

# **What, who or where?**

## **Rejoinder to Identifying Research Topic Development in Business and Management Education Research Using Legitimation Code Theory**

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## What, who or where? Rejoinder to Identifying Research Topic Development in Business and Management Education Research Using Legitimation Code Theory

Arbaugh, Fornaciari and Hwang (2016) use citation analysis – with Google Scholar as their source of citation data – to track the development of Business and Management Education research by studying the field's 100 most highly cited articles. The authors distinguish several factors that might impact on an article's level of citations. In their own words: *"In examining the growth of this research and the role of such prominent works for developing the field, we could not help but become intrigued by the idea of whether an article is well cited or recognized because of the topic it addresses, the profile of the author(s) who wrote it, some combination of these two factors, or other possible reasons."* Arbaugh et al., 2016: 3). Later in their article they single out the prominence of the journal that the article is published in as a third factor that might be influential.

Although these three factors might seem rather intuitive, and the authors certainly are not the first to identify them, there is a surprising dearth of studies in the bibliometrics literature that attempt to disentangle the relative impact of these factors on citation outcomes. The fact that it is rather difficult to operationalize variables such as author profile and topical relevance, let alone systematically collect data on these variables, might have prevented bibliometricians from attempting to conduct this type of study. Yet, this question is of considerable relevance in the context of academic evaluation. If citation levels of individual articles are determined more by *what* is published (topic) and *who* publishes it (author) rather than by *where* it is published (journal), this would provide clear evidence that the frequently used practice of employing the ISI journal impact factor to evaluate individual articles or authors is inappropriate.

### Prior research on factors influencing citation levels

Over the years, several studies have established that many articles in so called "low impact" journals are in fact more highly cited than articles in "high impact" journals. For instance Starbuck (2005) found that although higher-prestige journals publish more highly cited articles, editorial selection involves considerable randomness. He concluded: *"Evaluating articles based primarily on which journal published them is more likely than not to yield incorrect assessments of the articles' value."* (:196) Based on an analysis of seven years of citations to every article in 34 top management journals published in 1993 and 1996, Singh et al. (2007) drew the same inescapable conclusion: *"using journal ranking ...can lead to substantial misclassification of individual articles and, by extension, the performance of the faculty members who authored them."* (:327) On the other hand, in their study of citation levels in 21 top Management journals, Judge, Cable, Colbert & Rynes (2007) found that publication in a journal with a high average citation rate is the single best predictor of an article's citation rates.

All of these studies, however, have used Thomson Reuters' Web of Science – usually referred to as "ISI" – as the source of their citation data. As Harzing & Ala-

kangas (2016) have shown, this leads to a serious underestimation of citation impact in the Social Sciences and Humanities and, to a lesser extent, Engineering. Likewise, Harzing & Mijnhardt (2015) ranked Dutch economists based on their *actual* citation levels in Google Scholar – which they called proof – rather than on the journal impact factor of their publications in the Web of Science – which they called promise. They found the two rankings to be substantially different. Moreover, the ranking based on actual Google Scholar citations for individual articles was more diverse in terms of age, gender, and institutional affiliation than the ranking based on Web of Science journal impact factors.

Arbaugh et al.'s (2016) data-set of the 100 most highly cited articles in Business and Management Education, generously shared with me by the authors, used Google Scholar rather than ISI citation data. It thus provides us with an excellent, though admittedly small-scale, sample to study the relative importance of topic, author and journal on article citation levels. In this brief commentary, I report the results of this analysis.

### **ISI Citation data compared to GS citation data**

First, I wanted to establish whether Arbaugh et al.'s (2016) choice of using Google Scholar citation data, rather than sourcing citation data from the Web of Science, was as appropriate as I expected it to be for the field of Business and Management Education. I therefore collected ISI citation data for all 100 articles in Arbaugh et al.'s (2016) paper. My findings clearly support their choice: 39 of the 100 papers had no citations at all in ISI as the journals in which they were published were not ISI-listed. Of the remaining 61 articles, citations levels in ISI were at most 43% of those in Google Scholar (GS).

In fact, 75% of the papers in Arbaugh et al.'s (2016) study have at most a quarter as many citations in ISI as in GS, whereas 90% of the papers in their sample have at most one third as many citations in ISI as in GS. Even more strikingly, seven out of the top-25 most cited papers in GS have no citations at all in ISI. Papers with a very small number of ISI citations compared to GS citations include publications in top journals such as *Academy of Management Journal*, *Journal of Management Studies*, *Accounting Review*, *Journal of Business Venturing*, *Entrepreneurship Theory and Practice*, *MIS Quarterly*, and *Information Systems Research*. Hence, it is abundantly clear that Google Scholar is a more suitable source of citation data than the Web of Science for bibliometric studies in the field of Business and Management Education.

### **Do topic, author or journal influence citation levels?**

So, with the suitability of the operationalization of citation levels established, we turn to the factors influencing article citation levels: topic, author profile, and journal. Arbaugh et al. (2016) classified topics into five areas: Ethics, Distance Education, Entrepreneurship Education, Business School critiques and Other. Of these five topics, a descriptive analysis showed that articles relating to Business School critiques had a significantly higher level of citations, articles relating to Ethics a significantly lower level, and the other three topics displaying similar citation levels. I thus recoded the topics into Ethics (1), Other (2), Business School critiques (3). Arbaugh et al. (2016) operationalized author profile as each article's most highly cited author's h-index in Google Scholar. As Arbaugh et al. (2016) did not use publication outlets in their categorization of articles, they

didn't operationalize the standing of journals. Hence, I classified the journals in their sample based on their ranking in the 2015 Academic Journal Guide published by the British Association of Business Schools. This list ranks journals from 1 (lowest) to 4 (highest), with a separate category for journals of distinction (JoD). Journals were thus coded based on their ABS rank, with JoD journals ranked 5 and the few journals that were not included in this list ranked 0.

Table 1 below reports the results of a regression analysis that investigates the influence of article topic, author profile, and journal rank on the article's citation level. It shows that whereas article topic and author profile have a significant impact on an article's citation level, the journal outlet does not. In other words, citations for Business and Management Education articles are influenced more by *what* the article is about and *who* is publishing the article than by *where* the article is published.

Table 1: Standardized beta co-efficient for article topic, author profile, and journal rank

Factor	Total GS Citations		GS Citations per year	
	Standardized Beta	Significance level	Standardized Beta	Significance level
Article topic	.238	0.018	.266	0.009
Author profile	.229	0.039	.251	0.024
Journal rank	.092	0.380	-.008	0.938

Articles that deal with a critique of business schools are more highly cited than articles on distance learning and entrepreneurship education, and the latter in turn are more highly cited than articles on ethics. Articles published by authors with a higher h-index (i.e. those with more publications that are highly cited) are more highly cited. In contrast, journal rank does not have a significant effect on citation levels once topic and author profile are taken into account. Obviously, older articles have had time chance to gather citations, so I conducted the same analysis using citations per year as a dependent variable. Interestingly, the effects are even more clearly delineated: article topic and author profile have a strong and significant effect on an article's citations, whereas journal rank has no influence on citation levels at all.

Probing further into the descriptive data shows us that there are some interaction effects. Articles dealing with ethics are more likely to be published in unranked, 2 and 3 star journals, whereas articles dealing with a critique of business schools were largely published in 4 and 5 star journals. As Arbaugh et al. (2016) show, the latter topic was also more likely to be tackled by prominent authors. Another way of looking at this is verifying whether the article in question was one of the author's top-3 most highly cited papers. For articles dealing with ethics, distance education, and entrepreneurship education, this was the case for two thirds to three quarters of the authors, whereas for articles dealing with a critique of business schools this was the case for only a fifth of the authors. Finally, authors with high h-indices are also more likely to publish in 4 and 5 star journals.

## Conclusion

This brief commentary investigated whether article topic, author profile or journal rank significantly influence an article's citation levels. Our regression analysis shows that, when all factors are taken into account at the same time, it is *what* is published (topic) and *who* has published it (author) that have the largest impact on citations, not *where* it is published (journal). Hence, the commonly used practice of using the prestige of a journal – oftentimes operationalized as the ISI journal impact factor – as a proxy for (citation) impact is clearly not appropriate for the field of Business and Management Education. It is thus rightly condemned by San Francisco Declaration on Research Assessment (DORA, <http://www.ascb.org/dora/>) and should not be used in academic evaluation. Instead, as Arbaugh et al. (2016) do, individual articles should be evaluated on their own merit and – especially in the Social Sciences and Humanities – any analysis of citation impact should use Google Scholar as a preferred data source rather than the ISI Web of Science.

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