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On the Number of ISI Citations to *JETA*, *JIS*, *IJAIS*, and *ISAFM*

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ABSTRACT: This paper investigates the current number of ISI citations, and change in the number of those citations over the last two years, for four leading accounting information systems (AIS) journals. The results are surprising. *A priori*, it generally would have been expected that the *Journal of Information Systems* would have had the most citations in total and over the last two years, since it is by far the oldest, and it is the flagship journal of the American Accounting Association's (AAA) Information Systems Section. However, two other AIS journals had substantially more total citations and incremental citations over the last two years. Further, even though it is younger, the newest AAA journal, the *Journal of Emerging Technologies in Accounting*, has what seem to be fewer citations than it should have. Reasons for this apparent "citation disadvantage" for the two AAA AIS journals are investigated.

INTRODUCTION

This paper provides an analysis of the number of citations from Thomson's so-called "Social Sciences Citation Index," now referred to as the "ISI Web of Knowledge" (ISI) citations, to each of the four major "accounting information systems" (AIS) journals. I list the total number of citations and the contributors of those papers that have been most frequently cited in those journals and develop the so-called "H-index" for each of the four journals. In addition to total citations, the incremental number of citations to each journal are tracked over the last two years.

The results may be seen as surprising. The oldest AIS journal, the American Accounting Association's (AAA) *Journal of Information Systems* (*JIS*) has the fewest citations of the three oldest journals in this study, with roughly 88 percent of the number of citations of Elsevier's *International Journal of Accounting Information Systems* (*IJAIS*) and 46 percent of the citations of Wiley's *Intelligent Systems in Accounting, Finance and Management* (*ISAFM*). This is in spite of the fact that roughly two years ago, *JIS* had more citations than *IJAIS*. I also find that the AAA's newest AIS journal, *Journal of Emerging Technologies in Accounting* (*JETA*) has far fewer ISI citations than any of the other three, and has garnered only 12 citations over the last two years.

Of course, this raises the question as to why the AAA publications have fewer citations, ultimately forcing us to ask the questions: Are AAA publications in AIS journals at a "citation disadvantage"? Is an Elsevier or a Wiley AIS journal article more likely to be found, downloaded, and ultimately cited? Accordingly, the purpose of this paper is to begin to flesh out this finding and investigate explanations for this empirical result.

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AAA Journal Database and the Issue

The entire portfolio of AAA journals is now available as an online database, and has been available online roughly since July 2008. The resulting database provides a broad base of accounting research publications ranging from accounting information systems, to auditing, to tax, to financial accounting, to managerial accounting, and more. However, the database is not integrated with any other databases or journals from areas other than accounting subdisciplines.

Since the AAA journals are not integrated with non-accounting journals, non-accounting researchers may not find or cite the papers in the accounting database. Further, accounting researchers that initiate their efforts in literature from other supporting disciplines also may not be guided to the AAA database. For example, an AIS researcher using information systems research and journal databases could be guided to other information system research, rather than related AIS research.

In addition, other databases, such as those for Wiley and Elsevier, have been available online for a substantially longer time period. As a result, it is likely that some potential users are not as familiar with the AAA database as they might be with Wiley or Elsevier. A larger time period of accessibility of research in an electronic database is likely to increase the number of citations to that literature. As a result of these concerns, AAA journals may be at a "citation disadvantage" and the journals receive fewer citations than their AIS competitors.

Outline of This Paper

This paper analyzes this set of issues by proceeding in the following manner. The second section briefly discusses ISI citations. The third section discusses the approach used in this paper to investigate these issues. The fourth section discusses the findings. The fifth section investigates the relationship between the number of ISI citations and Google citations for these AIS journals. The final section examines some extensions, discusses the contributions, investigates the importance of this result, and summarizes the paper.

ISI CITATIONS AND THE H-INDEX

Historically, Thomson's ISI citations were gathered under the name of Social Sciences Citation Index (SSCI). Since the advent of the Internet, Thomson has made their citation database accessible over the Internet and now the citations are under the label "ISI Web of Knowledge" for science and social science (e.g., Howitt 1998; http://wokinfo.com/).

Citations are Used to Rank Journals, Researchers, Etc.

Garfield and Welljams-Dorof (1992) and others have suggested that research paper importance, interest, or usage can be assessed, at least in part, by analysis of citations to a paper. As a result, ISI citations have a long history of being used as a basis to rank journals, researchers, and even countries, while using citations to measure the effect of research on others. Further, Garfield and Welljams-Dorof (1992) are among those who have argued that citations can be used to facilitate policy-based resource allocations. Ultimately, it has been argued that citations are important because they provide economic benefit to the author (Diamond 1986).

Indexed Versus Non-Indexed Publications

In ISI's Web of Knowledge, journals are either indexed or not indexed. If a journal is indexed, it is given a unique name and all of the references in published papers are captured in the Web of Knowledge as citations. If a journal is not indexed, then no citations from that journal are captured: ISI citations are only from ISI-indexed journals. This is critical, since none of the AIS journals discussed in this paper are indexed. As a result, all ISI citations to the research in these AIS journals are from other indexed journals. For example, citations for *The Accounting Review*

and *Management Information Systems Quarterly* are captured and indexed by ISI. Thus, ISI citations to these AIS journal papers come from journals outside of AIS.

Citation by Accountants and Non-Accountants

In many ways, functionally limiting a database of journals to "accounting" and related topics (or any other single functional discipline) makes the database a functional silo of information. Although accountant searches through the AAA database for accounting articles are likely to find, and be able to cite, relevant accounting articles, it is questionable as to whether a non-accountant searching for information would go to an accounting database of journals or even know about the database. In particular, non-accountants are likely to go to the journal databases that they are familiar with, e.g., Elsevier or Wiley, and search for research there. However, databases by Elsevier and Wiley index the entire holdings of those companies, so a researcher using one of those databases could be guided to other papers in those databases, whether they are AIS or non-AIS.

In addition, Merchant (2010) and others have argued how, increasingly, academic accountants have focused more on financial accounting. As a result, non-AIS accounting researchers, in general, are not likely doing AIS systems research. Thus, the ISI citations to AIS likely are not from accountants. Accordingly, the citations to AIS research are by AIS researchers or non-accounting researchers publishing in non-accounting publications that are indexed by ISI. Thus, cited publications likely are useful to those in AIS doing research published in other areas, and to researchers from other disciplines, such as information systems or computer science.

H-Index

Recently, in citation research, there has been substantial interest in the so-called H-index (Hirsch 2005). Let n be the number of papers published by a given entity (researcher or journal or department or university, etc.). An entity has an index H if H of its n papers has at least H citations each and the other (n–H) papers have $\leq H$ citations each. For some examples, see Tables 2 and 3 below. The H-index has been used in a number of settings. For example, O'Leary (2008a) found that an H-index for computer science departments is statistically significantly correlated with the ratings of those departments.

APPROACH

This section summarizes the approach used in this paper, including why four AIS journals were used, when the citations were gathered, what the ISI names found for those four journals were, and how the citations from ISI that related to the four specific journals were chosen.

Journals Analyzed in This Paper

This paper investigates the citations to four accounting information systems journals. The *Journal of Information Systems* (*JIS*) is the section journal of the AAA section on Information Systems. The *Journal on Emerging Technologies in Accounting* (*JETA*) is the section journal of the AAA section Strategic and Emerging Technologies. The journal, *Intelligent Systems in Accounting, Finance and Management* (*ISAFM*), was the official journal of the Artificial Intelligence/Expert Systems Section of the AAA that preceded the "Strategic and Emerging Technologies" Section. Finally, the *International Journal of Accounting Information Systems* (*IJAIS*) has never been a section journal, but has been very active in sponsoring meetings in information system settings that relate to AIS.

When Were Citations Gathered?

I gathered the citations in this paper at two different dates, separated by roughly two years (two years since the *American Accounting Association* had made their papers digitally available).

The first data was gathered from ISI's Web of Knowledge on July 25, 2008, while the second set of data was gathered on June 23, 2010. Complete data were gathered for *JIS*, *JETA*, and *IJAIS*, effectively since the AAA database of journals has been online.

Non-Indexed ISI Journal Names for AIS Journals

The *Journal of Information Systems* apparently has been given the same ISI abbreviation as a number of other non-indexed journals (J INFORMATION SYSTEM), including *Journal of Information Systems Management*, *Information Systems Journal*, *Journal of Information Systems Education*, and others. Using a website that listed all of the *JIS* papers (http://maaw.info/JournalOfInformationSystems.htm), I manually determined which author citations were from *JIS*.

I found that ISI apparently uses the abbreviation "J EMERGING TECHNOLOG" for *JETA*. However, that same abbreviation apparently also is used for other journals. As a result, in order to determine if an article listed in ISI came from *JETA*, I used the author list available at http://maaw.info/JETA.htm to determine which were from *JETA*.

The *International Journal of Accounting Information Systems* is abbreviated in ISI as "INT J ACCOUNTING INF." As far as I could find, no other journal uses that same abbreviation. As a result, all of the citations at that abbreviation were attributed to *IJAIS*. A list of papers from *IJAIS* is available at http://maaw.info/InternationalJournalofAccInfoSys.htm.

Finally, an alternative investigation of the number of citations in *Intelligent Systems in Accounting, Finance and Management* was conducted earlier in 2010 (O'Leary 2010). Rather than redo that study as of June 2010, I include the results developed there for comparison purposes.

Number of Citation Items

ISI indexers apparently try to aggregate new citations with other existing citations if the references appear similar enough. As a result, in general, most cited papers have a single item in the ISI Web of Knowledge. However, in some cases the reference information is not complete enough, or incorrect information is captured in the original citation. As a result, in some cases, there can be multiple occurrences (entries) of what is actually the same paper. In that case, the total number of citations to that paper would include each of the multiple occurrences.

Generating Citations from ISI

Based on the ISI-appropriate abbreviations, I downloaded all of the potential citations from the ISI for *Journal of Information Systems*, *International Journal of Accounting Information Systems*, and *Journal of Emerging Technologies in Accounting*.

I sorted the citations by author, adding multiple occurrences of the same paper together. This approach allowed me to determine the most frequently published papers, and generate an H-index for each of the journals.

FINDINGS

The findings include data from both 2008 and 2010, facilitating a comparison of the citation growth from the four journals over time. The total number of items and citations found for each of the four journals are included in Table 1.

Data from 2010

I found the total citations associated with each of the four AIS journals:

- *Journal of Emerging Technologies in Accounting* (AAA; 2004–2010). I found 16 ISI citations associated with 10 entries. I also found that the H-index for *JETA* was 2.
- *Journal of Information Systems* (AAA; 1986–2010). I found 448 ISI citations associated with 110 entries. I also found that the H-index for *JIS* was 11.

TABLE 1
ISI Citations for AIS Journals

Journal	2008 Citations	2008 Entries	2010 Citations	2010 Entries
JIS	301	97	448	110
ISAFM	>254	NA	970	166
IJAIS	138	51	506	131
JETA	4	4	16	10

- *International Journal of Accounting Information Systems* (Elsevier; 2000–2010). I found 506 ISI citations associated with 131 entries. I also found that the H-index for *IJAIS* was 11, the same as *JIS*.
- *Intelligent Systems in Accounting, Finance and Management* (Wiley; 1992–2010). O'Leary (2010) found 970 citations with 166 items. O'Leary (2010) also found an H-index of 15. (O'Leary 2010 gathered his data on February 4 and 5 of 2010, so almost half of a year has gone by since that study. As a result, they most certainly underestimate what would be found in a study as of June 2010.)

For each of the journals the authors of the papers, as of June 2010, with the most ISI Web of Science citations for each AIS publication are given in Tables 2–5.

Comparison Data from 2008

I also gathered data that allows a limited comparison of the results over time for *JETA* and *IJAIS*. On July 25, 2008, *JIS* had 301 citations, *IJAIS* had 138 citations, and *JETA* had 4 citations, respectively, from ISI. Accordingly, in roughly two years, *JIS* increased by 147 citations, *IJAIS* has increased by 368, and *JETA* has increased by 12 ISI citations. *IJAIS* had an increase of more than double the number of citations than *JIS* over the two-year time period. Although the rate for *JETA* is larger, with such small numbers of citations, the absolute number of citations is still very light.

Unfortunately, I do not have a comparison for *ISAFM*, since I do not have an estimate of 2008

TABLE 2
Most Cited Papers from *JIS* Based on ISI Citations

1	Dehning, B., and V. J. Richardson. 2002	34
2	Hayes, D. C., J. E. Hunton, and J. L. Reck. 2001	26
2	Kim, K. K. 1989	26
4	Weber, R. 1987	16
5	Christensen, A. L., and M. M. Eining. 1991	15
6	Cushing, B. E. 1990	14
6	Seddon, P., and S. Yip. 1992	14
8	Groomer, S. M., and U. S. Murthy. 1989	13
9	Liang, T. 1988	12
9	Raghunathan, B., and T. S. Raghunathan. 1988	12
11	Eining, M. M. 1995	11
11	Ettredge, M. L., and V. J. Richardson. 2003	11

TABLE 3

Most Cited Papers from *IJAIS* Based on ISI Citations

1	Bradford, M., and J. Florin. 2003	35
1	Poston, R., and S. Grabski. 2001	35
3	Hunton, J. E., B. Lippincott, and J. L. Reck. 2003	29
3	Calderon, T. G., and J. J. Cheh. 2002	29
5	Malone, D. 2002	28
6	Geerts, G. L., and W. E. McCarthy. 2002	20
7	Dowling, C., and S. Leech. 2007	18
8	O'Leary, D. E. 2002	16
9	Curtis, M. B., and E. A. Payne. 2008	14
10	Marston, C., and A. Polei. 2004	13
11	Debreceny, R., and G. L. Gray. 2001	11
11	Ettredge, M., V. J. Richardson, and S. Scholz. 2001	11

citations. However, based on O'Leary (2010), we can compute the number of citations in 2008 for 27 of the most cited papers. For those 27 papers (*only*) the number of citations increased by 249 from 254, over the time period 2008 to 2010. Because those citations are for only 27 papers, we likely would expect a much larger number for the journal as a whole, if that information were available.

Overlaps in the AIS Communities

An interesting question is the extent to which authors publish in multiple AIS publications, i.e., to what extent do authors participate in multiple AIS communities? For example, as noted earlier, *JIS* is published by one AAA section and *JETA* is published by another. Although the focus of this paper is not on this question, these results still allow us to note that there is some overlap among the authors of the most cited papers in the different journals, suggesting overlap among the different AIS communities. As some examples, Hunton and Reck had most cited papers in *JIS* and *IJAIS*; Ettridge and Richardson also had most cited papers in *JIS* and *IJAIS*; O'Leary had most cited papers in *IJAIS* and *ISAFM*; while Brown had most cited papers in *JETA* and *ISAFM*.

DISCUSSION

These comparison numbers clearly illustrate an apparent "citation disadvantage" for *JIS* and *JETA*, and that disadvantage has been growing over the last two years, in spite of a digital database of AAA AIS research papers being available over that same time period. This paper has suggested at least two reasons why AAA journals, particularly in AIS, are at a "citation disadvantage." First,

TABLE 4

Most Cited Papers from *JETA* Based on ISI Citations

1	Vasarhelyi, M. A., M. G. Alles, and A. Kogan. 2004	4
2	Baldwin, A. A., C. E. Brown, and B. S. Trinkle. 2006	3
3	Henry, E. 2006	2
4	Seven Authors with 1	1

the AAA digital database of articles is only two years old, so there has been substantially less "time" over which AAA papers have been digitally available, than when compared to Elsevier or Wiley publications. Second, in the case of AIS journals, since none is indexed, citations likely come from research published by AIS researchers in non-AIS publications and citations from non-AIS researchers. This suggests that a functional "silo" database of research may be at a "citation disadvantage", particularly in the case of non-indexed journals.

Other Potential Reasons for Fewer Citations in *Journal of Information Systems*

There are other possible reasons besides the "time" and "silo" explanations for fewer citations in *JIS*. For example, the content at *JIS* may influence the number of ISI citations. It may be that the editorial push at *JIS* has been so focused on AIS that other non-AIS researchers are not attracted to the articles because the topics investigated are too narrowly AIS. Alternatively, possibly *ISAFM* and *IJAIS* have taken broader editorial views that reach out to other constituencies.

As another rationale, the researchers that publish in *JIS* may also influence the extent to which *JIS* is cited in ISI-indexed publications. For example, if *JIS* primarily includes research from AIS researchers who publish primarily in AIS publications, then we would expect fewer ISI citations, since none of the AIS journals are indexed. AIS researchers can bring their knowledge of AIS research through citations to AIS research in non-AIS publications, providing an outward focus of AIS.

Another line of reasoning can be drawn from speculation that authors initiate their search for related research using Google Scholar or other search engines. In general, those search engines display papers related to a query by putting those with the most Google citations higher on the list. Since Google citations (e.g., O'Leary 2008a) are highly correlated with ISI citations, such an approach would likely exacerbate the current situation, constantly drawing more attention to more cited papers, and less attention to other less cited papers. However, it would not explain the "reversal" where, in 2008, *JIS* had more citations than *IJAIS*, and now the reverse is true.

TABLE 5

Most Cited Papers from *ISAFM* Based on ISI Citations

1	Slowinski and Zopounidis (1995)	72
2	Bryant (1997)	38
3	Herbst and Karagiannis (2000)	36
4	Kohara et al. (1997)	32
5	Decker (1994)	29
5	Fanning and Cogger (1998)	29
7	Lee and Kim (1997)	28
8	Yu and Mylopoulos (1996)	24
9	Singh and Huhns (1999)	22
10	O'Leary (1998)	19
11	Anandarajan et al. (2001)	18
11	Jhee and Lee (1993)	18
13	Chung and Tam (1993)	16
13	McKee (2000)	16
15	Coakley and Brown (2000)	15
15	Fanning and Cogger (1995)	15
15	Boritz et al. (1995)	15

Limitations of This Study

As seen in O'Leary (2010), journals that are not indexed can have many abbreviations. There is always the chance that this study did not find all of the ISI citations for some journal because some ISI abbreviation for a non-indexed journal was not found. I tried to mitigate the potential risk of this limitation by choosing multiple authors and examining their citations to determine what abbreviations for different publications were used by ISI.

Further, as noted above, the ISI citations to these journals typically would not be from AIS publications. As a result, the ISI citations provide a measure of the usefulness of the research in those journals to either non-AIS researchers or AIS researchers in non-AIS publications. Accordingly, the ISI citations likely do not measure the "interest" or "use" of the research to AIS researchers directly. Instead, they measure the use of AIS research in non-AIS journals.

This study did not take into account the relative number of pages or articles that each publication has published each year. Clearly, volume of articles or pages could influence the number of citations. Unfortunately, this is particularly difficult to control for since the number of articles to each publication can vary substantially from volume to volume.

Further, citations occur over long periods of time. As a result, other actions relative to the portfolio of AAA journal articles could have had an impact on the number of citations. For example, Elsevier was one of the first publishers to make their materials digitally available. On the other hand, AAA was not a first mover of taking AAA publications online. Perhaps any "citation disadvantage" will dissipate over time, the longer the AAA portfolio is digitally available. The H-indices of those journals were developed and lists of the most cited papers were provided.

RELATIONSHIP OF RESULTS TO GOOGLE SCHOLAR

ISI Web of Knowledge and Google Scholar each capture citations, however, generally, Google Scholar has more citations since it captures citations from virtually all of the ISI sources and it captures citations from other sources (e.g., O'Leary 2008b, 2009). In addition to published papers, Google Scholar also captures citations from working papers and other materials available on the Internet at different parts of the publication life cycle. For example, "working papers presented at meetings and universities" are uploaded to SSRN, which are submitted to journals for publication. As a result, one perspective is to consider the relationship between the number of ISI and Google Scholar citations, as a "conversion." Thus, the ratio of the number of ISI citations to Google citations would be the "ISI conversion rate."

Methodology

Using Google Scholar's "Advanced Scholar Search," on August 31, 2010, the total number of citations for each of *JIS, ISAFM, IJAIS,* and *JETA* were gathered, using the journals' name in Google Scholar's slot for "Publication." The search of citations for *ISAFM, IJAIS*, and *JETA* each returned only citations for those specific journals. However, the search of *JIS* returned citations for numerous journals, including *Scandinavian Journal of Information Systems, Information Systems Journal, Journal of Information Systems Education*, and *Information Systems Control Journal*. Accordingly, the list of citations was manually analyzed in order to determine which actually belonged to *JIS*.

Findings

The findings are summarized in Table 6. It is interesting to note that *JIS* had the most Google citations and *JETA* the least. The "conversion rate" result for the four different journals varies substantially from 9.52 percent to 33.03 percent. Although this paper focuses on a conversion rate based on ISI cites divided by Google cites, other forms of the conversion rate, such as ISI cites divided by Google cites less the ISI cites, also could be analyzed.

TABLE 6
ISI versus Google Citations

Journal	ISI Cites	Google Cites	Conversion Rate
JIS	448	3149	14.23%
ISAFM	970	2937	33.03%
IJAIS	506	2524	20.05%
JETA	16	168	9.52%

What Factors May be Influencing the Conversion Rate?

Clearly, the conversion rates of different journals can be substantially different. There are at least two rationales. First, there may be a timing difference. Cites may be captured by Google, prior to being captured by ISI. However, that probably would not explain why there should be such a large conversion differences for journals that appear to draw heavily from similar disciplines. Second, relatively speaking, it appears that the driving factor is the number of ISI citations. Accordingly, our analysis would be based on understanding the differences in the ISI citations. Thus, the same discussion provided above likely would be used to begin to understand why the journals have different conversion rates from Google citations to ISI citations.

SUMMARY, CONTRIBUTIONS, EXTENSIONS, AND IMPORTANCE

This paper analyzed the ISI Web of Science citations for the four leading AIS journals. Both AAA journals, *Journal of Information Systems* and *Journal of Emerging Technologies in Accounting*, had substantially fewer citations than either *Intelligent Systems in Accounting, Finance and Management* or *International Journal of Accounting Information Systems*. I also developed the H-indices of those journals and provided lists of the most cited papers.

Contributions

This paper has a number of contributions. First, this paper has summarized the most cited papers from the key AIS journals, based on ISI citations; developed the H-indices; and generated lists of the most cited papers. Second, this paper has noted that the citations to these papers come from non-AIS journals, and thus, the citations come from non-AIS researchers or AIS researchers publishing non-AIS research. Third, I tracked the change in citations over the last two years to determine that *JIS* and *JETA* have substantially fewer citations over that time period than *IJAIS* or *ISAFM*. This notion of a "citation disadvantage" also was proposed in this paper.

Extensions

This paper can be extended in a number of directions. First, additional information could be gathered as to who is actually doing the research that cites these AIS publications and where that research is published. For example, is the research captured in ISI publications coming from indexed information systems journals, management science journals, production journals, etc.? This would allow us to track which disciplines benefit most from AIS research.

Second, an alternative study could capture the references cited in any or all of these four journals as a means of capturing the research citations that are of direct interest to AIS researchers. For example, a study could capture all of the *JIS* citations and determine which resources were cited.

Third, this paper investigated the "citation disadvantage" for accounting information systems. However, the same concept can be applied to other areas of accounting. For example, management

accounting may be at a "citation disadvantage" in the case of the management literature. Similarly, financial accounting may be at a "citation disadvantage" with respect to finance literature. Further, the concept can be extended beyond accounting to other disciplines that have discipline-based silos of research articles.

Fourth, future research could follow up on this study to determine if the apparent "citation disadvantage" for AAA journals appears to persist over time, or if it dissipates as the use of the AAA database increases over time.

Fifth, the analysis of the relationship between the AIS communities could be extended in multiple directions. For example, the extent to which the memberships of the different sections overlap or the extent to which the editorial board memberships overlap could be analyzed. In addition, a more detailed analysis of the extent to which authors from the different publications overlap could be developed, e.g., using the lists of authors mentioned above in the third section.

Sixth, information could possibly be obtained from the American Accounting Association that would allow comparison of the number of downloads and citations. For example, O'Leary (2008b, 2009) investigated the relationships between the number of downloads of articles and the number of citations, for *IJAIS* and *ISAF*, respectively, journals at Elsevier and Wiley.

Importance

This topic is of importance for a number of reasons. First, periodically, authors may be evaluated on the number of citations to their research, e.g., when they go up for promotion or tenure. If that is the case, then they are likely to search out journals that are more cited than other journals for publishing their research. Thus, this finding of a "citation disadvantage" could influence where AIS researchers publish their research. Second, if AAA publications are cited less than other published sources, this is an important issue for AAA to investigate, since authors may turn first to other sources for publication before they turn to AAA. This could lead to fewer authors seeking out publication in AAA publications. Third, the "citation disadvantage" phenomenon may not be limited to AAA journals, but may affect other organizations, and thus be of interest to settings other than just accounting. In particular, any group that keeps its publications in a functional silo is potentially subject to the concerns discussed in this paper. Finally, recognition of this apparent phenomenon may lead to policy changes or publication management practice designed to mitigate its impact.

REFERENCES

Anandarajan, M., P. Lee, and A. Anandarajan. 2001. Bankruptcy prediction of financially stressed firms: An examination of the predictive accuracy of artificial neural networks. *International Journal of Intelligent Systems in Accounting Finance & Management* 10 (2): 69–81.

Baldwin, A. A., C. E. Brown, and B. S. Trinkle. 2006. XBRL: An impacts framework and research challenge. *Journal of Emerging Technologies in Accounting* (3): 97–116.

Boritz, J. E., D. B. Kennedy, and A. Albuquerque. 1995. Predicting corporate failure using a neural network approach. *International Journal of Intelligent Systems in Accounting Finance & Management* 4 (2): 95–109.

Bradford, M., and J. Florin. 2003. Examining the role of innovation diffusion factors on the implementation success of enterprise resource planning systems. *International Journal of Accounting Information Systems* 4 (3): 205–225.

Bryant, S. M. 1997. A case-based reasoning approach to bankruptcy prediction. *International Journal of Intelligent Systems in Accounting Finance & Management* 6 (3): 195–214.

Calderon, T. G., and J. J. Cheh. 2002. A roadmap for future neural networks research in auditing and risk assessment. *International Journal of Accounting Information Systems* 3 (4): 203–236.

Christensen, A. L., and M. M. Eining. 1991. Factors influencing software piracy: Implications for accoun-

tants. *Journal of Information Systems* (Spring): 67–80.
Chung, H. M. M., and K. Y. Tam. 1993. A comparative analysis of inductive-learning algorithms. *International Journal of Intelligent Systems in Accounting Finance & Management* 2 (1): 3–19.
Coakley, J. R., and C. E. Brown. 2000. Artificial neural networks in accounting and finance: Modeling issues. *International Journal of Intelligent Systems in Accounting Finance & Management* 9 (2): 119–144.
Curtis, M. B., and E. A. Payne. 2008. An examination of contextual factors and individual characteristics affecting technology implementation decisions in auditing. *International Journal of Accounting Information Systems* 9 (2): 104–121.
Cushing, B. E. 1990. Frameworks, paradigms, and scientific research in management information systems. *Journal of Information Systems* (Spring): 38–59.
Debreceny, R., and G. L. Gray. 2001. The production and use of semantically rich accounting reports on the Internet: XML and XBRL. *International Journal of Accounting Information Systems* 2 (1): 47–74.
Decker, K. 1994. Quantitative modeling of complex environments. *International Journal of Intelligent Systems in Accounting Finance & Management* 2 (4): 215–235.
Dehning, B., and V. J. Richardson. 2002. Returns on investments in information technology: A research synthesis. *Journal of Information Systems* (Spring): 7–30.
Diamond, A. M. 1986. What is a citation worth? *The Journal of Human Resources* 21 (2).
Dowling, C., and S. Leech. 2007. Audit support systems and decision aids: Current practice and opportunities for future research. *International Journal of Accounting Information Systems* 8 (2): 92–116.
Eining, M. M. 1995. Discussion of the impact of elaboration-based expert system interfaces on de-skilling: An epistemological issue. *Journal of Information Systems* (Spring): 19–22.
Ettredge, M. L., and V. J. Richardson. 2003. Information transfer among Internet firms: The case of hacker attacks. *Journal of Information Systems* (Fall): 71–82.
Ettredge, M., V. J. Richardson, and S. Scholz. 2001. The presentation of financial information at corporate web sites. *International Journal of Accounting Information Systems* 2 (3): 149–168.
Fanning, K. M., and K. O. Cogger. 1995. Detection of management fraud: A neural network approach. *International Journal of Intelligent Systems in Accounting Finance & Management* 4 (2): 113–126.
———, and ———. 1998. Neural network detection of management fraud using published financial data. *International Journal of Intelligent Systems in Accounting Finance & Management* 7 (1): 21–41.
Garfield, E., and A. Welljams-Dorof. 1992. Citation data: Their use as quantitative indicators for science and technology evaluation and policy making. *Science & Public Policy* 19 (5).
Geerts, G. L., and W. E. McCarthy. 2002. An ontological analysis of the economic primitives of the extended-REA enterprise information architecture. *International Journal of Accounting Information Systems* 3 (1): 1–16.
Groomer, S. M., and U. S. Murthy. 1989. Continuous auditing of database applications: An embedded audit module approach. *Journal of Information Systems* (Spring): 53–69.
Hayes, D. C., J. E. Hunton, and J. L. Reck. 2001. Market reactions to ERP implementation announcements. *Journal of Information Systems* (Spring): 3–18.
Henry, E. 2006. Market reaction to verbal components of earnings press releases: Event study using predictive algorithm. *Journal of Emerging Technologies in Accounting* (3): 1–19.
Herbst, J., and D. Karagiannis. 2000. Integrating machine learning and workflow management to support acquisition and adaptation of workflow models. *International Journal of Intelligent Systems in Accounting Finance & Management* 9 (2): 67–92.
Hirsch, J. E. 2005. *An Index to Quantify an Individual's Scientific Research Output.* Proceedings of National Academy of Sciences USA, La Jolla, CA. Available at: http://www.cs.ucla.edu/~palsberg/hirsch05.pdf.
Howitt, M. 1998. ISI spins a web of science. *Database* 21 (2).
Hunton, J. E., B. Lippincott, and J. L. Reck. 2003. Enterprise resource planning systems: Comparing firm performance of adopters and nonadopters. *International Journal of Accounting Information Systems* 4 (3): 165–184.
Jhee, W. C., and J. K. Lee. 1993. Performance of neural networks in managerial forecasting. *International Journal of Intelligent Systems in Accounting Finance & Management* 2 (1): 55–70.
Kim, K. K. 1989. User satisfaction: A synthesis of three different perspectives. *Journal of Information Systems* (Fall): 1–12.

Kohara, K., T. Ishikawa, Y. Fukuhara, and Y. Nakamura. 1997. Stock price prediction using prior knowledge and neural networks. *International Journal of Intelligent Systems in Accounting Finance & Management* 6 (1): 11–22.

Lee, K. C., and H. S. Kim. 1997. A fuzzy cognitive map-based bi-directional inference mechanism: An application to stock investment analysis. *International Journal of Intelligent Systems in Accounting Finance & Management* 6 (1): 41–59.

Liang, T. 1988. Expert systems as decision aids: Issues and strategies. *Journal of Information Systems* (Spring): 41–50.

Malone, D. 2002. Knowledge management: A model for organizational learning. *International Journal of Accounting Information Systems* 3 (2): 111–123.

Marston, C., and A. Polei. 2004. Corporate reporting on the Internet by German companies. *International Journal of Accounting Information Systems* 5 (3): 285–311.

McKee, T. E. 2000. Developing a bankruptcy prediction model via rough sets theory. *International Journal of Intelligent Systems in Accounting Finance & Management* 9 (3): 159–173.

Merchant, K. A. 2010. Paradigms in accounting research: A view from North America. *Management Accounting Research* 21 (2): 116–120.

O'Leary, D. E. 1998. Using neural networks to predict corporate failure. *International Journal of Intelligent Systems in Accounting Finance & Management* 7 (3): 187–197.

———. 2002. Knowledge management across the enterprise resource planning systems life cycle. *International Journal of Accounting Information Systems* 3 (2): 99–110.

———. 2008a. The most cited intelligent systems articles. *IEEE Intelligent Systems* (July/August): 10–13.

———. 2008b. On the relationship between citations and appearances on "top 25" download lists in the *International Journal of Accounting Information Systems*. *International Journal of Accounting Information Systems* 9 (1): 61–75.

———. 2009. Downloads and citations in *Intelligent Systems in Accounting, Finance and Management*. *Intelligent Systems in Accounting, Finance and Management* 16 (1): 21–31.

———. 2010. Intelligent systems in accounting, finance and management: ISI journal and proceeding citations, and research issues from most cited papers. *Intelligent Systems in Accounting, Finance and Management* 17: 41–58.

Poston, R., and S. Grabski. 2001. Financial impacts of enterprise resource planning implementations. *International Journal of Accounting Information Systems* 2 (4): 271–294.

Raghunathan, B., and T. S. Raghunathan. 1988. Impact of top management support on IS planning. *Journal of Information Systems* (Spring): 15–23.

Seddon, P., and S. Yip. 1992. An empirical evaluation of user information satisfaction (UIS) measures for use with general ledger accounting software. *Journal of Information Systems* (Spring): 75–92.

Singh, M. P., and M. N. Huhns. 1999. Multiagent systems for workflow. *International Journal of Intelligent Systems in Accounting Finance & Management* 8 (2): 105–117.

Slowinski, R., and C. Zopounidis. 1995. Application of the rough set approach to evaluation of bankruptcy risk. *International Journal of Intelligent Systems in Accounting Finance & Management* 4 (1): 27–47.

Vasarhelyi, M. A., M. G. Alles, and A. Kogan. 2004. Principles of analytic monitoring for continuous assurance. *Journal of Emerging Technologies in Accounting* (1): 1–21.

Weber, R. 1987. Toward a theory of artifacts: A paradigmatic base for information systems research. *Journal of Information Systems* (Spring): 3–19.

Yu, E., and J. Mylopoulos. 1996. Using goals, rules and methods to support reasoning in business process reengineering. *International Journal of Intelligent Systems in Accounting Finance & Management* 5 (1): 1–13.