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# Under What Conditions is IS Research Relevant to Practice? An Analysis of IS Scholars Who Are Mentioned or Cited Often in Trade Magazines and the General Media

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## ABSTRACT

The issue of rigor and relevance has been a longstanding topic of discussion and debate within many areas of business. Among disciplines that are more established than IS, such as marketing and accounting, scholars continue to debate whether academic research has any direct value to managers or employees. Not surprisingly, in disciplines that are much younger – such as IS and entrepreneurship – these questions have also arisen. We bring scientometric methods to bear on the topic. Defining relevance as the mention of IS research and IS researchers in mainstream business magazines and newspapers, we employ a host of methods to identify the extent to which IS research and researchers are mentioned in the mainstream media. Our study identified some individuals who are frequently mentioned or cited, namely IS scholars who have assumed non-traditional roles working on government panels (in the case of Mary Culnan of Bentley University) or as journalists in the popular press of trade magazines (in the case of M.S. Krishnan, University of Michigan and Prabhudev Konana, University of Texas). With the exception of these highly-visible scholars and several IS economists, few IS scholars receive much notice in trade magazines or in the general media. We conclude with suggestions for investigating various types of relevance.

## Keywords

Citations, relevance, rigor-vs-relevance, scientometrics

## INTRODUCTION

The issue of rigor and relevance has been a longstanding topic of discussion and debate within many areas of business. Among disciplines that are far more established than information systems (IS), including marketing, management, and accounting, scholars continue to debate whether scholarly research has any direct value to managers or employees in organizations. Not surprisingly, in disciplines that are much younger – IS and entrepreneurship – the same concerns have arisen. A review of papers on the relevance of scholarly IS research reveals a plethora of citations going back nearly 20 years. Recently, this topic has spawned many articles in *Communications of the AIS* (Alter 2001; Jennex 2001; Recker et al 2009), and a series of opinion papers in *MIS Quarterly* about different ways that IS research could become more relevant (Benbasat & Zmud 1999; Davenport & Markus 1999; Lee 1999; Lyytinen 1999). There was also a series of opinion papers in *Journal of the AIS* (Straub 2003; Galliers 2003; Hirschheim & Klein 2003), a recent editorial in *MIS Quarterly* (Straub & Ang, 2011), as well as panel debates at ICIS in 2005 (Desouza, et al 2005) and at the Australasian Conference on Information Systems in 2009 (Rosemann & Recker, 2009).

Given the plethora of published papers on this topic, we hesitate to add one more voice to the cacophony. We do so, however, because we believe we can contribute something new. We bring scientometric methods to bear on the question of research relevance. By defining relevance as the mention of IS research and IS researchers in mainstream business magazines and the general news media, we employ a host of methods to identify the extent to which IS research and researchers are widely acknowledged, resulting in a set of people, topics, and papers that are frequently mentioned.

The structure of our paper is as follows. We first discuss the prevalence of the “rigor vs. relevance” debate as it has been discussed in IS journals and conferences. We note an absence of empirical data in most studies of IS research relevance, with the exception of a survey of IT managers (Pearson et al. 2005) and two studies of the “perceived relevance” of IS conference papers, as viewed by IS academics (Srivastava & Teo 2005; Young & Darroch 2006). After reviewing other empirical studies that used scientometric methods to address questions about the state of the IS field, we describe our research methods, the data they reveal regarding the level of citations, as well as the recognition accorded to IS scholars in practitioner magazines and in the general news media. Although we find that IS research is largely ignored in these outlets, we identify a dozen IS scholars who have attained a strong public presence in trade magazines and newspapers.

The most visible IS researchers we identified were those who have assumed non-traditional roles – such as taking a leave of absence from the university to work on a U.S. government commission (in the case of Mary Culnan of Bentley University) or serving as a regular contributor to a trade magazine (*InformationWeek*, in the case of M.S. Krishnan of University of Michigan) or in a general newspaper (*The Hindu*, in the case of Prabhudev Konana of University of Texas). With the exception of these scholars and some IS economists (Erik Brynjolfsson, Eric Clemons, Andrew Whinston), few IS scholars receive much notice in trade magazines or in general newspapers. Based on our findings, we offer suggestions for future research.

## LITERATURE REVIEW

Early discussion of this topic assumed that rigor and relevance were necessarily opposites in research. Although this was the position argued by Benbasat & Zmud (1996) – that there was a necessary trade-off between the two, others (e.g., Robey & Markus 1998) questioned the assumed opposition of these objectives by arguing that both can be achieved concurrently. They claim that there is no inherent conflict between rigor and relevance and, in fact, it is not only possible but desirable, for IS research to fulfill both objectives. While many IS authors who have addressed this topic have argued that IS research should become more relevant, some neglect to specify their definition of relevance or the specific audience to whom IS research should become more relevant. In most studies that have discussed the need for relevance in IS research, there has been an implicit assumption that relevance means practical relevance to IT managers and employees in businesses. From such a perspective, relevant research should offer solutions to practical business problems. Yet other definitions of relevance exist, including work that stimulates managers' or employees' critical thinking by challenging unexamined assumptions and offering new ways of thinking (Benbasat & Zmud, 1999).

In recent years, the belief that relevance requires offering practical solutions for business and IT managers in for-profit business has been questioned. IS research can also be relevant by helping other actors, such as policymakers (Whitley & Hosein, 2007) or the students that faculty spend time teaching (Klein & Rowe 2008). Some authors argue that IS research can be relevant to public sector and non-profit institutions, as well as to healthcare, education, and arts organizations.

Institutional issues. Some researchers believe that institutional issues are one of the main causes for non-relevant research and argue that IS research is not relevant to practice due to the tenure-based reward system, which encourages faculty to publish theory-oriented research in a narrow set of journals (Jennex 2001). If this is the cause of the problem, then one solution is to encourage IS scholars to publish in a broader range of outlets – including those whose readership is dominated by managers, employees, policy-makers, or consumers. Yet this is not the only proposed solution. Taking a different view of the problem, Otto and Osterle (2010) advocate for “consortium research” – which they define as collaboration between academic institutions and partner firms to jointly develop practical IT artifacts. Other solutions have focused on the solution of altering Ph.D. programs to fit the specific needs and talents of doctoral students with substantial professional experiences. Klein and Rowe (2008) claim that modifying the goals of doctoral programs to fit the needs of experienced students can help to generate research with greater relevance.

Societal and Cultural Issues. Other IS authors have advocated for IS research to become more relevant to society, in general, and not just to business managers. The panel at ICIS 2005 on “IS Research that Really Matters” considered many ways to change the goals of the IS research in order to make significant impacts on society. One panelist, Kevin Desouza (2005), argued that relevance is inherent in the researchers' choices of problems to study – which may be highly relevant or not. Another panelist, Omar El Sawy (2005) offered an opposing view that IS scholars must first “focus on our own back yard” by helping business practitioners before tackling broader societal issues.

Some scholars have considered the issue of relevance through a cross-cultural lens. Frank et al (2008) compared the English-speaking IS community predominantly shaped by North American IS scholars with the alternatives in German-speaking countries to show that the latter has evolved to become more relevant to industry. They claim that “in many cases the objective is to contribute to the discipline in terms of publications rather than contribute to the solution of real world problems” (Frank et al. 2008, p. 400). In the German research context, problems in business are used as a “source for ideas” or as the underlying motivation for research. After comparing the two communities, Frank et al conclude that neither should be viewed as the ideal model for research. Collaboration between these communities can help to advance the IS field overall.

Research Type. Research type has been the focus of some studies that examine the issues of relevance. Fernandez et al argues that synergy between relevance and rigor is possible and that grounded theory in combination with case studies can provide a framework for rigorous and relevant research of emerging IS phenomena (Fernandez et al 2002). Others argue that by integrating the design science approach to creating new IT artifacts with the natural science approach will lead to greater relevance of IS research than the natural science approach alone (Jani, 2001). Otto and Osterle (2010) have advanced this idea by proposing design science research as a way to improve relevance, particularly in the context of consortium research, described above (i.e., collaboration between academic research institutions and partner companies).

While most contributions to the dialogue on “rigor and relevance have been opinion pieces, recently some empirical studies have appeared. In one study, Pearson, Pearson and Shim (2005) surveyed managers to understand why they did or did not read IS academic journals. They found that, at senior IT manager levels, some reported value in reading IS research; in contrast, few mid-level managers or IT developers reported reading or finding value in academic IS research. In another study, Srivastava and Teo (2005) evaluated conference papers using scales to measure each paper’s level of rigor and relevance. They did so by considering the degree of ‘fit’ between the paper and one of the “key issues for IT executives” that had previously been identified in 2003 by the Society for Information Management (SIM), a professional IT management association. The empirical analysis that Srivastava and Teo conducted suggested that relevance for IT executives was not being adequately achieved by current IS research. A third study proposed a “relevance index” and examples of how such an index might be used. In that study, Young & Darroch (2006) evaluated the abstracts of papers submitted to the Australasian Conference on IS, noting whether the paper was relevant to one of the eight stakeholder audiences. These audiences were: IS academics, non-IS academics, IS practitioners, senior IS executives, non-IS executives, students, society, and government.

Our synthesis of literature suggests that the debate about relevance in the IS field is far from finished. Recently, Straub and Ang (2011) published an *MIS Quarterly* editorial that argued that there is no credible evidence that knowledge transfer is not taking place. The editorial made the claim based on a lack of empirical research suggesting that knowledge transfer is not taking place. Straub and Ang suggest there are 17 different ways that knowledge transfer can take place including books, newspaper articles, white papers and policy briefings, etc. (Straub & Ang, 2011).

### SCIENTOMETRIC RESEARCH USING CITATION DATA RELATED TO INFORMATION SYSTEMS RESEARCH

Before we describe our use of scientometric methods, we first offer a brief overview of the use of scientometric methods in the IS field. In the past decade, there have been three types of citation studies in IS: the first type provide lists of highly-cited papers, authors, and the institutions in which they work; the second type evaluates macro-level citations flows among many journals within a given field or across multiple fields of study. A third type (which we do not review here) consists of co-citation analyses, which identify distinct topics based on similarities in authors’ citations to *previous* studies. Table 1 gives examples of the first two types of scientometric studies. We label the first type as *descriptive* citation studies and we identify six studies that list the names of highly cited authors (Lowry et al. 2007), institutions (Clark, Warren & Au 2007), journal papers (Lowry et al. 2007), or books (Galliers & Whitley 2007) that accrued the most citations. While these descriptive studies provide interesting lists of researchers or papers identified as “citation classics” (e.g., Walstrom & Leonard 2007; Whitley & Galliers 2007), they offer little insight into *why* these authors or papers are highly cited relative to others.

**Table 1: Scientometric Research Using Citation Data in Information Systems**

Authors (Year)	Journal	Scope of Study	Years	Journals Included	Results
<b>Descriptive Studies that Feature Rank-ordered Lists of Most-cited Papers and Authors</b>					
Eom (1994)	Data Base	Leading IS and OM journals	1971-1990	15 journals from IS, OM and OR fields	List of leading programs based on citations
Galliers & Whitley (2007)	EJIS	List of most-cited papers	1993-2002	ECIS conference papers and panels	List of most cited sources in ECIS papers or panels (articles and books) Most common social theories employed
Holsapple, Johnson & Manakyan (1993)	I&M	Set of 5 leading journals	1987-1991	5 journals: CACM, DSS, I&M, JMIS, MISQ	Citation rankings of journals
Lowry, Karuga & Richardson (2007)	CAIS	Set of 3 leading IS journals	1990-2004	3 journals: ISR, Management Science, MIS Quarterly	Ranking of authors, articles, institutions based on citations
Walstrom & Leonard (2000)	I&M	Most IS journals	1986-1995	9 journals: CACM, Decision Sci, I&M, ISR, JMIS, MISQ, DSS, Management Sci	Ranked list of 91 “citation classics” and 13 “super-classics”

Whitley & Galliers (2007)	I&M	ECIS papers and panels only	1993-2002	ECIS conference papers and panels	Sources cited most often in ECIS papers; separate list of sources cited most in panels List of works with more than 4 citations per year.
<b>Macro-level Analyses of Citation Flows</b>					
Katerattanakul & Hong (2003)	CAIS	Limited to <i>MIS Quarterly</i> only	1989-1998	Citations to 251 <i>MIS Quarterly</i> papers % of citations in other fields to <i>MISQ</i> papers	Tables and graphs showing the network of citations among journals. Identifies some journals as knowledge sources vs. storers
Katerattanakul, Han & Rea (2006)	CACM	Citations to papers in 6 journals: <i>EJIS</i> , <i>CACM</i> , <i>ISJ</i> , <i>ISR</i> , <i>I&amp;M</i> and <i>MIS Quarterly</i>	1995-1998	Ratio of citations in other fields to IS research: Management (12-17%) Sociology (2-3%) Accounting (0%) Marketing (0%)	Tables and graphs showing the network of citations among journals.
Nerur, Sikora, Mangalaraj & Balijepally (2005)	CACM	Macro citation flows among 27 IS and non-IS journals	1998-2002	Citation flows among 27 IS journals.	Tables and graphs showing the network of citations with <i>CACM</i> and other journals.
Polites & Watson (2008)	CACM	Macro citation flows in-and-out from IS	2003 only	120 journals (incl. 25 IS journals)	Tables and graphs showing the network of citations with <i>CACM</i> and other journals.
Polites & Watson (2009)	JAIS	Macro citation flows in-and-out from IS		120 journals (incl. 25 IS journals)	Tables and graphs showing the network of citations among journals.
Wade, Biehl, & Kim (2006)	JAIS	Macro citation flows among 33 journals (IS and non-IS)	1990-2001	“Financial Times 40” journals plus two additional IS journals	Tables and graphs showing the network of citations among journals.

The second set of studies evaluate macro-level citation flows among IS and non-IS journals. These studies analyze the overall in-flows and out-flows of citations across several journals, either within a given field (e.g., IS journals only), or among many fields (Wade et al 2006). Some macro-level studies analyze citations from several fields to papers published in one journal only – such as *MIS Quarterly* (Katerattanakul & Hong 2003). This set of studies are the ones that offer most potential for showing the level of citations to IS research in practitioner and general news sources. Such studies provide techniques for identifying the relative position of the IS field amidst a host of other fields (e.g., Katerattanakul, et al 2006; Nerur et al 2005; Polites & Watson 2009) or the position of a specific journal, such as *MIS Quarterly* (Katerattanakul & Hong 2003) or *Communications of the ACM* (Polites & Watson 2008), within a larger network of journals.

One limitation of this second set of studies is their macro-level approach: they analyze overall citation flows among journals, without drilling down to identify which specific papers or authors are most responsible for in-flow or out-flow of citations between disciplines. Such studies can identify some interesting macro patterns – such as the fact that *Communications of the ACM* is cited much more often by computer science journals, relative to other IS journals (Katerattanakul, Han & Rea 2006). Another study concluded that “*CACM* occupies a central position in the [citation] network, bridging the gap between more technical computer science journals and the more business-oriented IS journals” (Polites & Watson 2008, p. 97). These types of insights from macro-level citation studies are useful for understanding the position of the IS field and its journals within the larger context of journals from computer science, and other natural or social sciences disciplines.

Three questions motivate our empirical study, described below. First, what is the overall level of visibility of IS research and researchers in non-academic publications? Second, for the IS scholars who are frequently cited or mentioned in trade journals and newspapers, what attributes differentiate them from other IS scholars who are less visible – or even invisible – in mainstream media? Third, what are the attributes of IS studies that that accrue many citations in practitioner outlets?

## Research Methods

In order to determine how widely IS research and IS researchers are mentioned in practitioner outlets and in the general new media, we followed a three-phased approach to data collection. For the first two phases, we conducted searches using lists of names of 250 IS researchers that were mentioned in many scientometric studies published between 1989 and 2007. Table 2 identifies the sources of such lists – including the journal titles and time periods covered when compiling these lists of highly productive IS researchers. In the first approach, we searched for names of these 250 IS researchers in the full-text of articles published in IT trade magazines (*CIO*, *Computerworld*, *InformationWeek*, and *InfoWorld*). We used the database called “ProQuest ABI Inform Complete” since it contained all of these trade magazines.

For our second step, we searched for the names of the same 250 scholars in a newspaper database (ProQuest Newspapers) that includes leading U.S. and international newspapers. We avoided over-counting authors by excluding articles mentioning people with similar names to IS researchers. We did so by restricting our full-text searches by searching on the researcher’s name, as well as the phrase “information systems” or “information technology” and the name of the university with which the researcher was affiliated. We skimmed the retrieved articles appearing in the trade magazine or newspaper to ensure that it was indeed focused on the IS researcher in question – not another person with the same name. We counted the number of times that each IS researcher was mentioned in the set of IT trade magazines and in newspapers (domestic and international). For each IS researcher, we recorded the dates, publication sources and title of each article where their name was mentioned.

**Table 2: Prior Scientometric Studies that Identify Prolific IS Researchers**

Author Name(s)	Journal (Year)	Time Period	Journals Included in Compiling List	Number of IS Authors
Clark, Warren & Au	CAIS (2009)	2003-2007	EJIS, ISJ, ISR, JAIS, JMIS, MISQ	156 (Table 6B)
Dwivedi & Kuljis	EJIS (2008)	1991-2007	EJIS only	20 (Table 1)
Palvia & Pinjani	I&M (2007)	1992-2005	I&M only	33 (Table 4)
Huang & Hsu	CAIS (2005)	1999-2003	CACM, HBR, ISR, JAIS, MISQ, Decision Sciences, Management Science, SMR, IEEE Trans on Software Engr	30 (Table 6)
Claver, Gonzales & Llopis	I&M (2000)	1981-1997	I&M, MISQ	25 (Table 5)
Im, Kim & Kim	Decision Line (1998)	1991-1996	CACM, ISR, MISQ, HBR, Decision Sciences, Management Science	38 (Table 1)
Remus (1991)	MIS Interrupt (1991)	1986-1990	CACM, MISQ, HBR, Management Science	20

Finally, as is common in most citation studies, we identified citations in “Web of Science” produced by Thomson/ISI. Web of Science is the online product that tracks all citations in Social Science Citation Index, as well as in Science Citation Index. While Web of Science was created to track citations in scholarly journals, it tracks citations in practitioner business magazines (*Harvard Business Review*, *Sloan Management Review*, *Academy of Management Executive*, *California Management Review*, *Business Horizons*, *Cornell Hospitality Quarterly*, *Business Week*, *Long Range Planning*, *Forbes*, *Fortune*). Web of Science tracks citations in trade magazines such as *Communications of the ACM*, *Datamation*, *IS Management*, *MISQ Executive* and in three IEEE magazines (*Computer*, *Software*, and *Spectrum*). We analyzed citations in these trade magazines.

For this last part of our data collection, we identified citations within these outlets to IS articles published in five leading journals published from 1992 to 2006: *European Journal of Information Systems*, *Information Systems Journal*, *Information Systems Research*, *Journal of MIS* and *MIS Quarterly*. For each paper appearing in these journals from 1992 to 2006, we

collected citation data as of late 2011. We recorded the total citations that each paper received in *all* journals and magazines (including academic and practitioner), as well as the number of times each paper was cited in the 18 practitioner journals listed above. We computed a “ratio of practitioner citations” by dividing the latter value by the former value. For example, if a given paper published in *MIS Quarterly* had 200 citations listed in Web of Science, with six of those citations appearing in the practitioner magazines we analyzed, the resulting fraction would be 3.0%. We identified which IS papers were most cited in practitioner outlets according to (a) total practitioner citations and (b) their ratio of practitioner citations to total citations.

### Results

Based on our first search approach, we identified the “Top 10” IS researchers mentioned most frequently in the general or IT trade magazines. Table 3 identifies these researchers – three of whom are specialists in IS economics (Erik Brynjolfsson, M.S. Krishnan, and Eric Clemons). The details of the results are in Appendix 1 (not shown here). The IS scholar mentioned most frequently in trade magazines is Erik Brynjolfsson, an IS economist at MIT Sloan School. Next is Warren McFarlan of Harvard Business School. The third and fourth individuals are also IS economists (M.S. Krishnan of University of Michigan and Eric Clemons of Wharton Business School). Likewise, Appendix 2 (not shown here) and Table 4 list the IS scholars mentioned often in newspapers. Of 11 leading scholars mentioned most often, three are economists (Erik Brynjolfsson at MIT Sloan; Eric Clemons at Wharton Business School; Andy Whinston at University of Texas, Austin). Those mentioned in general newspapers most are Erik Brynjolfsson (an IS economist) and Mary Culnan (an information privacy scholar).

**Table 3: IS Researchers Mentioned Most Frequently in Practitioner Magazines**

IS Researcher	Frequency	Affiliation(s)
Erik Brynjolfsson	46	MIT Sloan School
Warren McFarlan	32	Harvard Business School
M.S. Krishnan	26	Stanford Business School; Univ. of Michigan
Eric Clemons	11	Wharton Business School
John Rockart	11	MIT Sloan School
James Wetherbe	9	Univ. of Minnesota; Univ. of Memphis
Rudy Hirschheim	7	Univ. of Houston
Ritu Agarwal	6	Univ. of Dayton; Florida State Univ., Univ. of Maryland
Daniel Couger	6	Univ. of Colorado, Colorado Springs
V. Sambamurthy	6	Florida State Univ., Univ. of Maryland
Gordon Davis	5	Univ. of Minnesota

Next, we show results of our citation counts from “Web of Science.” Table 5 shows the practitioner magazines that cited IS academic papers from the five journals we analyzed most frequently. The first of these (*Information Systems Management*) was initially a practitioner-oriented journal that changed its editorial focus in the mid-2000s to become a scholarly journal. *IS Management* was, by far, the journal with most citations to IS academic research. Others among the top five were *Production and Operation Management*, *California Management Review*, *MIT Sloan Management Review*, and an IEEE magazine (*IEEE Software*). We note that *Harvard Business Review* is missing from this list – since it was last among the outlets we analyzed. Finally, we report the IS papers with the highest counts of citations in the set of journals and magazines above. We show two sets of results: one sorted by the total citations in the practitioner journals we analyzed (Table 6A) and another showing the fraction of their total citations that appeared in practitioner journals (i.e., practitioner citations divided by total citations).

### Discussion

We found that the vast majority of IS researchers receive little or no mention in the trade press or general news media. Of the ones who were frequently mentioned in the trade press, a large fraction are IS economists. Not surprisingly, many of these IS scholars are affiliated with elite business schools (Harvard Business School, MIT Sloan School, University of Michigan). The scholars mentioned most often in the general news media were Erik Brynjolfsson, an IS economist, and Mary Culnan, an information privacy expert. Perhaps a factor that was important to Culnan’s visibility was that she took a leave of absence in the late 1990s to work for the U.S. government on information privacy issues. Of course, her focal topic (information privacy) is one that has drawn media attention since corporate email became widespread nearly two decades ago.

**Table 4: IS Researchers Mentioned Most Frequently in General Newspapers**

IS Researcher	Frequency	Affiliation(s)
Erik Brynjolfsson	60	MIT Sloan School
Mary Culnan	46	American Univ., Georgetown Univ., Bentley Univ.
Benn Konsynski	23	Harvard Bus. School; Emory Univ.)
Vincent Lai	28	Chinese University of Hong Kong
Eric Clemons	12	Wharton Bus. School
Kar Yan Tam	19	Hong Kong Univ. of Science & Technology
Prabhudev Konana	18	Univ. of Texas, Austin
Andrew Whinston	12	Univ. of Texas Austin
Warren McFarlan	11	Harvard Bus. School
Anitesh Barua	9	Univ. of Texas Austin
Zahir Irani	9	Brunel Univ., UK
Margrethe Olson	6	New York Univ.
Eph McLean	5	Georgia State Univ.

**Table 5: Practitioner Magazines that Cited IS Research Most Frequently**

Rank	Practitioner Journal	Number of Citation to IS Research
1	Information Systems Management	376
2	Production and Operations Management	137
3	California Management Review	66
4	MIT Sloan Management Review	37
5	IEEE Software	30
6	Long Range Planning	29
7	Academy of Management Executive	27
8	Cornell Hospitality Quarterly	13
9	Business Horizons (Indiana)	10
10	IEEE Computer	9

**Table 6A: Papers with Most Practitioner Citations (based on Total Counts)**

Author Name(s)	Journal	Year	Total Citations Count
Taylor, S; Todd, PA	ISR	1995	41
Venkatesh, V; Morris, MG; Davis, GB; Davis, FD	MISQ	2003	36
Adams, DA; Nelson, RR; Todd, PA	MISQ	1992	33
Bharadwaj, AS	MISQ	2000	33
Alavi, M; Leidner, DE	MISQ	2001	32
Venkatesh, V	ISR	2000	27
Iacovou, CL; Benbasat, I; Dexter, AS	MISQ	1995	27
Gefen, D; Karahanna, E; Straub, DW	MISQ	2003	25
Mata, FJ; Fuerst, WL; Barney, JB	MISQ	1995	25
Mukhopadhyay, T; Kekre, S; Kalathur, S	MISQ	1995	25
DeLone, WH; McLean, ER	JMIS	2003	24
Lee, H; Choi, B	JMIS	2003	24
Goodhue, DL; Thompson, RL	MISQ	1995	23



Agarwal, R; Karahanna, E	MISQ	2000	22
Baruna, A;Kribel, CH;Mukhopadhyay, T	ISR	1995	22
Brancheau, JC; Janz, BD; Wetherbe, JC	MISQ	1996	22
Igbaria, M; Zinatelli, N; Cragg, P; Cavaye, ALM	MISQ	1997	21
Compeanu, DR; Higgins, CA	MISQ	1995	20
Karahanna, E; Straub, DW; Chervany, NL	MISQ	1999	20
Doll, WJ; Xia, WD; Torkzadeh, G	MISQ	1994	20

**Table 6B: Papers with High Practitioner Citations (based on Ratio of Practitioner-to-Total Citations)**

Author Names	Journal	Year	Ratio of Total Citations
Bordetsky A; Mark G	ISR	2000	50.0% (3/6)
Koushik MV; Mookerjee VS	ISR	1995	40.0% (4/10)
Irani, Z; Sharif, AM; Love, PED	EJIS	2005	37.5% (3/8)
Kishore, R; Agrawal, M; Rao, HR	JMIS	2004	33.3% (3/9)
Fazlollahi, B; Vahidov, R	JMIS	2001	33.3% (3/9)
Teo TSH; King WR	EJIS	1999	33.3% (3/9)
Ji YH; Mookerjee VS; Sethi SP	ISR	2005	33.3% (2/6)
Hilmer, KM; Dennis, AR	JMIS	2000	33.3% (2/6)
Brown, CV	MISQ	1999	28.6% (8/28)
Lerch FJ; Harter DE	ISR	2001	27.3% (3/11)
Lee, H; Choi, B	JMIS	2003	26.1% (24/92)
Kwok, RCW; Ma, R; Vogel, DR	JMIS	2002	25.0% (3/12)
Jayatilaka B; Schwarz A; Hirschheim R	EJIS	2003	25.0% (2/8)
Chiang IR; Mookerjee VS	ISR	2004	25.0% (2/8)
Clemons, EK; Hann, IH	JMIS	1999	25.0% (2/8)

Our analysis of citations to IS research within a set of business and IT trade magazines indicated that one high profile practitioner magazine (*Harvard Business Review*) did not cite scholarly IS research often. Among the journals that we analyzed, HBR was close to the bottom – in terms of the total number of citations to scholarly IS research published in a set of leading IS journals. Conversely, other business schools’ practitioner journals – including *California Management Review* (published by UCLA and University of California, Berkeley’s Business School), *MIT Sloan Management Review*, *Business Horizons* (published by Indiana University’s Kelley School of Business), and *Cornell Hospitality Quarterly* (published by Cornell’s School of Hospitality Administration) were among the journals that often cited IS research. Others included *IEEE Software* and *Academy of Management Executive*. The outlet with most citations to IS research is one that changed from a practitioner journal to an academic journal in the mid-2000s (*IS Management*), when it changed publisher.

While we have identified those IS researchers and publications that *were* most frequently mentioned or cited, in general the overall level of visibility of IS research is extremely low. Despite the fact that news items about IT products, vendors, and industry competition appear often in the general media, there is generally little recognition of IS researchers in the general media. The few exceptions, as noted above, are Mary Culnan (an information privacy expert) and several IS economists – such as Erik Brynjolfsson, Eric Clemons, and Andrew Whinston. Aside from these visible IS scholars, we acknowledge our surprise at discovering that most IS scholars receive little media attention outside of the “ivory tower.”

On a more optimistic note, Straub and Ang (2011) identified 17 ways that knowledge transfer can take place from researchers to practitioners. Unless we examine all of those mechanisms of knowledge transfer, we cannot conclude that a relevance gap exists. We believe more scientometric studies are needed to understand other modes of knowledge transfer to various parties.

Indeed this AMCIS 2012 submission complements another study that the first author conducted regarding the extent to which IS research (including specific topics) are cited in other academic fields outside of IS (Anonymous, 2012).

### LIMITATIONS AND DIRECTIONS FOR FUTURE RESEARCH

Although our empirical study used a three-part approach to data collection, there are some limitations. First, we searched for IS scholars in practitioner magazines (Table 2) and in general newspapers (Table 3) based on a pre-defined list of researchers who are widely published. Although our list of IS scholars was created by consolidating many such lists from prior scientometric studies, such lists may be biased toward North American researchers (or at least to scholars who publish often in North American IS journals), given the specific journals that dominated these previous studies. Moreover, if a given IS researcher *is* frequently mentioned in trade magazines or in the general news media (e.g., Tom Davenport), but did not appear in the list of researchers that we used to our individual searches, they would not appear in our search results. Third, the international newspapers covered by our search were limited to English language newspapers – so IS researchers mentioned in newspapers published in languages other than English (e.g., Chinese, Hindu, German) will not be recognized.

Moreover, for the part of our search process that was not based on a predefined list of IS researchers (the “Web of Science” search for citations to IS research in practitioner magazines), we were still limited to citations within 18 specific business and/or IT trade magazines and for citations to papers published from 1992 to 2006 in five leading IS journals. We would not detect citations to papers published by IS scholars in non-IS journals like *Organization Science* or to papers published IS journals not in our dataset (e.g., *Information & Management*). Finally, our definition of relevance is the citation or mention of IS research and researchers in trade magazines and newspapers. Given that our empirical study is novel, so is our definition of relevance. Time will tell whether our approach to relevance is itself regarded as “relevant” by other researchers.

Areas for future research. Although we identified the names of IS scholars who are frequently mentioned or cited in non-scholarly sources, we have not conducted a methodical analysis of the research topics that tend to be mentioned and/or cited in these sources. In the future, we plan to conduct such a topic analysis – based on merging the titles of papers published in the five IS scholarly with a previously-validated typology of IS research topics (Sidorova, Evangelopoulos et al, 2008). This will allow us to identify IS topics that are frequently-cited in practitioner outlets, as well as topics that are infrequently cited. A second direction is to examine the degree to which practitioner books and articles are themselves cited in academic IS research and *why* such papers are cited. While evidence exists for the importance of practitioner books and articles (especially articles appearing in *Harvard Business Review*) as sources that are frequently cited in IS research – at least in the European Conference on IS (Galliers & Whitley 2007), more focus on the reasons why practitioner sources are cited is warranted.

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### APPENDIX 3: PAPERS WITH MOST TOTAL CITATIONS IN PRACTITIONER JOURNALS

- 41: Taylor, S; Todd, PA, "Understanding Information Technology usage: A test of competing models," *ISR*, 1995
- 36: Venkatesh, V; Morris, MG; Davis, GB; Davis, FD, "User acceptance of information technology: Toward a unified view," *MISQ*, 2003
- 33: Bharadwaj, AS, "A resource-based perspective on information technology capability and firm performance: An empirical investigation," *MISQ*, 2000
- 33: Adams, DA; Nelson, RR; Todd, PA, ""Perceived usefulness, ease of use, and usage of information technology - a replication," *MISQ*, 1992
- 32: Alavi, M; Leidner, DE, "Review: Knowledge management and knowledge management systems," *MISQ*, 2001
- 27: Iacovou, CL; Benbasat, I; Dexter, AS, "Electronic data interchange and small organizations: Adoption and impact of technology," *MISQ*, 1995
- 27: Venkatesh, V, "Determinants of perceived ease of use: Integrating control intrinsic motivation into TAM," *ISR*, 2000
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- 24: Lee, H; Choi, B, "Knowledge management enablers, processes, and organizational performance," JMIS, 2003
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- 22: Barua, A; Kriebel, CH; Mukhopadhyay, T, "IT and business value: An analytic and empirical-investigation," ISR, 1995
- 21: Igbaria, M; Zinatelli, N; Cragg, P; Cavaye, AL, "Personal computing acceptance factors in small firms," MISQ, 1997
- 20: Karahanna, E; Straub, DW; Chervany, NL, "Information technology adoption across time: A cross-sectional comparison of pre-adoption and post-adoption beliefs," MISQ, 1999
- 20: Compeau, DR; Higgins, CA, "Computer self-efficacy: Development of a measure and initial test," MISQ, 1995
- 20: Doll, W; Xia, W; Torkzadeh, G, "A confirmatory factor-analysis of end-user computing satisfaction instrument," MISQ, 1994.

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#### APPENDIX 4: PAPERS WITH HIGHEST RATIO OF THEIR CITATIONS IN PRACTITIONER JOURNALS

- 50%: Bordetsky A; Mark G, "Memory-based feedback controls to support groupware coordination," ISR, 2000
- 40%: Koushik MV; Mookerjee VS, "Modeling coordination in software construction - an analytical approach," ISR, 1995
- 37.5%: Irani, Z; Sharif, AM; Love, PE, "Linking knowledge transformation to Information Systems evaluation," EJIS, 2005
- 33.33: Kishore, R; Agrawal, M; Rao, HR, "Determinants of sourcing during technology growth and maturity: An empirical study of e-commerce sourcing," JMIS, 2004
- 33.33: Fazlollahi, B; Vahidov, R, "A method for generation of alternatives by decision support systems," JMIS, 2001
- 33.3%: Teo TS; King WR, "An empirical study of the impacts of integrating business planning and IS planning," EJIS, 1999
- 33.3%: Ji YH; Mookerjee VS; Sethi SP, "Optimal software development: A control theoretic approach," ISR, 2005
- 33.3%: Hilmer, KH; Dennis, AR, "Stimulating thinking: Cultivating better decisions with groupware," JMIS, 2000
- 28.6%: Brown, CV, "Horizontal mechanisms under differing is organization contexts," MISQ, 1999
- 27.3%: Lerch FJ; Harter DE, "Cognitive support for real-time dynamic decision making," ISR, 2001
- 26.1%: Lee, H; Choi, B, "Knowledge management enablers, processes, and organizational performance," JMIS, 2003
- 25%: Kwok, RCW; Ma, R; Vogel, DR, "Effects of GSS and content facilitation on knowledge acquisition," JMIS, 2002
- 25%: Jayatilaka B; Schwarz A; Hirschheim R, "Determinants of ASP choice: an integrated perspective," EJIS, 2003
- 25%: Chiang IR; Mookerjee VS, "A fault threshold policy to manage software development projects," ISR, 2004
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