclopedia that eventually became the Wikipedia. The Wikipedia is the world's largest online encyclopedia, with more than twice the size of the nearest competitor, Encyclopedia Britannica, and more than five times its readership. Wales explained that the Wikipedia originated from another project, the Nupedia. The Nupedia vision had been to develop a free web based encyclopedia, developed by a community of volunteers with special expertise. The Nupedia process used extensive editorial reviews with up to eight review "hurdles" to produce high quality articles. Eighteen months and 250,000 dollars later, less than 20 articles were accepted. At that time, Wales and co-founder Sanger, an academic with a PhD in Philosophy who had been hired by Wales as the Nupedia "chief editor", decided to create another encyclopedia that allowed any volunteer to write articles, which would be immediately published without a refereeing process. Articles could be subsequently edited by any other community member, again without higher level scrutiny. As this encyclopedia was implemented in wiki software [Leuf and Cunningham, 2001; Wagner, 2004], it became the Wikipedia. The Nupedia community was skeptical about the Wikipedia when it went online in January 2001. Seemingly built on an anarchic process, without quality assurance and without protection against vandals, the Wikipedia seemed destined to fail.

The opposite occurred. Within the first two months, the community (largely the same members as on the Nupedia mailing list) produced almost 1,000 articles, and then 1,000 more during the next two months and so on. By mid-2002, the Wikipedia consisted of more than 39,000 entries, a year later more than 140,000 entries, and as of July 2004, the (English) Wikipedia contains over 300,000 articles, all written and edited by volunteers⁶. Vandalism has been a minor problem, as pages can be easily rolled back to their earlier content by anyone with just a few mouse clicks. Although quality is an ongoing concern, the evidence suggests that the overall quality of articles rivals that of encyclopedias created by traditional means. The Wikipedia's much higher popularity vis-à-vis both the leading subscription based (Britannica) and free encyclopedias (Encyclopedia.com) further suggests that users are generally satisfied with its quality. Encyclopedia.com, which draws its 57,000 article content from the *Columbia Encyclopedia*, and was established in 1998, three years before the Wikipedia, has only about 1/10th the readership and 40% less page views per visit⁷. Furthermore, now in its 4th year, the Wikipedia shows no signs of slowing down, but rather capitalizes on its increased size and popularity to attract increasing numbers of contributors.

CAIS' SECRET SAUCE

So, what makes *CAIS* more successful than its sibling journal, the *J AIS* (and many others)? Both *CAIS* and *J AIS* are online journals; both have reputable editorial boards and highly experienced leaders. Mindful of the Wikipedia success stories, I recalled Paul Gray's question to *CAIS* manuscript authors "do you want a light review or full review?" According to Gray, most authors choose the "light" (single reviewer) and therefore fast review. Gray also points out that articles pass through the entire review and publication process in about four months on the average. Furthermore, *CAIS* articles can be published within days of final acceptance, while print journals customarily take months until the accepted manuscript is published.

Speed of the process is one factor, and early notification of a preliminary review outcome is another. As reported by Bhattacharjee et al. [2004], *CAIS* was the fastest among the entire set of reviewed journals for each review cycle duration, with *J AIS* being the second fastest, but requiring more review cycles (Table 1). *CAIS* was also the fastest for the entire review process, with the *Journal of Computer Information Systems (JCIS)* being second fastest (requiring fractionally fewer rounds (1.33 instead of 1.59 for *CAIS*, but more time).

⁶ <http://en.wikipedia.org/wikistats/EN/TablesWikipediaEN.htm>

⁷ www.alexa.com, July 18, 2004

Table 1. Review Cycles for Select IS Journals

Journals	Avg. Rounds Accepted	Avg. Rounds Rejected	Months in 1 st Round	Months in 2 nd Round	Months in 3 rd + Rounds
High submission	2.06	1.30	6.90	4.44	4.04
Medium submission	1.79	1.28	5.99	2.92	1.67
<i>CAIS</i>	1.59	1.00	2.70	1.10	---
<i>J AIS</i>	2.00	1.00	3.20	1.80	---
<i>JCIS</i>	1.33	1.00	3.30	2.20	---
<i>MIS Quarterly</i>	2.63	1.42	4.90	4.60	3.30
<i>ISR</i>	2.35	1.37	7.10	6.90	4.90

Source: Bhattacharjee et al. [2004]

For authors, *CAIS* not only becomes a faster pipeline, but it also sends an early signal (earliest of all evaluated journals) in case of rejection or “nominal” (preliminary) acceptance. After receiving a preliminary acceptance—for about 40% of articles this requires one review cycle of less than three months—“authors will know that the paper will be accepted unless they really foul it up from here”, according to Paul Gray. For authors, this information immediately increases the expected value of the submission (in decision analytic terms) and provides an extra incentive to finalize the manuscript quickly.⁸

Fewer and lighter reviews consume less editorial resources per submission and thus enable the journal to process more submissions. But does this mean that *CAIS* articles are “light weight” and of lower quality than those in more selective journals with long review cycles? Two factors counteract the risk of low quality results. First, the editor-in-chief and reviewers (editorial board) are very experienced and know that they are possibly the first, last, and only screen. Hence, while authors may only receive one associate editor’s point of view (and the editor’s) they will receive a substantive referee’s report, minus the challenge of satisfying multiple reviewers’ opposing criticisms. Second, authors need to consider the negative reputation effect of poor manuscripts. Would a respected member of the IS community put his or her reputation on the line by using the *CAIS* as a “journal of last resort” for an otherwise unpublishable article? Likely not, if we trust the Wikipedia example. Founder Wales remarks that in the (virtual) Wikipedian community, people are very much concerned about their reputation and thus will avoid publishing low quality materials, and that articles of new authors are more carefully looked after by the “regular” members of the community. Similarly, a poor quality *CAIS* article would be very obvious to a community in which reputations are much easier to lose than they are to build⁹. Instead, authors might use the *CAIS* to publish their *first* article on a new topic, thus claiming leadership in that area and bridging the time until a “more rigorous” follow-up article can finally appear in one of the slower outlets.

Thus, rather than low-quality manuscripts, timely and relevant articles should gravitate towards the outlet that can best realize their value, while less timely ones may endure the 12+ months average review time of traditional journals, plus their additional publication backlog.

Do IS research publications need to be timely? Information and communication technology surely changes fast. So fast, in fact, that even IS textbooks for college students are now obsolete

⁸ Online journals such as *CAIS* can also follow through with speedy post-acceptance activities from copy edit (“galley”) to final publication (“print”) which traditionally had many wait times built in that become irrelevant with electronic documents.

⁹ *CAIS* is freely available to almost 5,000 AIS members.

after two years or less. Yet scholarly articles quite often are considerably older than two years by the time they are finally published¹⁰. Scholarly research publication speed needs to match the speed of technology change, or it falls behind. We cannot ask the industry to slow down its innovation to fit our publication cycles. Of course, we can move away from technology focused IS research, thus allowing us to publish meaningful articles where technology does not matter. Many of us will likely agree, however, that IS research without an information technology component leaves a lot to be desired. With neither irrelevance nor absence of technology as promising alternatives for the future of IS research and the discipline in general, we need to look for a new process that breaks the publication bottleneck.

NEW PROCESS

CAIS is showing us the direction for the future of the editorial and publication process. The process has to be increasingly faster, lighter, and able to handle a larger volume of submissions. To do so, it will need to leverage technology. Online publication is only part of the new workflow. Review—revise—publish will need to be replaced by publish—review—revise, or possibly even publish—review—publish-follow-up. Examples abound on the Web. The Wikipedia is just one, *Slashdot.com* another, *Kuro5hin* with its Scoop engine (Appendix I) a third. Slashdot and Scoop use a rating system that permits readers to rate submissions by others. Higher ranked articles are given more visibility, while lower rated submissions can be easily screened out, if desired. The popular (peer) vote replaces the selection by a small editorial board.

Assumptions which may have shaped the traditional process, namely that publication space is scarce and that articles are read by non-experts, who cannot independently decide on a manuscript's quality, should be discarded. Already, today, journals are quietly acknowledging the importance of the "popular vote" by publishing Top-10 lists of most requested articles¹¹. Citation indices are but another form of "popular vote", albeit controversial [Seglen, 1997]. But we cannot wait for these changes to evolve slowly. The journals that are in the best position already can lead the way. Journals may target to reduce the number of review cycles below 1.00, by accepting articles of "trusted", reputed community members without any *substantive or major* review¹². At the same time, either a reader voting system or a system that measures article views and downloads, will be needed to identify post-publication importance quickly and decisively¹³.

IN CONCLUSION

Much of today's innovation in information technology is not reflected in the publications of archival journals, but is reported on web pages, weblogs, community sites, or wikis. While traditional archival journals may play an important role in "keeping score" and creating "respectability" in the

¹⁰ Remember that the total time to publication includes the year or more required to do the work being reported plus the time from submission to publication. If a paper is rejected by one journal and then published in another, the time to publication is again increased.

¹¹ *Decision Support Systems and Electronic Markets*, for example, employ this practice.

¹² The definition of what constitutes a review cycle is a little fuzzy. If an editor accepts a paper today, he or she usually reads it first. Furthermore, papers should pass through copy editing to remove grammatical and other mistakes, which even talented writers occasionally make. A zero review cycle policy may also invite authors to become less and less careful about their submissions. Even minimal reading of a paper helps reduce that moral hazard.

¹³ I recognize that such a system could be gamed by authors and their friends. For example, if the number of downloads is the criterion, then they would download the article over and over. The general problem is that all systems are competitive (Goode and Machol, 1957) and that no matter what system is employed, some people will try to beat it.

eyes of some gatekeepers, they increasingly fail as a distribution mechanism for up-to-date, relevant research.

Peppers' and Tang's [2003] study points out that IS research is now published in over 120 "pure" and 200 related outlets. Leading journals may increasingly play a role in "censoring" innovative research instead of disseminating it [Westland, 2003; Seglen, 1997]. The IS community's opportunity is to leverage technology and revolutionize its editorial process. The result is a possible order-of-magnitude increase in the published volume of quality research, as has been demonstrated by the success of the Wikipedia versus the Nupedia. The Nupedia went offline in 2003.

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EDITOR'S NOTE: The following reference list contains the address of World Wide Web pages. Readers who have the ability to access the Web directly from their computer or are reading the paper on the Web, can gain direct access to these references. Readers are warned, however, that

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APPENDIX I. WHAT IS SCOOP?

DESCRIPTION OF THE ENGINE THAT RUNS THE KURO5HIN COMMUNITY SITE

"Scoop is a "collaborative media application". It falls somewhere between a content management system, a web bulletin board system, and a weblog. Scoop is designed to enable your website to become a community. It empowers your visitors to be the producers of the site, contributing news and discussion, and making sure that the signal remains high.

A scoop site can be run almost entirely by the readers. The whole life-cycle of content is reader-driven. They submit news, they choose what to post, and they can discuss what they post. Readers can rate other readers [sic] comments, as well, providing a collaborative filtering tool to let the best contributions float to the top. Based on this rating, you can also reward consistently good contributors with greater power to review potentially untrusted content. The real power of Scoop is that it is almost totally collaborative.

Of course, as an admin, you also may pick and choose which tools you want the community to have, and which will be available to admins only. Administrators have a very wide range of customization and security management tools available. All of the administration of Scoop is done through the normal web interface. Scoop will seamlessly provide more options to site administrators, right in the normal site, so the tools you need are always right where you need them." [<http://scoop.kuro5hin.org/special/whatisit>]

ABOUT THE AUTHOR

Christian Wagner is an Associate Professor at the City University of Hong Kong. His research focuses on the use of information systems to enhance the performance of users, especially for decision-making, problem solving, and knowledge creation. Christian is the author of more than 50 articles and participates in the editorial boards of three traditional journals as well as one electronic journal.

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