

[Home](#)[Table of Contents](#)[Titles & Subject Index](#)[Authors Index](#)

A study of journal publication attributes: Some considerations for academics in the information systems discipline

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Received December 18, 2008; Accepted February 15, 2009

Abstract

This paper reports on research that examined the publication attributes of highly rated information systems journals. Publishing attributes investigated include journal age and size, circulation, number of articles published, annual subscription cost, frequency of publication and article length- attributes that have all been alluded to as being associated with journal standing and quality. The paper also argues that a journal's impact factor (JIF) encapsulates citation practices that are a reflection of the knowledge diffusion value of the journal- a characteristic that allowed the correlation between a journal's average 5-year JIF and associated publishing attributes to be investigated. The study used statistical analysis to determine that only two publishing attributes- circulation (0.417) and article length (0.432), were found to positively correlate with the averaged JIF and hence, assist with knowledge diffusion. Indeed, academics in their manuscript preparation may do well to consider circulation (journal reach) and journal article length (richness) as important publishing attributes that can be regarded as having the potential to contribute to the dissemination of scholarly knowledge.

Keywords

Information systems; Citation; Journal; Impact Factor; ISI; Circulation; Article length; Knowledge diffusion

Introduction

One of the closely aligned measures that reflects scholarly citation is a journal's impact factor (JIF), that was proposed some 50 years ago by Garfield ([Abt](#), 2004). The JIF is a calculated value that can be used to measure the citations to articles published in a journal. The derivation of this impact factor involves determining the number of citations to a journal's articles within a two-year period and then dividing this citation tally by the total number of articles published by the journal for the corresponding period ([Moed](#), 2005). Hence, each journal has a calculated metric value that will reflect the journal as a source of cited articles for this period- the higher the value, the greater the citation of articles in that journal by others. Indeed, a journal's JIF has been viewed as one of the commonly accepted means of gauging a journal's standing by editors, authors and university administrators ([Kemerer](#), 2004; [Moed](#), 2005; [Smith](#), 2005; [Sombatsompop & Markpin](#), 2005; [Steele](#), 2006).

The JIF is not without its critics and can be affected by author self-citation, journal age, the two-year citation window, statistical variance between journal years and poor cross-discipline comparability ([van Leeuwen, Moed & Reedijk](#), 1999; [Amin & Mabe](#), 2000). However, given the espoused criticisms of the JIF, it does provide a fundamental affiliation with the concept of capturing article citation, and as such reflects the value of the journal as a conduit for linking knowledge threads between one author and another. There also other factors that have been alluded to as potentially increasing the likelihood of an article being cited- factors that are affiliated with the publishing attributes of a journal and include journal *age*, *circulation*, *articles published*, *cost*, *frequency*, *journal size* and *article length*. Indeed, journal publication attributes seem to be seldom considered as part of an author's journal selection process, yet such attributes are commonly referred to as having an important influence on a journal's standing to potentially enhance the citation of an article- in effect facilitating knowledge diffusion. This study examines a set of journal publishing attributes that have been alluded to as contributing to increased article citation, and compares

these against an average JIF- a factor that is a commonly accepted measure of the citations to articles published in a journal.

Scholarly Publication and Information Systems

The publishing of scholarly works can be achieved through a variety of outlets, be it the traditional book, journal, monograph or electronic form. However, the advent of the peer-reviewed journal provides one of the important and most significant avenues for the dissemination and extension of knowledge. Indeed, the scholarly peer-reviewed journal tends to enjoy unchallenged leadership as the preferred, and traditional, publication outlet for academics and professionals ([Tenopir & King, 2001](#)).

In a nascent and dynamic discipline such as IS, not all journals have attained a JIF value and as such various IS ranking studies have proposed different journal lists in an endeavour to highlight appropriate publication outlets ([Nord & Nord, 1995](#); [Katerattanakul & Han, 2002](#); [Katerattanakul, Han & Hong, 2003](#); [Peffer & Ya, 2003](#); [Lowry, Romans & Curtis, 2004](#)). Moreover, authors may have the perception that higher listed journals have a greater quality value- the journals potentially providing greater opportunities for the citation of an author's work. Extra to the identified journal ranking studies, the Association for Information Systems (AIS)- the global organisation that serves as the representative body of academics specialising in IS, documents and ranks over one hundred publications as outlets for their scholarly work (<http://isworld.org/csaunders/rankings.htm>). Hence, for many scholars the decision to publish their research entails selecting an appropriate outlet that provides a suitable conduit that will allow both the exposure of their work, as well facilitate recognition for themselves and their educational institution ([Sellitto, 2005](#)).

When examining the studies associated with IS journal order listing, certain publishing attributes are asserted as being important in influencing journal standing. [Holsapple and colleagues](#) (1994) used citation analysis for the basis of their ranking work and found that journal age was an important attribute that was associated with business computing journal standing. [Peffer and Ya](#) (2006), in their summary of IS ranking studies allude to a variety of journal attributes such as frequency of publication and journal appropriateness. [Lowry et al.](#) (2006) indicate that publishing characteristics such as total journal pages, frequency of issue and the number of articles varies between journals and can influence journal ranking. IS journal ranking has also been reported from a regional perspective where readership within geographical areas has an impact on journal lists and arguably the perceived quality of the journal ([Mylonopoulos & Theoharakis, 2001](#)). Some authors, such as [Rainer and Miller](#) (2005), have produced a composite IS journal listing based on previously reported journal studies- a best of the best ranking that reflected the high quality and more influential journals over a 10-15 year period. Many of these reported studies tend to allude to general publishing attributes such as journal circulation, age, page counts and frequency of publication that influence a journal's perceived.

Studies in non-IS disciplines also provide evidence of important publishing attributes that relate to journal value. [Mort et al.](#) (2004) alluded to journal quality as being associated with article acceptance rates and the editorial-reviewer knowledge base. [Amin and Mabe](#) (2000) examined citation impact factors as a chief measure of journal quality and identified that the type of articles published (short or full), size of the journal and the number of contributing authors as issues that can influence journal standing. [Steele](#) (2006) and [Lane](#) (2006), both highlight an emerging journal editorial practice of publishing lengthy reviews or theme-specific articles that have a greater inclination of being cited and which positively impact on the JIF. These types of articles tend to dedicate significant proportion of their pages to providing a thorough and in depth explanation of content matter providing other scholars a pertinent and specific theoretical base to cite for their own work. [Chressanthis and Chressanthis](#) (1993) proposed that journal standing was associated with a number of independent publishing attributes such as the total number of article pages printed per year, age, manuscript submission fee, and journal circulation- number of article pages having the greatest influence on generating journal citations. In terms of the economics of publishing, [Bergstrom and Bergstrom](#) (2001) examined the economics associated with scholarly publication in relation to the JIF, whilst [Peritz](#) (1995) reported a correlation between journal circulation and JIF across several disciplines. Journal reputation, which is invariably built on the value of article quality, is argued as being correlated with a journal's circulation, age, language type and the nations where the journal is published ([Starbuck, 2005](#)).

The Research Focus

The concept of the JIF in being associated with direct capture of citation practices of authors is an attribute that invariably reflects a journal's ability to facilitate knowledge exploration and extension. Drawing from the notion that the JIF as a citation metric reflects a journal's value in extending a discipline's knowledge base, and coupled with the proposal that various publishing attributes have been deemed to influence journal standing through various ranking proposals, this study:

- Documents influencing publishing attributes of a set of previously highly ranked IS journals; and

- Explores the association of these attributes with respect to the documented journal impact factor (JIF).

The study provides a divergence from previous journal studies to highlight publishing attributes that various authors can regard as having the potential to contribute to, and potentially increase scholarly citation. Moreover, academics across all discipline areas can potentially gain an understanding of journal publication attributes and how they can influence the knowledge impact value of articles they might generate.

Research Design and Methodology

This study examines and documents the publishing attributes of a set of previously rated IS journals and explores the association of these attributes with respect to the documented JIF. The publishing attributes commonly alluded to as being associated with, and influencing, a journal's perceived standing or value include- *age* ([Chressanthis & Chressanthis, 1993](#); [van Leeuwen et al., 1999](#); [Amin & Mabe, 2000](#)), *circulation* ([Chressanthis & Chressanthis, 1993](#); [Peritz, 1995](#); [van Leeuwen et al., 1999](#); [Amin & Mabe, 2000](#); [Starbuck, 2005](#)), *number of articles published* ([Lowry et al., 2004](#)), *cost* ([Chressanthis & Chressanthis, 1993](#); [Bergstrom & Bergstrom, 2001](#)), *frequency of publication* ([Chressanthis & Chressanthis, 1993](#); [Amin & Mabe, 2000](#); [Peffer & Hui, 2003](#); [Lowry et al., 2004](#)), *journal size* ([Chressanthis & Chressanthis, 1993](#); [Amin & Mabe, 2000](#); [Lowry et al., 2004](#)) and *article length* ([Chressanthis & Chressanthis, 1993](#); [Amin & Mabe, 2000](#)). In order to allow a reasonable time for articles to be cited, 2004 was chosen as the year from which articles would be sourced.

Selection of Journals

The Association for Information Systems (AIS) website- Information Systems World (ISWorld)- was used to source the journals evaluated in this study. Journals listed on the [ISWorld website](http://isworld.org/csaunders/rankings.htm) (<http://isworld.org/csaunders/rankings.htm>) were examined against journal attribute characteristics in Ulrich's Periodicals Directory and the Journal Citation Reports (Thomson Reuters- previously known as Thompson Scientific). Journals that did not have a complete data set across these publication databases were eliminated allowing a final set of 45 previously identified and rated journals being used for the research. The list of journals and appropriate publishing attributes evaluated in this study are detailed in Table 1.

Table 1. Information Systems journals selected for evaluation

Journal Code	Journal (ISSN)	AIS Rank Points	Ranking across recent studies				Publish Sphere
			Rainer & Miller	Lowry et al.	Katerattanakul et al.	Peffer & Ya	
MISQ	MIS Quarterly (0276-7783)	1.11	1	1	1	1	US
ISR	Information Systems Research (1047-7047)	2.67	3	2	2	2	US
CACM	Communications of the ACM (0001-0782)	2.75	2	5	3		US
MS	Management Science (0025-1909)	4.14	4	4			US
DSI	Decision Sciences (0011-7315)	6.43	7	6			US
HBR	Harvard Business Review (0017-8012)	8.00	6	15			US
AIMag	AI Magazine (0738-4602)	9.00			9		US
EJIS	European Journal of Information Systems (0960-085X)	10.17	13	11	14	4	UK
IEEEESw	IEEE Software (0740-7459)	11.00	11				US
I&M	Information & Management (0378-7206)	11.89	12	9	15	5	N'lans
ACMTDS	ACM Trans on Database Systems (0362-5915)	12.00	15		10		US
IEEEETSE	IEEE Trans on Software Eng. (0098-5589)	12.17	10	22	5		US
SMR	Sloan Management Review (1532-9194)	13.17	16				US
ACS	ACM Computing Surveys	15.71	20		12		US

	(0360-0300)						
JComp	Journal on Computing (1091-9856)	16.00		16			US
AMJ	Academy of Management Journal (0001-4273)	16.60	25				US
IEEEETC	IEEE Trans on Computers (0018-9340)	18.00	18				US
OS	Organization Science (1047-7039)	18.00	31	14			US
IEEEComp	IEEE Computer (0018-9162)	18.17	19	25	16		US
ISJ	Information Systems Journal (1350-1917)	18.71	36	13	17	10	US
ASQ	Administrative Science Quarterly (0001-8392)	19.00	24				US
IS	Information Systems (0306-4379)	20.00		21	18	21	UK
AMR	Academy of Management Review (0363-7425)	20.40	32				US
JACM	Journal of the ACM (0004-5411)	20.40	26		4	17	US
COR	Computers and Operations Research (0305-0548)	20.50	17				UK
HCI	Human Computer Interaction (1044-7318)	20.67			7		US
CMR	California Management Review (0008-1256)	21.00					US
ACMTIS	ACM Trans on IS (1046-8188)	24.00	9			39	US
OR	Operations Research (0030-364X)	24.00		17			US
JCIS	Journal of Comp IS (0887-4417)	24.87		23	26	13	US
IEEEETKDE	IEEE Trans on Knowledge and Data Engr. (1041-4347)	25.00					US
IBMSJ	IBM Systems Journal (0018-8670)	26.00	42		8		US
ISM	Information Systems Management (1058-0530)	29.00			19	38	US
ESA	Expert Systems with Applications (0957-4174)	29.00			29		UK
INTFCS	Interfaces (INFORMS) 0092-2102	29.00	39				US
Omega	Omega (0305-0483)	29.60	48				UK
JIT	Journal of Information Technology (0268-3962)	31.50			23	40	UK
JASIST	Journal of Am Society for Info. Science & Tech (1532-2882)	34.00					US
JISci	Journal of Information Science (0165-5515)	36.00	49				UK
INFOR	INFOR (0315-5986)	37.00					Canada
CompJ	Computer Journal (0010-4620)	39.33			25		UK
IPM	Information Processing and Management (0306-4573)	40.50				46	UK
IJTM	International Journal of Tech. Management (0267-5730)	41.00	41				Swiss
JSwM	Journal of Software	47.00					UK

	Maintenance & Evolution (1532-060X)						
JM	Journal of Management (0149-2063)	50.00				50	US

Journal publishing attributes

Ulrich's Periodicals Directory was used as a data source allowing journal age, publisher details, publication frequency, circulation and institutional subscription cost to be determined.

The JIF is a calculated value derived from either the *Social Science Citation Index* or the *Science Citation Index* that forms part of the JCR. The JCR set of indexes have become the standard databases of choice for journal and citation analysis (Cronin, 2001). Amin and Mabe (2000) indicate that annual impact values are prone to statistical aberrations and that JIF evaluation based on a broader time span tends to smooth out what can be significant year-to-year variability. Hence, this study averaged the JIF across a 5 year time-period (2000-2005) in an endeavour to ameliorate the year-to-year variability in a journal's annual JIF.

Journal age is the number of years elapsed to 2004 from the first reported year of journal publication.

Circulation indicates the journal's distribution and directly reflects the publication's potential readership. Indeed, the circulation of the journal directly reflects the journal's marketing value.

Frequency of publication entails the number of journal issues that are published in an annual period.

Cost of a journal reflects the publishing paradigm associated with information access. The journal cost used in this study was the latest available rate for institutional access. All costs are expressed in US dollars with all non-US fees converted to US dollars equivalents.

Articles published relates to the number of individual research manuscripts printed in the selected year for each journal evaluated. Articles excluded editorial viewpoints or introductions, book reviews, research notes and announcements.

Journal size was based on the total number of annual pages published by a journal. The total number of journal pages were standardised to MISQ equivalents based on the work of Trieschmann, Dennis, Northcraft and Niemi (2000).

Article length is directly related to journal size and the number of articles published. This characteristic reflects the type of article published- short or long types- and is calculated as a journal's average article length across the annual publication run.

Results and Discussion

The study examined the publication attributes of 45 high rating information systems journals identified and ranked on the AIS website. Journals geography origins embraced both the North American (34) and European (11) publishing sphere. Table 2 summarises the journal attributes using their average 5-year JIF value to list them in descending order.

Table 2. Journals publication attributes by ISI

Listing based on ISI	Journal Code	Freq ¹ (N)	Cost ¹ (\$US)	Circulation ¹ (N)	Age (Years)	Articles ² (N)	Pages ³ (N)	Article Length (page) ⁴	ISI 5 year Mean
1	ACS	4	230	4,323	35	12	441	36.77	5.669
2	AMR	4	185	11,500	28	30	516	17.18	3.848
3	ASQ	4	190	4,484	48	16	426	26.63	3.091
4	ACMTIS	4	236	4,573	21	19	349	18.39	3.116
5	MISQ	4	115	3,000	27	25	690	27.60	3.068
6	AMJ	6	200	11,500	46	51	817	16.02	2.713
7	JACM	4	321	2,674	50	32	834	26.05	2.144
8	OS	6	296	1,900	14	48	916	19.09	2.064
9	IS	8	1,722	1,200	29	32	506	15.81	2.054
10	ISR	4	288	2,000	14	20	410	20.52	1.894

11	CACM	12	260	85,000	46	164	878	5.35	1.789
12	JASIS	14	2418	4,800	66	103	1,779	17.27	1.711
13	HBR	12	165	250,000	82	104	1,140	10.97	1.683
14	IEEETC	12	1,465	8,000	52	134	2,196	16.38	1.797
15	MS	12	591	5,000	50	121	2,182	18.03	1.583
16	IEEETSE	12	1,350	11,000	29	68	1,370	20.15	1.554
17	ACMTDS	4	235	3,300	28	21	508	24.21	1.542
18	I&M	8	716	2,500	36	72	1,109	15.41	1.516
19	JM	6	459	2,000	29	43	736	17.12	1.496
20	IPM	6	1573	2,000	41	58	869	14.98	1.410
21	AIMag	4	230	6,000	24	25	437	17.50	1.356
22	IBMSJ	4	130	30,000	42	42	784	18.66	1.344
23	IEEEComp	12	1,185	96,589	38	156	1,185	7.59	1.272
24	IEEETKDE	12	950	5,000	15	119	2,270	19.08	1.244
25	CMR	4	140	6,500	46	28	424	15.13	1.188
26	IEEESw	6	77	23,000	20	41	232	5.66	1.164
27	JComp	4	202	1,800	15	39	531	13.63	1.151
28	SMR	4	125	25,000	44	50	318	6.36	0.986*
29	JIT	4	688	700	19	27	338	12.50	0.968
30	ESA	8	2294	1481	14	111	1,801	16.23	0.931
31	JISci	6	492	3,800	25	44	590	13.41	0.900
32	OR	6	400	4,300	52	71	1,337	18.83	0.880
33	EJIS	4	596	700	13	24	416	17.32	0.861
34	DSI	4	277	4,000	34	31	613	19.78	0.802
35	JSwM	6	2129	400	15	17	389	22.88	0.638
36	INTFCS	6	296	4,000	33	46	482	10.47	0.524
37	CompJ	6	1136	4,500	46	51	926	18.17	0.523
38	COR	14	3,099	1,000	30	146	1,584	10.85	0.523
39	Omega	6	1,161	1,400	31	42	590	14.06	0.498
40	HCI	4	670	400	15	24	349	14.54	0.462
41	ISJ	4	717	400	13	17	319	18.76	0.456
42	JCIS	4	175	1,000	44	50	747	14.94	0.340
43	IJTM	8	1,864	20,000	18	93	1,198	12.88	0.233
44	INFOR	4	72	400	41	20	270	13.48	0.192
45	ISM	4	175	2,000	21	44	353	8.03	0.171

¹. Sourced from Ulrich's Periodicals Directory. Cost amount is the institution subscription price in \$US.

². Article values based on manual counts for a selected year (2005) of each journal.

³. Journal page counts and average article length based on page counts standardised to *MISQ* journal equivalents *Only 4 years of ISI values available.

The highest average 5-year JIF was achieved by the *ACS* (5.669) with the lowest being *ISM* (0.171). The JIF mean across this set of journals was 1.45 with 27 of the 45 (60.0%) journals having an average 5-year JIF of 1.000 and above. The newer journals in the study were the *ISJ* and *EJIS* (circa 13 years), whilst the well-known *HBR* (82 years) was the longest published journal- the average age across all journals was 32.87 years. The collective number of pages published by journals was 37,156- with the mean number of pages published per journal being 826. The total number of articles evaluated across all journals was 2,531 representing a mean of 56.2 articles per journal. The article length across the 45 journals averaged 16.55 pages. *ACS* published only 12 articles and had the highest number of pages per articles (36.77) reflecting article types that were information dense and verbose- commensurate with the journal's aim of publishing articles (survey and symposium focused) that tend to review and integrate the existing research literature or comprehensive tutorial papers aimed at the inexpert audience. Indeed, *ACS* articles in being thorough, informative and timely would provide practicing academics appropriate works that could be used to justify or base their own articles on. It has been suggested that a way in which to improve the citation of a journal's articles is to publish lengthy review-type manuscripts (Steele, 2006; Lane, 2006)- a practice that potentially

can increase a journal's JIF- the *ACS* being a possibly example of the phenomenon at work. The *ACS* was more than 8-9 pages ahead in average article content than the next highest journals- *MISQ* (27.60) and *ASQ* (26.63). Paradoxically, *ACS* published the least number of articles, with the highest concentration of information content.

The journal subscription fees can be considered to be a cost associated with information access and tends to be directly related to publishing overheads that may include pre-press editing and manuscript preparation, marketing, printing and distribution. Cost can also directly reflect frequency of journal publication and the size or volume of the journal. Indeed, the journal with the greatest number of average issues per year, *COR*, had the highest subscription fee. On the other hand several journals publishing a high number of issues such as *CACM* and *HBR* had a relatively low subscription fee that may be explained by their larger circulation (85,000 and 250,000 respectively) allowing publishing costs to be dispersed across this broader circulation base. The European-based journal with the highest average 5-year JIF was *IS* (2.054) with many of the top 20 list journals having a US based publisher. Indeed, only three European journals (*IS*, *I&M AND IPM*) are in the top twenty order when it comes to their average 5-year JIF value, with the majority relegated to the lower portion of the journal list.

How publishing attributes correlate with journal impact factor

The study used a Spearman's rank order correlation (ρ) to examine the association between publication attributes and a journal's average 5-year JIF value. Correlation values are summarised in Table 3.

Table 3. Spearman's (ρ) Correlation Coefficient of journal publishing attributes ($p < 0.01$)**

	Age	Fq	Cost	Circulation	Articles	Journal Size	Article Length	ISI® 5 year mean
Age	1.000	.258	-.156	.476 (**)	.387 (**)	.378 (*)	-.067	.270
Fq		1.000	.618 (**)	.292	.818 (**)	.751 (**)	-.265	.060
Cost			1.000	-.268	.375 (*)	.485 (**)	.033	-.190
Circulation				1.000	.419 (**)	.326 (*)	-.116	.417 (**)
Articles					1.000	.816 (**)	-.439 (**)	-.064
Journal Size						1.000	.089	.177
Article Length							1.000	.432 (**)
ISI® 5 year mean								1.000

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

Some of the correlation findings are not surprising given the traditional publishing paradigm in which these journal attributes operate. For example: Frequency of journal publication was found to be:

- Positively correlated with journal subscription cost (Suggested explanation- the higher number issues published, translates into a greater cost of production for a publisher).
- Positively correlated with article count (Suggested explanation- a high number issues published, translates into a greater number of articles published by the journal each year).

Journal age was found to be:

- Positively correlated with the total number of articles published per year. (Suggested explanation- with time, natural journal growth needs to accommodate an increased number of articles submitted and published. This tends to be achieved by expanding the number of issues (frequency) of the journal published each year. Both frequency and number of articles correlate with journal age).

However, when it comes to the JIF, moderate, but significant, positive correlation was found between a journal's average 5-year JIF and two publishing attributes- circulation and article length. Arguably, these two attributes are associated with journals that have a relatively greater propensity to facilitate knowledge diffusion as reflected in a higher JIF. These two publishing attributes identified as positively correlating with the average 5-year JIF can be viewed as addressing the journal's *reach* and article information *richness* paradigm. Journal reach is reflected in the broad journal circulation base, whilst richness embodies the type of article published, longer articles having a higher information density than shorter journal articles.

A high journal circulation can be viewed as an important marketing characteristic in that it exposes a published article to a relatively higher number of readers- all these readers being potential citers of the article. Hence, knowledge extension is founded on the journal being a citation source based on its relative reach. Circulation has been previously identified as a journal attribute that potentially impacted on the perceived quality of a journal and also subsequent ranking by academics. In the context of previous work, various authors ([Chressanthis & Chressanthis, 1993](#); [van Leeuwen et al., 1999](#); [Amin & Mabe, 2000](#); [Starbuck, 2005](#)) have proposed that journal circulation reflects the publication's potential readership and by inference increases the standing of the journal. This study supports these previous findings in general with respect circulation being positively correlated to the JIF.

Information richness relates to article length (long or short). The longer a journal article, the greater likelihood that the author has been able to formulate arguments, develop constructs, or accordingly place their work in theoretical context by providing and examining the supporting evidence. These lengthier articles can be assumed to be more complex and information rich- potentially stimulating prospective readers to tacitly harness and interpret the article's ideas to shape their own work. Knowledge extension in this instance is founded on the journal being a citation source based on its relative article richness. This study supports previous assertions by [Steele \(2006\)](#) and [Lane \(2006\)](#) who suggested that the publishing of lengthy reviews or theme-specific articles had a greater inclination of being cited and hence affecting the JIF. Furthermore, the findings of this study are aligned with the relatively few works ([Chressanthis & Chressanthis, 1993](#); [Amin & Mabe, 2000](#)) that have proposed that the length of a journal article has any relevance in considering the standing of the journal- in this instance being positively associated with the journal's JIF.

Implications for authors/scholars and journal editors/publishers

For the scholar in general, and the IS academic in particular there should be an awareness that journal reach and article richness should not be overlooked when considering outlets for publishing their work. These two publishing attributes can be argued as being important in increasing the propensity of an author having an article cited by other scholars as a knowledge source. Moreover, the interesting implication is that perhaps authors should be writing longer articles to increase the likelihood of being cited- hence, their work acting as a conduit for progressing a discipline's knowledge base. This is not to imply that authors should simply write longer papers, with superfluous content- the content should add value to the paper and be commensurate with the paper's underlying constructs and themes.

The journal publishing process is a regimented and well-planned exercise. Arguably, publishers and editorial boards have control over many, if not all of the traditional publishing attributes investigated. For example, a publisher can influence and/or direct the type of articles a journal accepts- long or short; the number of issues that need to be published based on journal demand and reader feedback; journal circulation can be based on a niche market or be directed to a broad readership. Given that these traditional publishing attributes tend to be relatively constant publishing factors and ones under the control of editors and publishers, it could be argued that publishers/editors may consider examining the two identified attributes that correlated positively with journal impact factors in an endeavour to expand or improve the knowledge diffusion characteristics of their journals.

Conclusion

This paper reports on research that examined the publication attributes of 45 high rating information systems journals. It was argued that the modern day journal impact factor (JIF) by reflecting the citation practices of authors is a characteristic that invariably reflects a journal's ability to facilitate knowledge diffusion and extension. Drawing from the assertion that the JIF as a citation metric reflects a journal's value in extending a discipline's knowledge base, and coupled with the proposal that various publishing attributes have been deemed to influence journal standing that is reflected in this factor, the study examined the association of publishing attributes with the JIF. Of the seven publishing attributes investigated (journal age, circulation, number of articles published, subscription cost, frequency of publication, size and article length) only two- circulation and article length- positively correlated with a journal's average 5-year JIF. Using these two attributes that tend to reflect journal reach (circulation) and article information richness (article length) it was postulated that these two attributes should be consideration in the formulation and writing of academics journal articles.

Study Limitations

The study was limited to examining journal attributes that were tangible in definition and, hence, able to be clearly calculated (e.g., journal page counts and age) or accessed (publication frequency, JIF). Various intangible publishing attributes such as acceptance rates, the editorial-reviewer knowledge base and

editorial affiliations can and do also influence publishing behaviour. However, such attributes are difficult to source and cannot be overtly documented or readily determined, hence were not considered in this study.

Journal circulation was based on the traditional publishing paradigm and does not accommodate the potential variances that may be associated with electronic journal access- downloads, page views, etc. Such data is difficult to source and when identified can have a questionable reliability and be difficult to interpret. Notwithstanding these concerns, electronic circulation values may have resulted in different findings.

The study used Ulrich's Periodicals Directory to source journal data. Ulrich's relies on publishers to voluntarily maintain their data listings in an endeavour to reflect accurate and comprehensive journal statistics. Arguably, any lack of compliance by publishers in periodically updating their data may have resulted in the use of dated journal attribute values. Hence, the limitations associated with data sourced from the Ulrich's Periodicals Directory, can also be considered to be a limitation of this study.

Future Research

The paper examined the publishing attributes associated with information-systems journals listed on Association for Information Systems (AIS) website- Information Systems World (ISWorld). In terms of consolidating the paper's findings across a broader set of IS journals- not just the best-ranked ones- a greater range and number of journals needs to be evaluated. A broadening of the journal sample base will allow the research to claim some form of generalization across the spectrum of IS publications that potentially included lesser known and niche-type outlets. Moreover, a selection of *open-access journals* should be incorporated in future studies. Given that these open-access journals have the potential to engage a high number of readers due to their free availability in the online environment- the reach attribute proposed in this study would allow a comparison between the traditional and open-access publishing paradigm and highlight any differences.

In terms of exploring academic publishing values, a complementary field study could be undertaken to elicit the behaviour of, perhaps, different classes of authors in their selection of journals with a focus on finding out which journal attributes they value in making their selection. Such a study would complement the current study. Furthermore, only a single year of annual publications was evaluated in this study for each journal and future research should expand the annual publication to include several years of article output- which will add a confirmatory and consolidating base this study's findings.

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Bibliographic information of this paper for citing:

Sellitto, Carmine (2009). "A study of journal publication attributes: Some considerations for academics in the information systems discipline." *Webology*, 6(1), Article 66. Available at:
<http://www.webology.org/2009/v6n1/a66.html>

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