International Journal of Internet Science

Journal Impact Revisited

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It has been three years since we first attempted to estimate the impact of our start-up journal International Journal of Internet Science (Reips & Matzat, 2008). Impact figures for start-up journals are still hard to get from the organizations that have been collecting journal data - an astounding lack in times of Internet Science, when it has become possible and common to retrieve and deliver bibliographic information from massive databases within seconds. Alas, there is one success story: A few weeks ago, Google started "Google Scholar Citations". It is geared towards authors, but the system is forgiving, so I could create a personality for our journal at http://scholar.google.com/citations?user=OCYy1o4AAAAJ. Here it becomes immediately visible that the International Journal of Internet Science has an h factor of 8, meaning that eight of its 22 articles have been cited for at least eight times (not counting editorials and book reviews). Also, it becomes visible that all of the citations that lead to this h factor happened during the last five years. Google Scholar Citations further provides an "i10" metric of 5 for the IJIS, meaning that 5 of its 22 articles have been cited at least ten times. Of course, applying impact factors like h and i10 to journals is questionable, as they were developed to measure author impact. But indices designed to measure journal impact are also often criticized on various grounds – even ISI Thomson's *Journal Citation Report (ISI JCR)*, the most widely used impact factor that is highly regarded by many institutions and often used as a basis for important decisions. Wikipedia notes:

> For instance, editorials in a journal are not considered to be citable items and therefore do not enter into the denominator of the impact factor. However, citations to such items will still enter into the numerator, thereby inflating the impact factor. In addition, if such items cite other articles (often even from the same journal), those citations will be counted and will increase the citation count for the cited journal. (Impact factor, 2011)

Consequently, the present editorial would formally raise IJIS's journal impact factor substantially, if it was yet listed in ISI Thomson. I thus ask our evaluators for inclusion and our readership to kindly disregard the references to IJIS articles below for purposes of estimation of impact.

A search on Google Scholar for "International Journal of Internet Science" turns up 198 results (December 23, 2011), among them all contributions to the journal and all articles that cite them. Note that Google Scholar lists citing publications, while Google Scholar Citations lists citations at currently 205 – we can thus infer that several publications refer to more than one article from the International Journal of Internet Science. The three most frequently cited articles are by Göritz (2006), Mesch (2006), and Smyth, Dillman, Christian, & Stern (2006), with 62, 25, and 25 citations, respectively. Naturally, the older an article the higher is its chance to get cited and so it is no surprise all these three articles are from the 2006 issue. All the more surprising, and promising for the journal's impact factor, is the high citation rate for some of the 2010 articles: Freelon (2010) has already been

cited 8 times, Bachmann, Kaufhold, and Lewis (2010) 7 times, and the editorial by Dillman, Reips, and Matzat (2010) has been cited 3 times.

From 2008, the articles by Weltevreden and Boschma and by Janetzko were the most frequently cited, with 6 and 5 citations, respectively. While the 2009 issue has not received much attention, in 2007 the frontrunners are Shih and Fan, Wittchen, Schlereth and Hertel, Puig-i-Abril and Rojas, with 16, 10, and 8 citations respectively (some articles citing the latter two articles have used the wrong year or title, this is corrected in the present statistics).

Searches in additional databases (MetaLib, Scirus, Scopus, Springerlink) did not reveal any additional 2011 citations to 2009 or 2010. This may reflect a greater reach that Google Scholar has achieved since we prepared our 2008 editorial - at that time we found several publications that had not been covered by Google Scholar.

Current impact: > 2.50 (ISI$_{\text{IJIS not included}}$ > 1.13; ISI$_{\text{IJIS included}}$ > 1.88)

As noted in our 2008 editorial:
> To measure a journal's influence, the journal impact factor (Impact factor, 2008; The Thomson Corporation, 2008) describes how often the average article in a journal is cited. Technically, the journal impact factor is calculated based on a two-year period. It can be viewed as the average number of citations in a year given to those articles in a journal that were published during the two preceding years. Thus, a journal's impact factor can only be calculated after it has been appearing for three full years. (Reips & Matzat, 2008, p. 1)

We then moved on to calculate impact estimates for the International Journal of Internet Science reliably based on citations of the first issue (2.83; 1.17 by ISI journal selection only) and less reliably (conservative, because not all relevant citations are yet known at the end of the second year of the reference period) based on citations of the first two issues (1.64 or higher; 0.73 ISI). Now it is possible to assess the real citation rates that were not yet known in 2008 and thus to recalculate IJIS's 2008 impact. Indeed it was higher: 26 citations / 11 articles = 2.36 (rather than 1.64), see explanation of impact calculation below.

To estimate impact factors for the International Journal of Internet Science I processed the 198 references Google Scholar returns. Using scHolar index (http://insitu.lri.fr/~roussel/projects/scholarindex/index.cgi) these can be ordered by number of citations, see Figure 1. Via Google Scholar Citations I find 7 more citations, totalling 205. For the eight articles that have appeared in either 2009 or 2010 I find 18 citing references. The most frequently cited article, Freelon (2010), was cited by Becker, Beverungen, Matzner, Müller, and Pöppelbuß (2011), Harvey and Tang (2011), Lampasona, Schlosser, Mueller, Williams, Wenzlau, Hutton, Achenbach, et al. (2011), Massa (2011), Munson, Rosengren, and Resnick (2011), Rukavina, Nawka, Brborovic, Jovanovic, Rojnic Kuzman, Nawková, Bednárová, et al. (2011), Williams, Aguilar-Roca, Tsai, Wong, Beaupré, and O'Dowd (2011), and Woskov (2011). The article by Bachmann, Kaufhold, Lewis, and Gil de Zuniga (2010) was cited by Abidin, Omar, Mahmud, Rosli, and Rahman (2011), Dimitrova, Shehata, Strömbäck, and Nord (2011), Gil de Zúñiga, Lewis, Willard, Valenzuela, Kook Lee, and Baresch (2011), Gil de Zúñiga and Valenzuela (2011), Kaufhold (2011), Kissau, Lutz, and Rosset (2011), and Rahman, Omar, Abidin, Mahmud, and Rosli (2011). Three other articles, Egermann, Nagel, Altenmüller, and Kopiez (2009), Fuchs and Busse (2009), and Whitty and Buchanan (2010) were referenced one time each, by Egermann, Sutherland, Grewe, Nagel, Kopiez, and Altenmüller (2011), Fuchs (2010) and Gatson (2011), respectively. Furthermore, our 2010 editorial (Dillman, Reips, & Matzat, 2010) was cited in three journal articles, by Sánchez-Fernández, Muñoz-Leiva, & Montoro-Ríos (2011), Vaske (2011), and Vaske, Jacobs, Sijtsma, & Beaman (2011), increasing the total number of journal impact relevant citations to 21[1].

Thus, not counting one reference from 2010, the currently official 2011 journal impact calculation is 20 / 8 = 2.50. If we calculate only with citations that appeared in ISI journals (Thomson only includes journals in its calculations that are already in its database), then we arrive at an ISI impact of 9 / 8 = 1.13 for the International Journal of Internet Science, if it is not counted as part of the database, and of 15 / 8 = 1.88 if it is. Importantly, all figures calculated here are conservative estimates, because more citing articles published in 2011 are not yet known and couldn't be included in the present analysis.

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[1] Note that Rukavina et al. (2011) and Sánchez-Fernández et al. (2011) both appeared in 2011 as "Online First" articles with their publishers and thus have not yet been assigned volume and page numbers. While one could consider these articles "in press," they have been available for months and thus I count their citations to IJIS articles as 2011 citations here.

The IJIS compares well with other long-standing journals in the field, examples are *Behavior Research Methods* (ISI impact of 2.40), *Cyberpsychology Behavior and Social Networking* (formerly *"Cyberpsychology & Behavior,"* ISI impact of 1.80), *New Media & Society* (1.09), *Social Science Computer Review* (0.91) and *Information Society* (1.24, all values from the 2010 JCR Social Science Edition).
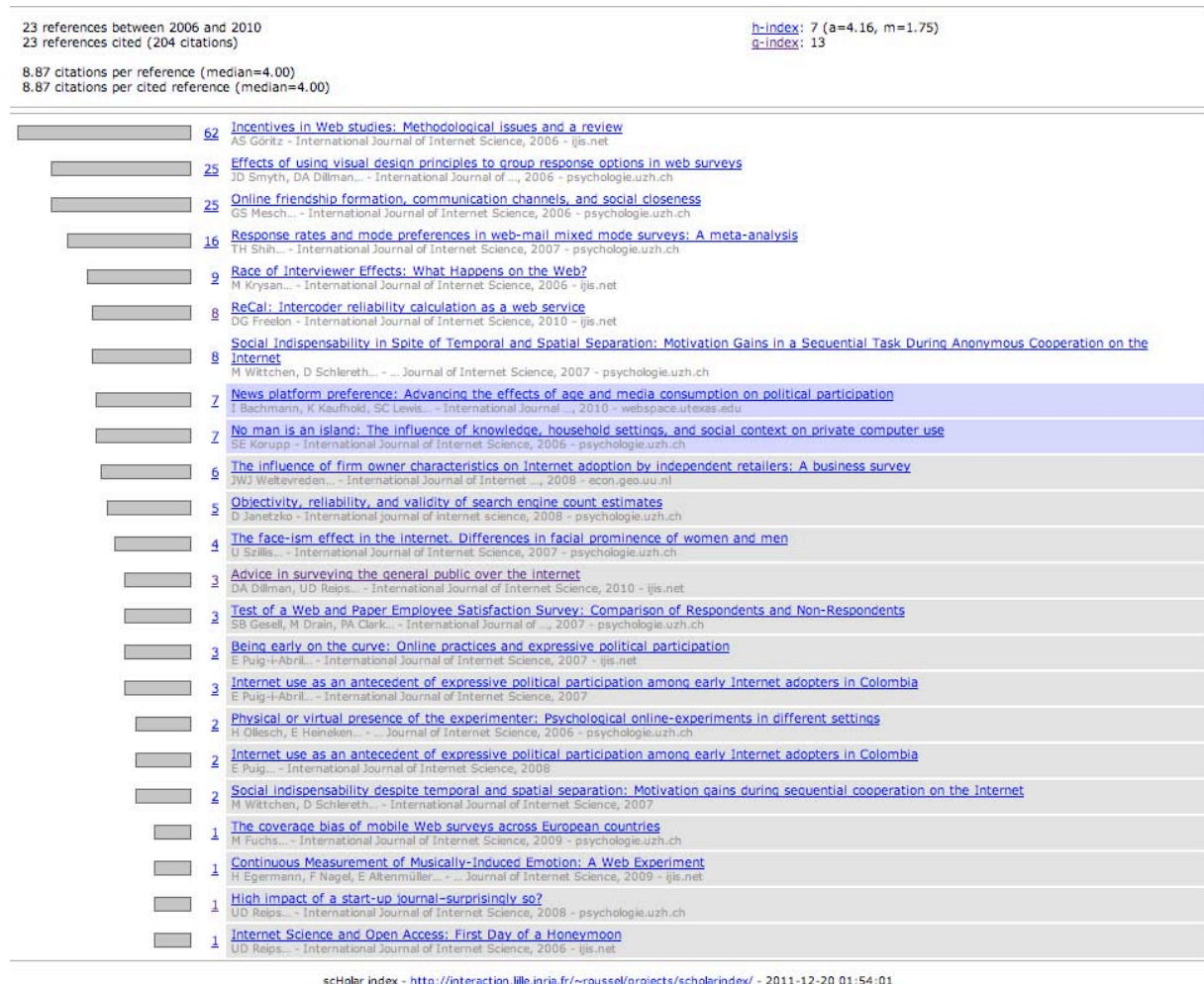

Figure 1. Citation frequencies for items published in the International Journal of Internet Science, listed by frequency in scHolar index on December 20, 2011, http://insitu.lri.fr/~roussel/projects/scholarindex/index.cgi

5-year impact and reasons for high impact

Recently, it became more popular to refer to 5-year journal impact figures, as they more reliably reflect a journal's impact over a longer period of time. According to Thomson Reuters (2011):

> The 5-year journal Impact Factor is the average number of times articles from the journal published in the past five years have been cited in the JCR year. It is ca[lc]ulated by dividing the number of citations in the JCR year by the total number of articles published in the five previous years.

Using Google Scholar I arrive at a 5-year journal impact of 49 / 22 = 2.23 for 2011 that increases to 2.91 if self-citations are included.

In our 2008 editorial we explained IJIS's comparatively high impact with high quality that comes as a result of extensive anonymous peer review in combination with a high rejection rate. The IJIS publishes few articles of high quality, and its rising impact confirms the success of this strategy. Two out of the four other reasons we mentioned as explanations of IJIS's comparatively high impact play no role for the 2011 journal impact: 1. We published no meta-analyses in 2009 and 2010; 2. Our assumption "in IJIS's scope are methodological articles that naturally find a wider audience than many from content domains" (p. 2) has been shown to contain a widely shared false intuition, as Garfield (n.d.), the founder and chairman emeritus of ISI Thomson notes:

> It is widely believed that methods articles attract more citations than other types of articles. However, this is not in fact true. Many journals devoted entirely to methods do not achieve unusual impact. But it is true that among the most cited articles in the literature there are some super classics that give this overall impression.

Our third and fourth reason, the Internet being one of the hot topics in research and a tendency for open access journals to receive more citations than those limited in access, may contribute to IJIS's comparatively high impact however.

For the ISI journal impact to become official for the International Journal of Internet Science, we have asked Thomson Reuters for inclusion with its database and they have confirmed the journal is currently being evaluated. The evaluation is estimated to take between one and two years.

Data from the editors' office

In line with the International Journal of Internet Science's high and increasing journal impact the rejection rate is now at 84.8%, meaning that only one out of about six manuscripts submitted to the journal enters and passes the review process. Our submission rate has increased significantly over the years, in 2011 it was four times as high as in 2006 and twice as high as in 2008. Having received many submissions from computer science in 2009 and 2010 that were unrelated to behavior, social phenomena, or even the Internet we clarified and more prominently display the journal's scope on http://ijis.net. It now reads:

> The International Journal of Internet Science is an interdisciplinary, peer reviewed journal for the publication of research articles about empirical findings, methodology, and theory in the field of Internet Science. It provides an outlet for articles on the Internet as a medium of research and its implications for individuals, social groups, organizations, and society. Typical articles report empirical results gathered to test and advance theories in the social and behavioral sciences.

The current issue

Issue 1 of Volume 6 includes three original research articles and one review of a book in the field of Internet science. The topics covered are the influence of format on acquisition of knowledge in online news, motivational determinants of enduring Web survey participation, and the development and impact of the Internet in the countries of the Arab Gulf Cooperation Council. Edith D. de Leeuw reviews the book "Handbook of Web Surveys" by Jelke Bethlehem and Silvia Biffignandi (John Wiley & Sons, 2012).

In the first article, *The Impact of Online News Features on Learning from News: A Knowledge Experiment* Michaël Opgenhaffen and Leen d'Haenens describe a knowledge experiment with 53 participants and find that the use of multimedia, interactivity, and hypertext applications in online news has an effect on recognition and cued recall, taking into account the level of difficulty of news content as well as users' Web expertise. Web expertise interacts with difficulty of news content, it thus should be selected by taking both factors into account. The authors conclude their abstract with the words, "Online journalists could put these findings to their advantage when producing online news stories".

Barbara Stiglbauer, Timo Gnambs, and Manuela Gamsjäger are the first to publish a report on longitudinal research conducted in an online panel with adolescents that will be important to all (Web) survey methodologists. In their article *The Interactive Effects of Motivations and Trust in Anonymity on Adolescents' Enduring Participation in Web-Based Social Science Research: A Longitudinal Behavioral Analysis* they report on a study on enduring survey participation over a period of 2 years. They find that extrinsic but not intrinsic motivation significantly increases the probability of initial survey participation, whereas both, extrinsic and intrinsic motivation, buffer the declining probability of survey participation over time; however, only if trust in anonymity is comparably low.

The third article, *The Internet in the Arab Gulf Cooperation Council (AGCC): Vehicle of Change*, by Taghreed M. Alqudsi-ghabra, Talal Al-Bannai, and Mohammad Al-Bahrani, provides important groundwork regarding the recent and not so recent development and impact of the Internet in the countries of the Arab Gulf Cooperation Council, the laws and regulations that govern the flow and control of information, and how the spread of revolts affected the information flow in these countries. The article tells much of the history of the Internet as a vehicle for change in its rapid spread across a large and important part of the Middle East. It contains a comprehensive and up-to-date analytic description that will be a good basis for many publications in the field that will follow up on it.

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