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Communications of the Association for Information Systems

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Journal Self-Citation III: Exploring the Self-Citation Patterns in MIS Journals

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Abstract:

Self-citation is a common practice in the research community. It includes citing one's own papers and one's target journal. A recent action by a publisher requesting each author of its journal to cite at least five papers published by the journal calls for a study of the self-citation patterns in MIS journals. This study intends to examine the cited table and the citing table in the database of Journal Citation Reports and identify the self-cited and self-citing patterns of MIS journals included in this database. Through a descriptive analysis, influential as well as problematic journals are identified and the implications for journal stakeholders are discussed.

Keywords: journal citation, impact factor, self cites, citing count, cited count, citation pattern

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I. INTRODUCTION

During the past decade, publishing papers in refereed journals has become prevalent in the global academic community, especially in developing countries. With the vast amount of research scholars in China and India, the number of paper submissions to journals has been increasing dramatically. In the Chinese academic community the impact factor (IF) provided by Thomson Reuters (ISI)¹ is regarded as an important indicator for journal quality. Most schools in China and Taiwan use the IF values to classify journals into different levels of quality. For example, the National Science Council of the Republic of China (Taiwan) identifies MISQ, ISR, JMIS as the first tier (A+) journals in the MIS discipline. This rating system has become an accepted standard in Taiwan's 169 academic institutions. Many institutions use the IF value to determine the amount of monetary reward for scholarly publication.² Due to the over emphasis on impact factors, most authors in Taiwan have their eyes on ISI indexed journals and are reluctant to submit their papers to non indexed journals, making an unprecedented increase in the number of submissions among the former. This phenomenon may have alarmed some journal editors worldwide and triggered their unnecessary and unethical manipulation of IFs.

The way that ISI calculates the IF value for a journal is as follows [Thomson Reuters 2009], using 2007 MISQ as an example:

$$\text{MISQ 2007 IF} = \frac{\text{The cites from all 2007 articles in the ISI basket journals to articles published in MISQ during 2006 and 2005}}{\text{The number of "citable" articles published by MISQ in 2006 and 2005}}$$

This definition includes journal self-citation. Therefore, if a journal published 20 papers during 2005 and 2006 and the editor required the author(s) of each paper to cite five papers during these two years, the journal would have received, at the minimum, an IF value of 5.0 (=100/20) for 2007, before any citations from other journals are included. Although such a practice is not common, the author should be careful about submitting a paper to a journal having a sudden jump in IF value during two consecutive years. Fortunately, the Web version of ISI's Journal Citation Reports (JCR) provides two kinds of tables for reference:

1. The cited table, which shows the total number of times per year a journal was cited by all journals included in the Social Science Citation Index (SSCI) or the Science Citation Index (SCI), depending on which index you are looking at.
2. The citing table, which lists how many times per year the references section of a journal was citing the journal itself.

In this article, we explore the self-citation patterns of some well known MIS journals included in the SSCI and the SCI. Specifically, we address the following questions:

- What are the self-cited patterns of MIS journals in the ISI's cited table?
- What are the self-citing patterns of MIS journals in the ISI's citing table?
- What can these patterns tell us about a journal?
- What are the implications for journal stakeholders?

¹ Journal impact factors were formerly provided by the Institute for Scientific Information, abbreviated ISI. Because this previous name is still widely used in the IS community, we use the ISI abbreviation throughout.

² Editor's note: In China, India, Korea, and other countries, scholars are paid extra stipends for publication, with the amount of the stipend dependent upon the quality rating of the journal.

II. METHOD

To collect the research data, we searched the JCR online database [Thomson Reuters 2009] under the subject title of Information Science & Library Science. After sorting the journals by their IF values, we selected 11 SSCI journals: *MISQ*, *ISR*, *JMIS*, *I&M*, *JIT*, *ISJ*, *IP&M*, *JAMSIST*, *JIS*, *InfoSoc*, and *IJIM* (see Table 1 for the full names of these journals). One major criterion of selection was that the journal must have citing and cited tables since 2002. This criterion yielded six years of data points to analyze. We also selected nine SCI journals: *TOSE*, *TKDE*, *TODS*, *TOIS*, *CACM*, *ESWA*, *DSS*, *EJIS*, and *JCIS*. Table 1 shows the impact factor values of the selected journals and the percentage increase in IFs during the 2002-2007 period. To allow comparison with the other related disciplines, the table also includes nine leading journals in other disciplines: *AMJ*, *AMR*, *MktSci*, *JMkt*, *ASQ*, *SMJ*, *JIBS*, *JRet*, *JMR*, *MgtSci*, and *JAP*. The table shows that, among the journals selected, *MISQ* had the highest IF value (5.826) in 2007; its IF is higher than *AMJ* (5.017), *JMktg* (3.750), and *JAP* (3.047) which are leading journals respectively in management, marketing, and psychology.

Table 1. Impact Factor Values of Selected Journals with Percent Increase between 2002 and 2007

Journal Title	ID	2002-2007 Increase	2007	2006	2005	2004	2003	2002
MIS QUARTERLY	MISQ	103%	5.826	4.731	4.978	2.884	2.811	2.872
INFORMATION SYSTEMS RESEARCH	ISR	102%	2.682	2.537	2.054	3.512	1.917	1.326
JOURNAL OF MANAGEMENT INFORMATION SYSTEMS	JMIS	79%	1.867	1.818	1.406	1.271	1.225	1.043
INFORMATION & MANAGEMENT	I&M	26%	1.631	2.119	1.524	1.815	1.768	1.299
JOURNAL OF INFORMATION TECHNOLOGY	JIT	27%	1.605	1.239	1.543	0.850	0.641	1.268
INFORMATION SYSTEMS JOURNAL	ISJ	577%	1.531	1.543	0.559	0.727	0.516	0.226
INFORMATION PROCESSING & MANAGEMENT	IP&M	0%	1.500	1.546	1.192	1.295	1.179	1.506
JOURNAL OF THE AMERICAN SOCIETY FOR INFORMATION SCIENCE AND TECHNOLOGY	JAMSIST	-17%	1.463	1.555	1.583	2.086	1.473	1.773
JOURNAL OF INFORMATION SCIENCE	JIS	0%	1.080	0.852	0.747	0.899	1.067	1.080
INFORMATION SOCIETY	InfoSoc	-34%	0.719	0.803	1.018	0.667	0.538	1.087
INTERNATIONAL JOURNAL OF INFORMATION MANAGEMENT	IJIM	-25%	0.451	0.754	0.479	0.371	0.885	0.603
IEEE TRANSACTIONS ON SOFTWARE ENGINEERING	TOSE	80%	2.105	2.132	1.967	1.503	1.730	1.170
ACM TRANSACTIONS ON DATABASE SYSTEMS	TODS	137%	2.078	2.143	1.833	1.846	1.957	0.875
ACM TRANSACTIONS ON INFORMATION SYSTEMS	TOIS	42%	1.969	5.059	4.529	4.097	3.533	1.385



IEEE TRANSACTIONS ON KNOWLEDGE AND DATA ENGINEERING	TKDE	80%	1.896	2.063	1.758	1.243	1.223	1.055
COMMUNICATIONS OF THE ACM	CACM	6%	1.593	1.509	1.797	1.865	1.546	1.497
EXPERT SYSTEMS WITH APPLICATIONS	ESWA	50%	1.177	0.957	1.236	1.247	1.067	0.786
DECISION SUPPORT SYSTEMS	DSS	43%	1.119	1.160	0.946	1.458	1.316	0.781
EUROPEAN JOURNAL OF INFORMATION SYSTEMS	EJIS	13%	0.712	0.862	1.093	1.000	0.897	0.632
JOURNAL OF COMPUTER INFORMATION SYSTEMS	JCIS	456%	0.528	0.680	0.725	0.764	0.080	0.095
ACADEMY OF MANAGEMENT JOURNAL	AMJ	97%	5.017	3.353	2.200	2.647	3.343	2.544
ACADEMY OF MANAGEMENT REVIEW	AMR	18%	4.372	4.515	4.254	3.717	4.415	3.699
MARKETING SCIENCE	MktSci	105%	3.964	3.977	3.788	3.391	1.898	1.938
JOURNAL OF MARKETING	JMktg	63%	3.750	4.831	4.132	3.100	2.611	2.294
JOURNAL OF APPLIED PSYCHOLOGY	JAP	54%	3.047	2.851	2.892	2.592	2.173	1.980
ADMINISTRATIVE SCIENCE QUARTERLY	ASQ	11%	2.912	2.455	2.719	3.405	2.721	2.630
STRATEGIC MANAGEMENT JOURNAL	SMJ	-9%	2.829	2.632	1.897	1.980	2.723	3.092
MANAGEMENT SCIENCE	MgtSci	43%	1.931	1.687	1.669	1.934	1.468	1.349
EUROPEAN JOURNAL OF OPERATIONAL RESEARCH	EJOR	98%	1.096	0.918	0.824	0.828	0.605	0.553

Note: The journals are divided into three groups (IS journals listed in SSCI, IS journals listed in SCI, and non-IS journals). Double lines separate these groups. Within each group, journals are listed in decreasing order of impact factor in 2007.
Source: Adapted from Thomson Reuters [2009]

The Cited Table

Next we examine the cited tables of the selected journals. Table 2 gives the values of self-cited and total cited counts during the past six years. These numbers are the frequencies of a given journal (such as MISQ) being cited by the basket of all ISI indexed journals. The total cited count is the total number of times all the papers published in 2007 cited papers published in a particular journal since its first issue. The numbers indicate the level of influence papers in this particular journal have on all the journal authors publishing in 2007. For example, in 2007 papers in *MISQ* were cited 4,329 times. Of these, *MISQ*'s own papers were self-cited 311 times, while other journals were citing *MISQ* 4,018 times.

The Citing Table

Finally, we reviewed the citing tables of these selected journals. Table 3 gives the values of self-citing and total citing counts in a journal's references sections during the past six years. For example, in 2007 the papers of *MISQ* included 2,950 citations in their reference sections (i.e., the total citing count). Among them, 311 citations were citing *MISQ* itself (i.e., the self-citing count described in the previous subsection) and 2,639 (i.e., 2,950 minus 311) citations were to the other journals. That is, the total citing count is the number of times the papers published in various journals (including *MISQ*) throughout the years were cited by *MISQ* papers published in 2007. Thus, the number indicates the level of influence the external literature had on *MISQ* authors in 2007.



Table 2. Frequencies of a Journal Being Cited by All ISI-Indexed Journals in 2002-2007

Journal ID	2007		2006		2005		2004		2003		2002	
	Self Cited	Total Cited	Self Cited	Total Cited	Self Cited	Total Cited	Self Cited	Total Cited	Self Cited	Total Cited	Self Cited	Total Cited
MISQ	311	4329	216	3186	187	2395	168	1869	166	1989	235	1741
ISR	64	2146	79	1508	50	949	31	615	42	614	77	457
JMIS	192	1861	240	1523	160	1167	125	944	37	209	22	100
I&M	217	1833	362	1466	241	1230	294	1013	234	938	155	713
JIT	19	477	20	395	30	347	8	217	23	215	36	201
ISJ	60	380	34	290	11	163	12	108	9	113	5	63
IP&M	148	1441	203	1347	171	1137	83	992	100	1000	109	816
JAMISIST	868	3026	544	2761	412	2552	300	2254	379	2060	376	1808
JIS	62	448	50	408	36	413	44	366	61	372	51	323
InfoSoc	37	377	36	379	23	294	23	219	19	196	23	220
IJIM	32	313	22	297	31	270	28	234	16	197	23	148
TOSE	229	3672	174	3203	253	3165	197	3088	219	3241	202	2479
TODS	36	981	39	942	18	757	14	870	29	875	11	645
TOIS	12	1146	5	1103	7	1065	15	914	21	843	10	535
TKDE	102	2354	118	2125	91	1750	89	1559	101	1441	111	1073
CACM	123	8969	100	8090	141	8222	143	7907	157	7774	110	6269
ESWA	249	1254	204	884	266	715	106	518	85	379	75	276
DSS	377	1645	214	1292	128	992	112	861	57	765	86	688
EJIS	122	503	94	439	86	343	31	250	33	253	23	184
JCIS	188	286	163	260	201	283	212	283	15	51	9	36
AMJ	640	9555	413	8199	391	6944	285	6033	239	5565	311	5213
AMR	444	8341	333	7532	224	6387	138	5317	214	4989	143	4517
MktSci	540	2327	621	2159	370	1724	410	1521	209	1197	148	1147
JMktg	483	7245	328	6396	456	5307	362	4852	246	4581	308	3966
JAP	1477	11182	1035	9918	1069	8685	692	7461	745	7246	884	7252
ASQ	155	7123	184	6799	211	5906	126	5181	139	5037	209	4713
SMJ	878	9512	624	8163	659	6137	796	5826	702	5220	684	4676
MgtSci	533	12110	449	10349	438	8367	1202	8565	414	7053	324	6497
EJOR	2148	11003	1454	8732	865	6742	993	6251	712	4904	747	4394

Source: Adapted from Thomson Reuters [2009]

Table 3. Frequencies of Citing Related Journals in a References Section in 2002-2007

Journal ID	2007		2006		2005		2004		2003		2002	
	Self Citing	Total Citing	Self Citing	Total Citing	Self Citing	Total Citing	Self Citing	Total Citing	Self Citing	Total Citing	Self Citing	Total Citing
MISQ	311	2950	216	3149	187	2229	168	1761	166	1778	235	2891
ISR	64	1423	79	1341	50	1025	31	1123	42	1021	77	1581
JMIS	192	2398	240	3496	160	1945	125	2123	37	2174	22	2012
I&M	217	2698	362	4209	241	2981	294	3625	234	3041	155	2024
JIT	19	1416	20	1396	30	1256	8	845	23	981	36	1316
ISJ	60	1306	34	864	11	1048	12	786	9	874	5	798
IP&M	148	3349	203	3178	171	2991	83	1623	100	1530	109	1256
JAMSIST	868	9203	544	5346	412	5280	300	3602	379	3717	376	3638
JIS	62	2026	50	1608	36	1579	44	1463	61	1294	51	1437
InfoSoc	37	1152	36	1528	23	1469	23	1428	19	1352	23	1431
IJIM	32	1390	22	1293	31	1187	28	1119	16	902	23	1070
TOSE	229	2450	174	2347	253	2770	197	2648	219	2711	202	2618
TODS	36	1090	39	1611	18	777	14	832	29	608	11	434
TOIS	12	738	5	760	7	698	15	864	21	602	10	577
TKDE	102	4249	118	3970	91	4165	89	3631	101	3602	111	3055
CACM	123	1607	100	1658	141	1655	143	1471	157	1921	110	1514
ESWA	249	6398	204	4563	266	4636	106	3077	85	2344	75	1594
DSS	377	6866	214	6006	128	3364	112	2721	57	2028	86	1483
EJIS	122	3112	94	2620	86	1911	31	1014	33	1186	23	1250
JCIS	188	2779	163	1991	201	1854	212	1935	15	1924	9	1924
AMJ	640	5497	413	4573	391	3919	285	3102	239	2359	311	4074
AMR	444	6526	333	5407	224	3791	138	2895	214	3044	143	2386
MktSci	540	2666	621	3020	370	1821	410	1640	209	1102	148	807
JMktg	483	3539	328	2518	456	2771	362	2684	246	2056	308	2067
JAP	1477	10626	1035	7818	1069	7372	692	5493	745	5847	884	6116
ASQ	155	1664	184	1871	211	2242	126	1449	139	1463	209	1818
SMJ	878	5210	624	4405	659	4475	796	4881	702	4580	684	4127
MgtSci	533	5270	449	5632	438	4692	1202	5399	414	4601	324	3539
EJOR	2148	23231	1454	17927	865	11607	993	11737	712	9711	747	10110

Source: Adapted from Thomson Reuters [2009]

Ratio of Cited/Citing Journals

It is also possible to determine each year the ratio between the number of journals citing a given journal and the number of journals cited by that journal. ISI provides cited and citing tables for each journal that break down the citations by source. We found, for example, that MISQ articles (published since its debut) were cited by 281 journals and that in 2007 MISQ cited 1,087 journals, both including MISQ itself. The ratio was 281 over 1,087. Likewise, the ratio of ISR was 240 over 591 and JMIS was 253 over 879.

III. RESULTS AND DISCUSSION

The Pattern of Impact Factors

According to Table 1, the *MIS* journal having the highest growth rate during the six years between 2002 and 2007 was *ISJ* (577%; from 0.226 to 1.531), followed by *JCIS* (456%; from 0.095 to 0.523), *TODS* (137%; from 0.875 to 2.073), *MktSci* (105%; from 1.938 to 3.964), *MISQ* (103%; from 2.872 to 5.826), and *ISR* (102%; from 1.326 to 2.682). Only three journals listed in Table 1 experienced negative growth: *JAMSIST* (-17%), *InfoSoc* (-34%), and *IJIM* (-25%).

Moreover, as shown in Figure 1, the six leading *MIS* journals all experienced positive increases in IF values during the last six years, with *MISQ* growing the most. The growth in IF values reflects that the growth of citations in *MIS* journals is much faster than the growth of paper counts. This trend is encouraging.

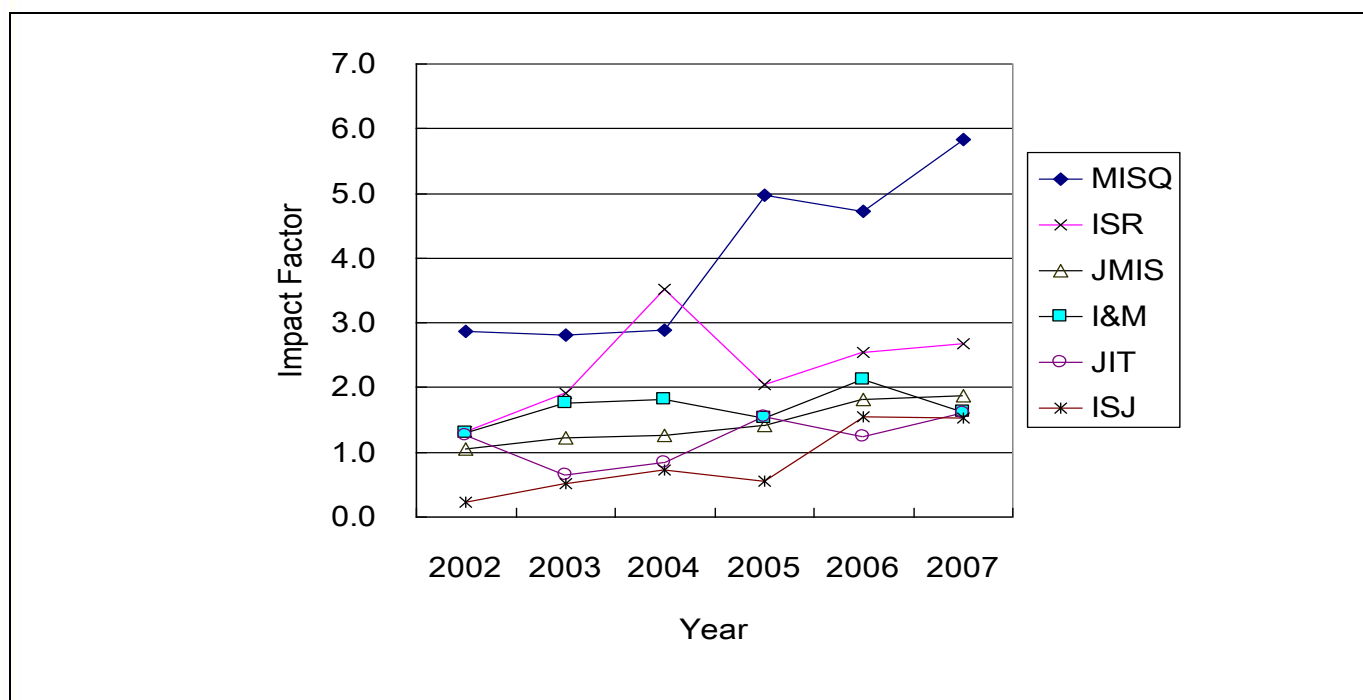


Figure 1. Impact Factor Values of Six SSCI journals in MIS Discipline

The Pattern of Cited Counts

Based on the cited counts in Table 2, *MISQ* (4,329) in 2007 was significantly behind journals such as *MgtSci* (12,110), *JAP* (11,182), *EJOR* (11,003), *AMJ* (9,555), *AMR* (8,341), *SMJ* (9,512), *CACM* (8,969), *JMktg* (7,245), and *ASQ* (7,123) in cited counts. However, this lag is to be expected, since those journals are much larger in number of articles per year and are flagship journals for fields that are much larger in number.

As for self-cited counts, Table 4 shows that most of the journals have a decreasing percentage of self-cited counts over the six-year period. For almost all journals, the percentage of self-citation stayed within a narrow range. The only outlier is *JCIS*, which moved from about 25 percent in 2002-2003 to being consistently above 60 percent in the 2004-2007 period. Its impact factor jumped from 0.080 to 0.764 in 2004 and was 0.528 in 2007. The other journals experiencing increases have no more than 30 percent self-cite counts.

The Pattern of Citing Counts

The citing counts in Table 3 indicate that the leading *MIS* journals, such as *MISQ* (2,950), *ISR* (1,403), and *JMIS* (2,398), are not the top citers in terms of number of citations. Both *EJOR* (23,231) and *JAP* (10,626) included more than 10,000 references in 2007. Of course, the citing count is highly related to the number of articles published in the year. According to JCR database, in 2007 *MISQ* published 30 articles while *ISR*, *JMIS*, *EJOR*, and *JAP* published 23, 40, 838, and 136 respectively. After dividing the citing counts by the article numbers, the highest

average count per paper goes to *MISQ* (99), followed by *JAP* (79), *ISR* (62), *JMIS* (60), and *EJOR* (28).³ Is it really necessary for journal authors to average over 60 citations in a paper? Are all the citations relevant to the citing paper? Does having more citations signify more research contribution of a paper? The answers depend on whether the references are important or not. In my opinion, to improve academic quality a journal editor should exercise more discretion and discourage authors (and sometimes correct them) from placing too many citations in their papers.

Table 4. Percent of Self-Cited Count 2002-2007

Journal ID	2007	2006	2005	2004	2003	2002
MISQ	7.2%	6.8%	7.8%	9.0%	8.3%	13.5%
ISR	3.0%	5.2%	5.3%	5.0%	6.8%	16.8%
JMIS	10.3%	15.8%	13.7%	13.2%	17.7%	22.0%
I&M	11.8%	24.7%	19.6%	29.0%	24.9%	21.7%
JIT	4.0%	5.1%	8.6%	3.7%	10.7%	17.9%
ISJ	15.8%	11.7%	6.7%	11.1%	8.0%	7.9%
IP&M	10.3%	15.1%	15.0%	8.4%	10.0%	13.4%
JAMSIST	28.7%	19.7%	16.1%	13.3%	18.4%	20.8%
JIS	13.8%	12.3%	8.7%	12.0%	16.4%	15.8%
InfoSoc	9.8%	9.5%	7.8%	10.5%	9.7%	10.5%
IJIM	10.2%	7.4%	11.5%	12.0%	8.1%	15.5%
TOSE	6.2%	5.4%	8.0%	6.4%	6.8%	8.1%
TODS	3.7%	4.1%	2.4%	1.6%	3.3%	1.7%
TOIS	1.0%	0.5%	0.7%	1.6%	2.5%	1.9%
TKDE	4.3%	5.6%	5.2%	5.7%	7.0%	10.3%
CACM	1.4%	1.2%	1.7%	1.8%	2.0%	1.8%
ESWA	19.9%	23.1%	37.2%	20.5%	22.4%	27.2%
DSS	22.9%	16.6%	12.9%	13.0%	7.5%	12.5%
EJIS	24.3%	21.4%	25.1%	12.4%	13.0%	12.5%
JCIS	65.7%	62.7%	71.0%	74.9%	29.4%	25.0%
AMJ	6.7%	5.0%	5.6%	4.7%	4.3%	6.0%
AMR	5.3%	4.4%	3.5%	2.6%	4.3%	3.2%
MktSci	23.2%	28.8%	21.5%	27.0%	17.5%	12.9%
JMktg	6.7%	5.1%	8.6%	7.5%	5.4%	7.8%
JAP	13.2%	10.4%	12.3%	9.3%	10.3%	12.2%
ASQ	2.2%	2.7%	3.6%	2.4%	2.8%	4.4%
SMJ	9.2%	7.6%	10.7%	13.7%	13.4%	14.6%
MgtSci	4.4%	4.3%	5.2%	14.0%	5.9%	5.0%
EJOR	19.5%	16.7%	12.8%	15.9%	14.5%	17.0%

Note: Each entry is derived from dividing the self-cited count by the total cited count in Table 2.

³ Using *MISQ* as an example, the number 99 derives from taking the rounded-up ratio between the citing count 2950 and the number of published articles 30.

As for percents of self-citing counts, Table 5 reveals that the highest percent of increase between 2002 and 2007 goes to *JCIS* (1346 percent; from 0.5 percent to 6.8 percent), followed by *ISJ* (633 percent; 0.6 percent to 4.6 percent) and *JMIS* (632 percent; from 1.1 percent to 8.0 percent). Compared to *MktSci*, *JMktg*, *SMJ*, and *JAP* which had more than 10 percent of self-citing counts during the six year period, MIS journals consistently had less than 10 percent during this period (except for *JCIS*, which had more than 10 percent self-citing counts in 2004 and 2005). It is evident that editor's requesting authors to self-cite journal papers will not significantly change the percent of self-citing count when the total citing count is high. Therefore, the citing table is not as important as the cited table.

Table 5. Percent of Self-Citing Count 2002-2007

Journal ID	2007	2006	2005	2004	2003	2002
MISQ	10.5%	6.9%	8.4%	9.5%	9.3%	8.1%
ISR	4.5%	5.9%	4.9%	2.8%	4.1%	4.9%
JMIS	8.0%	6.9%	8.2%	5.9%	1.7%	1.1%
I&M	8.0%	8.6%	8.1%	8.1%	7.7%	7.7%
JIT	1.3%	1.4%	2.4%	0.9%	2.3%	2.7%
ISJ	4.6%	3.9%	1.0%	1.5%	1.0%	0.6%
IP&M	4.4%	6.4%	5.7%	5.1%	6.5%	8.7%
JAMSIST	9.4%	10.2%	7.8%	8.3%	10.2%	10.3%
JIS	3.1%	3.1%	2.3%	3.0%	4.7%	3.5%
InfoSoc	3.2%	2.4%	1.6%	1.6%	1.4%	1.6%
IJIM	2.3%	1.7%	2.6%	2.5%	1.8%	2.1%
TOSE	9.3%	7.4%	9.1%	7.4%	8.1%	7.7%
TODS	3.3%	2.4%	2.3%	1.7%	4.8%	2.5%
TOIS	1.6%	0.7%	1.0%	1.7%	3.5%	1.7%
TKDE	2.4%	3.0%	2.2%	2.5%	2.8%	3.6%
CACM	7.7%	6.0%	8.5%	9.7%	8.2%	7.3%
ESWA	3.9%	4.5%	5.7%	3.4%	3.6%	4.7%
DSS	5.5%	3.6%	3.8%	4.1%	2.8%	5.8%
EJIS	3.9%	3.6%	4.5%	3.1%	2.8%	1.8%
JCIS	6.8%	8.2%	10.8%	11.0%	0.8%	0.5%
AMJ	11.6%	9.0%	10.0%	9.2%	10.1%	7.6%
AMR	6.8%	6.2%	5.9%	4.8%	7.0%	6.0%
MktSci	20.3%	20.6%	20.3%	25.0%	19.0%	18.3%
JMktg	13.6%	13.0%	16.5%	13.5%	12.0%	14.9%
JAP	13.9%	13.2%	14.5%	12.6%	12.7%	14.5%
ASQ	9.3%	9.8%	9.4%	8.7%	9.5%	11.5%
SMJ	16.9%	14.2%	14.7%	16.3%	15.3%	16.6%
MgtSci	10.1%	8.0%	9.3%	22.3%	9.0%	9.2%
EJOR	9.2%	8.1%	7.5%	8.5%	7.3%	7.4%

Note: Each entry is derived from dividing the self-citing count by the total citing count in Table 3.



IV. CONCLUSIONS AND RECOMMENDATIONS

Journal self-citation is a common practice in the academic community. It reflects the influence of the journal on the author's knowledge sharing process if the citation is relevant to the paper. Not citing a paper important to your study from the target journal or citing a paper irrelevant to your study exposes you to being judged by referees and/or editors as having an insufficient literature review. Therefore, it is wise to start from scanning the papers in the target journal when engaging in literature search.

As indicated by the analysis, self-citation can be easily abused by the publisher or editor because it affects the value of impact factor. To prevent such abuse, the JCR database now provides a section of "Journal Self-Cites" in which the value of impact factor with self-cites is shown. For example, in 2007 *MISQ*'s impact factor is 5.826 and drops to 4.870 after removing self-cites. Likewise, *ISJ* drops from 1.531 to 1.219, *ESWA* from 1.177 to 0.881, *DSS* from 1.119 to 0.839, *EJOR* from 1.096 to 0.914, *EJIS* from 0.712 to 0.394, *JCIS* from 0.528 to 0.120, and *MktSci* from 3.964 to 1.470. The last three journals show substantial decreases in the values, which is not a good sign. This finding reaffirms that one should periodically study the self-citation pattern of the target journal using the method described in this paper in order to not fall into the impact factor game.

Because the purpose of this study is to examine the self-citation patterns of MIS journals, we did not examine the total number of journals that have cited a journal. Nor did we discuss other information items on the JCR database, such as cited half-life and relatedness. While journal count and cited half-life indicate the range and the duration of influence of a journal on the research community during a one year period, relatedness measures the relative strength of cited and citing relationships between two journals. Most of the computed information items in the JCR database are directed to one single journal; the relatedness is the only exception that involved the other journals. In essence, citations are evidence of knowledge exchange among scholars. The total cited count of a journal represents the level of knowledge dissemination the journal has on the other journals. Nonetheless, this is only a one directional effect. Relatedness considers two directional effects and uses the maximum of the two as the final value. Interested readers should refer to the algorithm proposed by Pudovkin and Garfield [2002].

Finally, due to the scope of this study, we did not look into the journals in the other disciplines closely. Nor did we examine all the MIS journals in the JCR database, including such recently indexed SCI/SSCI journals as *Journal of AIS*, *International Journal of Electronic Commerce*, *Electronic Commerce Research and Applications*, *Journals of Global Information Management*, and *Journal of Database Management*. According to our study, we found impact factors with or without self-cites, the total cited counts, the self-cited counts, and the article counts are useful in finding the patterns of citations. These information items are readily available from the JCR database. Interested readers should use multiple years of the aforementioned information items to analyze the citation patterns of their intended journals not discussed in this study.

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