Neither “Food Chain” nor “Translation Problem”? The Disregard of Academic Research in Best-Selling Business Books

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Received: April 10, 2016 Accepted: April 29, 2016 Online Published: May 9, 2016
doi:10.5430/ijba.v7n3p101 URL: http://dx.doi.org/10.5430/ijba.v7n3p101

Abstract
There has long been awareness of the lack of translation of academic research into professional practice. One recent suggested explanation of this is that academic research is “lost in translation;” another proposition is that a “food chain” of academic research provides communication linkages, wherein empirical research becomes absorbed into popular books and consulting materials, eventually reaching management practitioners and perhaps creating a pathway for translation and application. To partially examine these models, the author sampled 30 best-selling business books published between 1996 and 2005 and analyzed the 3,162 references cited in them. There is virtually no evidence to suggest a research “food chain” through these books. Neither does the pattern of citations suggest a “translation problem;” if anything, it suggests gratuitous citation of selected articles that frequently follow little or no discernible logic. The author suggests that the underlying problem may be one of research methods and interpretation that are common to the published literature in our discipline.

Keywords: AACSB, business books, citation analysis, corrupt research, social science methodology

1. Introduction
1.1 Background — A Troubled Marriage

In theory, empirical academic research based on theories, models, and conceptual frameworks should be the basis of a growing body of valid and effective management practice. That expectation was clearly behind the recommendations for more rigorous research and curricula in business schools by both the Ford Foundation (Gordon and Howell, 1959) and Carnegie Foundation (Pierson, 1959) reports. Schools of business in the US began modifying the composition of faculties to meet these challenges, and one of the key features of these changes was the addition of faculty trained in the research methods and traditions of the behavioral sciences (Webber et al., 1971).

The anticipated joint improvement in management research and benefits for practice proved elusive. Duncan (1972) proposed a set of linked knowledge subsystems as a mechanism to address the divide he observed between theory and practice, and later directly assessed the nature of this divide (1974a) and proposed a model to assess the linkages (1974b). In the latter paper, he found substantial disagreement between management scholars and practitioners on many important elements of the knowledge utilization process. In that regard, Duncan (1974b: 734-735) said, “Questions one, two, and three dealt with some philosophical issues relating to how knowledge develops, what determines its validity and usefulness, and what persons or institutions are instrumental in transferring it from theory to practice. In spite of the fact that studies have empirically established that researchers and managers desire mutual understanding, the reality of the situation may be quite different.”

Similarly, the Academy of Management held a workshop at its 1970 meetings to discuss the “troubled marriage” between the bodies of literature that had emerged during the 1960’s—one from traditional sources such as former management practitioners, economics, and the “classical” management scholars, and the other from those recently recruited from the behavioral sciences. Miner (1973) made the following observation about that meeting’s topic:

The primary factor accounting for the two literatures noted appears to be the sizable influx into business teaching and research of professors whose original training was in behavioral science
disciplines [Bass, 1965]... The influx of behavioral scientists into the management field has been unusually rapid... That is apparently why we find the type of segmentation noted typifying that period [i.e., the 1960's, when this influx occurred].

The consequences of this segmentation insofar as practicing managers and most students are concerned has been a monumental confusion. When major segments of a field support diametrically opposed methods of dealing with a great number of practical problems, and when in the process they note almost entirely distinct sources of support for their conclusions, the practitioner is left largely to his own devices. He is unlikely to be interested in whether one group, or the other, is right. What he wants to know is what will work. Presumably as a result of uncertainty on this score, many executives appear to be reading very little of what behavioral scientists consider their best writings [Dunette and Brown, 1968]. In all probability this is true, although to a somewhat lesser extent, of nonbehavioral writings as well [Hekimian, 1970] (Miner, 1973: 7-9).

In the nearly 50 years since these findings and evaluations, how much change in this “troubled marriage” has there been? As I pointed out (Kmetz, 2011a: 174):

... the literature on evidence of research impact is a long record of studies showing that academic research in management is neither used by practitioners nor perceived as relevant to their interests (Behrman and Levin, 1984; Bennis and O'Toole, 2005; Buckley et al., 1998; Chia and Holt, 2008; Cohen, 2007; Deadrick and Gibson, 2007; Duncan, 1974a, 1974b; Dunnette and Brown, 1968; Gopinath and Hoffman, 1995; Guest, 2007; Hambrick, 1994, 2007; Hoffman and Gopinath, 1994; Kilmann et al., 1983; Lyles, 1990; Miller, 1999; Pfeffer and Fong, 2002; Rynes et al., 2007; Starbuck, 2006; Van de Ven, 2000; Van de Ven and Johnson, 2006). In their extensive first-hand study of business education, Porter and McKibbin, (1988) concluded that managers “ignore academic research with impunity” (p. 304). In reviewing “key management ideas,” Crainer (1998) cites not a single top journal, and the only “key idea” based on empirical research is Herzberg’s Two-Factor Theory (1968), which most motivation researchers consider to be a discredited idea. Similarly, Mol and Birkinshaw (2008) trace not a single one of their “giant steps in management” to empirical research, and they also cite not a single top journal; this is especially ironic because their focus is on management innovations that have had significant impact. The business press has consistently noted the lack of relevance of academic research over the years (Panning for gold, 2004; Practically irrelevant?, 2007; Signifying nothing?, 2004; Byrne, 1990, 1997; Oviatt and Miller, 1989; Skapinker, 2008).

1.2 Valid Science?

Within the academic universe, the reaction to such findings is very bifurcated. On one hand, one body of scholars believes we have made sufficient progress in the behavioral sciences to justify a movement toward “evidence-based management” (EBM) as the basis for teaching in business-school programs (Rousseau, 2006, 2008; Rousseau and McCarthy, 2007). In an alternative view of EBM, managers are challenged to both rely on evidence and develop their own when making decisions (Pfeffer and Sutton, 2006); this view does not rely as strongly on “organizational science” to provide relevant evidence.

But at the same time, many in the academy question whether our research is truly scientific (Kmetz, 2011a):

Compared to 1959, many academic b-school researchers perceive themselves as scientists (Cummins, 2007; Rousseau, 2006). But many in the academy question whether our research is truly scientific (Hambrick, 1994, 2007), or forms a sound foundation for teaching (Pearce, 2004; Pfeffer and Fong, 2002; Starbuck, 2006). Our research appears to have no impact on those who recruit our MBA graduates (Safón, 2007). AACSB International itself has opened questions about the value and “impact” of b-school research (AACSB 2007, with a call for greater attention to its impact on practice). There has been expression of concern over the loss of professionalism in management education (Trank and Rynes, 2003) and faddishness in both education and practice (David and Strang, 2006; Greathatch and Clark, 2005; Huczynski, 2005).

Finally, support for the claims of value from academic research for practitioners is seldom found—one rare case is the unsupported claim that academic research actually benefits competitiveness (Tahai and Meyer, 1999); another was from Baldrige et al. (2004), whose survey was based on a sample of 31 of 82 managers serving on the advisory
board of the *Academy of Management Executive*, hardly an unbiased sample. O’Brien *et al.* (2010) claimed support for research as reflected in higher starting salaries for MBA graduates; this was reported by the *strategy + business* newsletter by Palmquist (2011). Among others, the author wrote a strongly critical response to this paper (Kmetz, 2011b), and the Palmquist article appears to have drawn little other than a burst of criticism, directed toward the original authors.

1.3 A Research “Food Chain” or “Lost in Translation”?  
More recently, two arguments have been proposed that might help explain the “troubled marriage” and to some extent the question of valid science. First, McKelvey (2006) described his concept of potential knowledge transfer in terms of a “knowledge food chain,” a linkage between production and consumption of knowledge not unlike a biological food chain. In the context of business school research, McKelvey proposes a chain consisting of several links:

Disciplines > Management Research > PhD/MBA Students > Consultants > Practitioners.

This chain may also be an indirect venue by which academic research reaches practicing managers as theorized by Duncan (1972, 1974a, 1974b).

Second, Shapiro *et al.* (2007) asked whether a problem in translation of academic research into practice might not be whether it is “lost before” or “lost in” translation. There is good reason to argue a case for “lost before,” given the questions about the validity of our science, and one that is not usually considered in our self-examinations, even though it is well documented.

1.4 Research Objectives

This paper has two objectives in relation to both this “troubled marriage” and the seemingly intractable divide between management scholars and practitioners. First, it investigates the Duncan and McKelvey models for the transition of academic research into best selling business books, a potential linkage for academic work to become a basis for management practice that has remained largely unexplored (Freeman, 1985), although some insight into the direct contributions of academics as authors in this market has been offered by Pfeffer and Fong (2002). The second purpose is to explore more directly what may be a “conundrum within a paradox,” and that is the extent to which there is a gap within the academy, between what we know of the nature of the science academic researchers profess, and what we actually do.

The McKelvey model provides linkages for both the “food chain” and more generally for “translation” of academic research into usable guidelines for practitioners. If business-school students and graduates are consumers of business books rather than direct consumers of academic research (Pearce, 2004), and if many researchers are also management scholars who write practitioner books and are engaged with practitioners through consulting (Cummings, 2007), then a major linkage for research to reach practitioners may well be the business book. Specifically, citations of academic research by business-book authors would indicate that the basic research being done by academics is being used to support practical applications. If so, the “translation” Shapiro *et al.* (2007) are concerned with may occur through these linkages, albeit largely unseen. That is, we would not necessarily expect a business book aimed at the practitioner market to delve into the interpretation of MANCOVA analysis, but instead address what was found in such a study in terms meaningful to that audience. If, on the other hand, we find little use of academic research, neither argument is supported.

2. Method

The method used to study these questions is very straightforward: a sample of best-selling business books was taken from the ten-year span between 1996 and 2005, inclusive. All references cited in these books were then entered into a database, sorted by type, and counted.

2.1 Sampling

First, four lists of best-selling business books were selected. These were *Business Week* magazine (100 titles, 1996-2004), *The Economist* magazine (“newspaper” by its editors), a relatively new list of 17 titles, 2003-2005; the *Library Journal* (80 titles, 1996-2005), and *Strategy + Business Magazine*, originally published by Booz Allen Hamilton, Inc., but now published by the PwC network (26 titles, 2003-2005). Not surprisingly, there were many duplicates across these lists, and to reduce the likelihood of weighting recent years excessively in the sample, the *Business Week* list was ended with selections through 2004; even so, this was the largest of the lists. The total number of titles, including duplicates, was 223.
A sample of these titles was taken for a citation analysis. Before describing this procedure, I want to emphasize that this was not truly a random or necessarily representative sampling of these titles. Three screening criteria were established prior to random sampling of these lists. First, many business best-sellers are biographies, investment advice, individual company histories, “how-to” books on a wide variety of subjects, and general social commentary. These titles are very unlikely to be consumers of academic research, unless it is in a highly specialized niche (stock or real estate investing, for example). My objective in taking the sample for analysis was to select those titles which were reflective of the subject areas comprising most programs in business schools, and where one might reasonably expect to see academic research properly applied to practitioner concerns. Thus, books with titles on strategy, leadership, operations, marketing, quality, human resource management, organization, and the like, were those retained in the final sample.

Second, owing to the wide range of subjects covered in business books, titles suggesting that accounting, economics, and finance were the primary book focus, and therefore potential applications of academic research, were to be selected. A desirable attribute was for the title of the book to suggest such a focus. The “themes” for these first two screens were cross-checked through examination of their descriptions and promotional material on publisher and bookseller websites. The book “themes” are shown in Appendix 1 with each volume.

Third, titles published by authors known to have academic affiliations were also desirable in the final sample—since many of the consultants on the hypothesized food chain may also be professors, and able to translate findings correctly, these would be authors likely to know and use the literature produced by academic researchers. Pfeffer and Fong (2002) examined the authorship of Business Week bestsellers, and they estimated that ten percent of these were written by academic authors. (They also examined the citation of business books by type of author, and concluded that the impact of business-school research was “modest” compared to nonacademic authors.)

With these screening criteria in place, sampling and selection of the titles for detailed analysis of references was done as depicted in Figure 1. Repeated samples of the lists were taken to provide a final sample from the four lists for analysis, approximately 10 percent from each. Sampling was done without replacement, since titles selected were retained in the sample only if they satisfied the screening criteria above. Twenty-seven titles (12 percent of the total), shown in Appendix 1, were sampled from the list in this manner. In addition to these 27, I added three additional titles that met the criteria, also shown in the appendix, to provide a final list of 30 books for analysis of their references. Again, this is not an unbiased sample of the best-selling books in the field—many of the biggest best-sellers were eliminated because they were biographies or company histories, and while these are clearly within the scope of many academic researchers in business schools, they are a priori unlikely to have significant capacity to broadly absorb academic research. Twelve of the titles in the final group of 30 (40 percent) were written by authors with academic affiliations.

![Figure 1. Best-seller sample selection process](image-url)
This sampling procedure yielded a sample from the ten years between 1995 and 2006 which was weighted toward both topics that are conceptually consistent with those found in major empirical research journals, and where the authors were much more likely to have academic affiliations, past or present, than a truly random sample of these best sellers. The intention was to create a sample with maximum likelihood of detecting linkages like Duncan (1974b) proposed, or evidence of the “food chain” (McKelvey, 2006) proposed.

The next step was to create a database into which all references cited in the bibliography or reference list of these 30 books were recorded. Every database entry included the book author(s), title, and publisher and all references from the book. It should be noted that for two books a number of references were excluded because in both books the authors excluded these items from the bibliography, and therefore, so did I. These were (1) the Joyce et al. (2003) study, for which sources of specific company information were omitted, and (2) the Micklethwait and Wooldridge (2000) book, which similarly had large numbers of chapter notes (these materials were entirely news releases and articles, company organs, and similar non-academic materials, and had they been included they would have greatly distorted the overall census of reference materials. In the case of Micklethwait and Wooldridge, they point out that all of the materials used for their book would “amount to a deluge” [2000: 361]). Essentially, I accepted the decisions of the authors and editors of these volumes to determine the materials they included in their primary reference lists. Each reference source is counted only once—-if a book or article was cited multiple times in the text, that source was counted only one time; for this reason, I refer to these sources as “references” rather than “citations.”

2.2 Sorting

With the database assembled, I then sorted all the reference materials into the appropriate subcategories shown in Table 1; these categories are self-determined by the type of publication in all cases, and the italicized category is further sorted in the column to the right. First, the references were sorted into the categories shown in the first column of Table 1. At this first level, “other” items nearly always designate court cases, internal company documents, and company annual reports. Next, the journal (J) items were differentiated into four categories: academic; practitioner; legal and ethics; and other. The legal and ethics category was added after the initial sorting passes, owing to the discovery that many of these sources were cited in several books concerned with the Enron, WorldCom, and other ethical and corporate governance lapses of that era. While law schools are not part of business schools, there were sufficient numbers of these references sources that I chose to identify them separately. “Other” journals refer to those clearly outside the scope of business and economics, and many of these come from medical, nutritional, psychiatric, and related literatures.

<table>
<thead>
<tr>
<th>General Categories</th>
<th>Journal Categories</th>
<th>Academic Journal Content</th>
<th>Social Science Journal Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>Book</td>
<td>Academic</td>
<td>Accounting</td>
<td>International business</td>
</tr>
<tr>
<td>broadcast</td>
<td>Practitioner</td>
<td>Economics</td>
<td>Management</td>
</tr>
<tr>
<td>Case</td>
<td>Legal/ethics</td>
<td>Finance</td>
<td>Organization</td>
</tr>
<tr>
<td>Interview</td>
<td>Z other</td>
<td>Operations</td>
<td>Psychology</td>
</tr>
<tr>
<td>Journal</td>
<td>Z other</td>
<td>Social Science</td>
<td>Sociology</td>
</tr>
<tr>
<td>Magazine</td>
<td></td>
<td>Z other</td>
<td>sTrategy</td>
</tr>
<tr>
<td>Newspaper</td>
<td></td>
<td></td>
<td>marKeting</td>
</tr>
<tr>
<td>Paper (unpublished)</td>
<td></td>
<td></td>
<td>Z other</td>
</tr>
<tr>
<td>Speech</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Website</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Z other</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Capital letters indicate database code used for each reference item, by category.

The final two levels of analysis were applied only to the academic business journals—-these were to classify the journals by broad disciplines such as accounting, economics, and the like; one of these codes was “social science,”

* Capital letters indicate database code used for each reference item, by category.
designate those journals which use the social-science methods that now are found in nearly all empirical research in business and management (Fidler et al., 2004; Hubbard and Ryan, 2000). “Other” in this subgroup consists largely of technology management journals, several of which are foreign, and business and economic history. The final level of analysis was to categorize the social science journal subgroup into its respective disciplines, such as management, marketing, strategy, and the like; psychology and sociology were coded in those terms within this group. “Other” items here refer to technology management, conflict, creativity and management science, for the most part.

2.3 Counting
These sorts enabled unambiguous counts of the types of reference materials cited by the authors of the books, by the categories shown in Table 1. Whenever references unknown to the author were encountered, the item was researched on the World Wide Web, and in all cases it was possible to resolve the nature of the reference and classify it correctly.

2.4 A Baseline
While some insight into the nature of the academic-literature food chain might be gained through examination of the results of these counts alone, I felt it would be helpful to have some idea of the potential baseline for consumption of academic-journal research relative to its production. As a first step in framing this expectation, I consulted the Social Science Citation Index for December, 2007, to determine the number of journals that might available for citation. From the SSCI, I obtained the list in Table 2, which shows the topical areas in the SSCI and the number of journals in each area. As there was a high degree of duplication between two categories (“Business” and “Management”), I included only the Management category in the final list. This resulted in a list of 425 potential journals which might be cited in the sample of business books.

Table 2. Potential journal sources, social science citation index a

<table>
<thead>
<tr>
<th>Journal Type</th>
<th>No. of Journals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business</td>
<td>78b</td>
</tr>
<tr>
<td>Economics</td>
<td>212</td>
</tr>
<tr>
<td>Finance</td>
<td>49</td>
</tr>
<tr>
<td>Industrial Relations and Labor</td>
<td>16</td>
</tr>
<tr>
<td>Management</td>
<td>88</td>
</tr>
<tr>
<td>Applied Psychology</td>
<td>60</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>425</strong></td>
</tr>
</tbody>
</table>

a As of December, 2007
b Not included in total owing to large degree of overlap with Management journals.

Next, I made four highly conservative simplifying assumptions in computing the number of expected journal references. First, I assumed that only one in four of the SSCI journals were actually likely to be cited. This meant that 106.25 journals might be cited at maximum; this also eliminated the practitioner journals from inclusion in the SSCI total, a necessary adjustment since I placed practitioner journals counts in their own category in my analysis. Second, I assumed that all journals in this subset publish only four issues per year (many publish bimonthly, and a few monthly). Third, I assumed that each issue contained 10 items which might be cited. Finally, I assumed that no item older than five years would be cited by a book author; this meant that academic articles published over a 15-year span from 1990 to 2004, inclusive (if one allows for publication lag), would be in the potential list for citation. This produced a final baseline estimate of 63,750 journal articles (106.25 x 4 x 10 x 15) in the potential pool of references. As one indication of how conservative my estimate of research production is, AACSB estimates that all journals in the field publish 15,000 to 20,000 articles per year (AACSB, 2007: 6), which would suggest that as many as 300,000 articles could be in the potential pool.

3. Results
Results of the analysis of the 30 best-selling books are shown in Table 3. The table shows the title code for each book, and if one or more of the authors has an academic affiliation, indicated by an asterisk. As can be seen, a total
of 3,162 separate publications were cited in the references. These are counted and totaled for each publication and for each category; note that the grand total has been adjusted to eliminate double-counting of academic journals and social-science journals, as each of these types is first presented in total and then broken down by subtype within the table (as shown in Table 1).

Perhaps the most striking finding from this table is simply the lack of reference to journal literature in these books, especially in light of the large number of titles (13 of 30) written by authors from academic backgrounds. The overall level of reference usage to the estimated baseline pool of materials is slightly more than one-half of one percent for the assumed 15-year relevant span (361/63,750, or .0057). Fourteen of 30 titles have no academic journal references at all; 20 of the 30 have eight or fewer. With exception to the two small clusters discussed below, the most common value in the rows of Table 3 for academic journal references is zero.

Table 3. Breakdown of best-selling book references by title and category

<table>
<thead>
<tr>
<th>Book</th>
<th>1st</th>
<th>2nd</th>
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<th>25th</th>
<th>26th</th>
<th>27th</th>
<th>28th</th>
<th>29th</th>
<th>30th</th>
<th>Totals</th>
<th>PCT</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOT</td>
<td>78</td>
<td>6</td>
<td>18</td>
<td>9</td>
<td>3</td>
<td>6</td>
<td>9</td>
<td>2</td>
<td>0</td>
<td>0</td>
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</tr>
</tbody>
</table>

* Author with academic affiliation

** Column totals corrected for double counting of journals, academic journals, and social science journals.

Several other findings are evident in this table. First, the authors of these books, regardless of whether they are academics or not, rely most heavily on other books as their sources, with most of the rest of their materials scattered across a wide range of reference types. Books, for the full set of 30 best-sellers, constitute slightly more than half of all materials cited. Journals constitute the next largest overall category of materials used, but only slightly more than the combined percentages of newspapers and magazines. This total is probably somewhat higher than might be expected, however, owing to the large number of legal journals, these a source of information for the books written on problems of corporate governance in the post-Enron era. If these are taken into account, the usage of journals is probably about the same as usage of newspapers and magazines. Unpublished papers and internal company documents (“other”) both account for slightly more than four percent of reference materials.
Second, although academic journals are cited more than practitioner journals, the latter are used in greater proportion than might be expected—references to practitioner journals (184) are over half the number of academic journals (361). Practitioner journals are used relatively widely, with only five of 30 books using none at all (but with 14 others using up to five).

Third, the extent of reference to academic journal articles is very uneven across these titles. 154 of the academic journal articles are drawn from economics, by far the largest single academic-journal subgroup. Of these, 129 of the 154 are referenced by only three books (CST, FRK, and MFO), and 152 of the 154 are referenced by authors with academic affiliations. Similarly, 40 of 56 finance references are accounted for by one book (RC, which also accounts for an additional eight economics references), again with an academic author. Thirty-one of the 41 legal journal references are accounted for by the same four titles. Overall, this suggests that the influence of the economics literature is paralleled by interests in finance and legal or ethical issues, with 178 of 625 total journal articles (28 percent) being accounted for by this cluster of four titles and three disciplines. A similar, but less extreme, cluster is found in the social science journals, with four titles (CWP, EEQ, IS, and RC) accounting for 90 of 131 references to this literature group.

For the social-science subgroup, 16 of 30 books used no social science references, and 22 of 30 used five or fewer references. Management, strategy, and psychology references are the most cited, but as with other topics there are a few relatively heavy users while the large majority of book authors make no reference to this literature at all.

If a food chain is functioning, we would expect that roughly equal proportions of authors from academic and nonacademic backgrounds would cite academic journals; i.e., both types of authors should find useful information in academic research. For the academic authors, 12 of 13 (92 percent) cited academic journals; for the nonacademic authors, 7 of 17 (41 percent) did.

As academics we attach great importance to publication in “top” journals, and perhaps there is an emphasis on perceived quality of material here, an expectation based on one of the citation reviews found in our literature (Baldrige et al., 2004). I examined the journals cited in the references, and found 4 for AMJ, 11 for AMR, 8 for ASQ, and 20 for SMJ; the Journal of Finance was referenced 14 times. The first four of these journals are included in my “social science” category, so 40 of 131 of these references came from four top journals (although 13 of the 20 SMJ are from one book (Christensen and Raynor, 2003, with an academic author).

Perhaps the food chain consists of indirect acquisition of academic information through practitioner journals. I found 100 references to the Harvard Business Review, nine each to the California Management Review and Sloan Management Review, and two to the Academy of Management Executive (no longer published under that title). In comparison to these 120 practitioner journal references, I found 111 references from only three newspapers (Financial Times, New York Times, and the Wall Street Journal), and 181 references from five business magazines, predominantly Business Week and the Economist. These findings also suggest that these authors are not seeking “translations” of research through practitioner journals; indeed, these authors appear to attribute much more value to the general business press.

My original expectation had been to look for patterns of reference usage to examine consistency between the titles’ “themes” and the references, employing simple methods such as rank-order correlation. However, the level of reference usage is so low that no analysis of this kind is possible. For example, I had expected to find that recent concerns over corporate governance and the misuse and abuse of accounting procedures would provoke significant commentary in the accounting literature; in reality, only two accounting references are found in the entire group of books. A similar expectation existed with respect to international business journals in an age of globalization, but there is only one reference from this literature.

From the titles and descriptions of the books in this sample, the academic references might be used in ways consistent with or parallel to our academic disciplines, and may shed some light on the potential for translation problems. This decidedly appears not to be the case. For example, Roberts (2004; code MFO) is concerned with designing the modern firm for global competition, but his largest single reference group is taken from economics journals, with only three items from the organization literature, and with only nine of 70 from the social science group. It is similarly surprising to observe 50 economics items referenced (of 52 total) in McAfee’s (2002; code CST) Competitive Solutions Toolkit. The largest user of social science literature is Christensen and Raynor’s (2003; code IS) book on innovation, accounting for 35 of 131 social science references alone. Several titles are concerned with leadership and management, but those very extensive academic literatures are almost completely ignored. Marketing is a topic addressed by nearly one-third of these titles, but only four marketing articles are referenced in the entire group; operations is similarly given nearly no consideration despite the suggestion that several titles were focused on
improvement of operational performance. With respect to it implications for the “translation” issue, “dismissal” appears to be a better explanation.

As a final step toward understanding these results, an analysis of those books with heaviest use of academic journals was performed. Since 14 of the 30 titles used no academic journals at all, “heaviest use” was defined simply as having cited 10 or more academic journals in total in a book; the books qualifying as heaviest users were thus BOS, CST, CWP, EEQ, FRK, IS, M6S, MFO, and RC. The percentage of academic journals used ranged from 6.2 (EEQ) to 55.6 (CST); using percentages as a determinant of heavy usage (say, 20 percent academic journals) would have eliminated four of these nine titles.

Seven of the nine heavy users were academic authors—only EEQ and M6S were not, and these were the two lowest users in the group. In examining the specific journal articles used, four titles used them from sources consistent with the theme or title of the book; for example, The Innovator’s Solution (IS) cited articles on technology management, innovation, and related subjects, as one would expect. But as noted above, CST nearly exclusively used articles from the economics literature, two from the social sciences (one from Decision Sciences and one from Cognitive Psychology on the misperception of random sequences, referring to the “hot hand” in basketball). There is not one reference to the organizational, marketing, innovation, or globalization journals one might expect. In a similar vein, Blue Ocean Strategy (code BOS) draws on 17 articles that are not immediately recognizable as related to the title, such as cognitive capabilities, procedural justice (three citations), why a diagram is sometimes better than a verbal description, and the like.

Overall, this examination yielded four titles that used journal articles consistent with the theme of the book, four that did not, and one (BOS) that is indeterminate. The two nonacademic authors split between the two primary groups. Freakonomics (code FRK) was included in the consistent group. No clear pattern of consistent logic in the citation of academic journals is evident from this analysis, and if one were to use the 20 percent inclusion rule above, reducing the group to five titles, all with academic authors, the result would be a three-two split favoring inconsistent usage.

In light of this outcome, it seems apparent that there is no discernible logic in the use of the academic journal literature, even from those who create it. With exception to FRK, all of the books in this group are focused on single issues, and that makes the lack of consistent journal usage even more difficult to understand. While these authors might argue against that conclusion, that logic is not apparent from their choices of journals; and when we consider the fact that 14 of the 30 titles used no academic journals at all, it supports the argument that lack of clarity in the academic journals may be the explanation.

4. Discussion

The analysis of the 30 books in this study provides very little support for the concept of a “food chain” for academic research as hypothesized by McKelvey (2006), or that business best-sellers are a component of an effective linkage system as hypothesized by Duncan (1974b). The paucity of academic journal citations, whether in relative or absolute terms, would seem to render the question of translation (Shapiro et al., 2007) moot. What little use of academic research there appears to be most strongly supported by academics, which can as easily be argued as evidence against the hypothesized food chain or linkage models as for them. But even with the deliberate biasing of the book sample and estimate of the article pool to maximize the potential for such a food chain to be found, by inclusion of a large proportion of academic authors, the clearest conclusion of this study is simply that neither a “food chain” nor a mature linkage, translation or otherwise, is there. The very conservative estimate of one-half of one percent of academic research reaching practitioners is probably far larger than the actual amount—again, AACSB International estimated at the time these books were published that 20,000 research articles were produced each year, at a cost of $320 million. It seems safe to conclude that somewhere between 0.5 and 0.1 percent of academic research ever reaches the world via these books under the best of conditions, and a figure even lower than 0.1 is probably the best bet.

For academic scholars to believe that the profession is prepared to support and promote “evidence-based management” on the basis of the research its members produce is very difficult to reconcile with the findings of this study. Clearly, those who follow the market for practitioner information are ignoring the results of our collective research, finding quite consistent with the findings of Porter and McKibbin (1988) nearly three decades earlier. At the same time, the success of the business-book market and the ability of authors and publishers to sell books that purport to offer useful knowledge to practitioners indicate a great receptiveness to information with perceived value, even if that value perception is only created by a catchy title. Despite a downturn in the post-Enron era (From great..., 2002), the book business remains huge. For 2004, the industry estimated that nearly 3,000 business titles were published each year, with the top 50 selling nearly 4,000,000 copies in the first seven months of that year (How 51
gorillas..., 2004). The differing value systems embraced by managers and scholars appear to be as intact now as they were when Duncan commented on them over 40 years ago (1974b).

5. Looking in the Wrong Places?

Many of the works raising concerns about this persistent historical “schism” that Duncan (1974b) noted have also made recommendations to redress the problem (e.g., Beyer and Trice, 1982; Duncan, 1974a; McGrath, 2007; Pfeffer, 2007; Podsakoff and Dalton, 1987; Rynes, 2007a, 2007b; Shapiro et al., 2007). This study suggests that the schism has become a chasm, despite the number and variety of recommendations for constructive change these encompass. One implication of this reality is the suggestion that the issues with translation of research into practice lie somewhere beyond these proposals, a possibility foreshadowed by Miner’s (1973) observations over 40 years ago as well as Duncan’s (1974b).

What may well be lost in translation within our research enterprise is not the content but the methods used to obtain our research findings. Researchers believe that what we do in our research is “science,” and that the results of our research are “scientific.” Similarly, we believe that the social science model that is nearly universally applied in the research sanctioned by the Academy of Management (Podsakoff and Dalton, 1987; Hubbard and Ryan, 2000) is a sound scientific approach to the collection, analysis, and interpretation of data.

I shall refer to that model, with all due respects to the accounting profession and the late Paul Meehl (1967, 1978, 1986, 1990), as the Generally Accepted Soft Social Science Publishing Process, or GASSSPP. It is as generally accepted as is the GAAP in accounting; it also incorporates the general procedures common to “soft” psychology (Meehl, 1978). Over time, the methods found in most organizational research (Podsakoff and Dalton, 1987) incorporated these methods, and the GASSSPP has become the dominant model for structuring and interpreting much of what we do in empirical research (Hubbard and Ryan, 2000; Fidler et al., 2004). What has been lost in translation are the well-documented shortcomings and misinterpretations inherent to this research method. Thus, I am suggesting that the real problem with translation of findings is within the research community, where these shortcomings have yet to become requisite for change in our methods and a foundation for the valid science we aspire to produce.

Unfortunately, the GASSSPP suffers from a number of interdependent limitations inherent to the basic social science methods, introduced into management and organization research by the “unusually rapid” induction of social-science faculty into business schools. First, null-hypothesis significance testing (NHST) is the core technology for research decision-making in the GASSSPP. Statistical significance is widely and generally misinterpreted in GASSSPP research, a fact which is well-known in the methodology literature and is sufficiently well-understood in several fields to put them on guard against it, with varying degrees of success (economics—McCloskey, 1992; McCloskey and Ziliak, 1996; Ziliak and McCloskey, 2008; education—Nix and Barnette, 1998; bioscience and medicine—Bachetti, 2002; Goodman and Royall, 1988; Goodman, 1999a, 1999b; Ioannidis, 2005; Kalinowski and Fidler, 2010; Moonesinghe et al., 2007; Romano, 1988, 2002; Sterne, 2001; Wang, 2010; marketing—Armstrong, 2007a, 2007b; Hubbard, 2016; wildlife and environmental management—Anderson, 2000; Johnson, 1999). NHST has been forcefully discredited in the psychology literature for decades (Abelson, 1995; Aiken et al., 1990; Bakan, 1966; Berkson, 1938, 1942; Bolles and Messick, 1958; Carver, 1978, 1993; Cohen, 1962, 1990, 1994; Dawes, Mirels, Gold and Donohue, 1993; Edwards, 2008; Faulknner et al., 2008; Fidler et al., 2004; Harlow et al., 1997; Hays, 1963; Hubbard and Armstrong, 1994, 2006; Hubbard and Bayari, 2003; Hubbard and Murray, 2008; Hunter, 1997; Hunter, Schmidt and Jackson, 1982; Hunter and Schmidt, 2004; Jones, 1955; Kish, 1959; Loftus, 1996; Lykken, 1968; Meehl, 1967, 1978, 1986, 1990; Morrison and Henkel, 1970; Nunnally, 1960; Oakes, 1986; Rosenthal, 1979; Rosenthal and Gaito, 1963; Rosnow and Rosenthal, 1988, 1989; Rozeboom, 1960; Schmidt, 1992, 1996; Sedlmeier and Gigenrenzer, 1989; Shrout, 1997; Simmons et al., 2011; Sterne, 2001; Tukey, 1960; Tyler, 1931; Vacha-Haase, 2001), and changes were recommended by the American Psychological Association’s Task Force on Statistical Inference (Wilkinson, 1999) although with little impact on psychological methods and reporting (Sohn, 2000; Thompson, 1998).

This incorrect interpretation of the meaning of a statistically significant outcome is entrenched in GASSSPP research. As Abelson (1995) puts it:

The error arises from a general confusion about conditional probabilities (Dawes, Mirels, Gold, and Donohue, 1993) whereby the probability of the data given the hypothesis is mistakenly equated with the probability of the hypothesis given the data.

Carver (1978) gave an amusing, if darkly humorous, example of this:
What is the probability of obtaining a dead person (label this part D) given that the person was hanged (label this part H); this is, in symbol form, what is P(D | H)? Obviously, it will be very high, perhaps 0.97 or higher. Now, let us reverse the question. What is the probability that a person has been hanged (H), given that the person is dead (D); that is, what is P(H | D)? This time the probability will undoubtedly be very low, perhaps 0.01 or lower. No one would be likely to make the mistake of substituting the first estimate (0.97) for the second (0.01); that is, to accept 0.97 as the probability that a person has been hanged given that the person is dead. Even though this seems to be an unlikely mistake, it is exactly the kind of mistake that is made with interpretations of statistical significance testing—by analogy, calculated estimates of P(D | H) are interpreted as if they were estimates of P(H | D), when they clearly are not the same.

When he revisited this issue 15 years later, he found essentially no change (Carver, 1993).

The belief that \( p \) represents the odds against chance for a result is one of the major myths regarding the standard methods of applying NHST and interpreting its outcomes within the GASSSPP (Carver, 1978, 1993; Cohen, 1994), and over the past 50 years, these NHST myths have become pervasive in social science (Hubbard, 2016; Starbuck, 2005, 2006). The three other myths are that (1) \( p \) indicates the likelihood of replication of a study, implied by the apparent low probability of an outcome being a random result; (2) rejecting the null hypothesis supports the alternative; and (3) \( p \) is the expected proportion of replication of a study. Consequently, \( p \)-levels have been almost universally accepted as a surrogate for statistical effect, when in fact there is no necessary relationship between statistical significance and statistical effect whatsoever. It has also become common to see \( p \)-levels discussed as “significant” (.05), “very significant” (.01), and “highly significant” (.001) when in fact there is no relationship between the \( p \) level and the strength of any presumed statistical effect—“highly significant” is an simply an oxymoron. As Hubbard clearly points out, \( p \) is not \( \alpha \), although it is quite commonly interpreted as such; in fact, the misinterpretations of \( p \) are too numerous to fully summarize here, and readers are referred to Hubbard to see the extent of error surrounding it (2016: 193-215).

Second, the GASSSPP subsumes several additional weaknesses, most of them based on the myths above. Statistical power is rarely considered when studies are designed, if indeed they are designed correctly (Vickers, 2010). Insufficient attention is paid to fundamental issues in measurement; in a comparison of top journals over ten years, Scandura and Williams (2000) found that the validity of published measures had actually declined. The GASSSPP contributes to the same bias toward “positive” results that afflicts most of the social sciences, which means that for nearly any study with a modestly large sample (the primary determinant of statistical significance), the literature is flooded with “significant” and “positive” but contradictory findings, many of which may actually obscure what we are trying to discover (Schmidt, 1996). Even those who believe in the GASSSPP are left in a quandary by this “positivity paradox” in the research. They, too, become unintentional victims of Miner’s (1973) “monumental confusion,” often by their own hand.

There is a GASSSPP belief that replication of research findings is redundant, and thus unnecessary; along with a corresponding belief that novelty is somehow more important than confirmation, these constitute a major barrier to re-examination of even the most interesting findings. The problem is compounded when misinterpreted results are published and then summarized in the typical “polling” procedure used for the standard literature review in a study; polling is not a satisfactory method for summarizing small-sample studies, and can lead to wildly inaccurate but seemingly logical conclusions about the state of our knowledge on a question (Hunter, Schmidt and Jackson, 1982; Hunter and Schmidt, 2004).

A third problem in the GASSSPP is the belief that its users engage in an alternative form of science which, while not “normal science,” is science nonetheless. This belief is apparently based on Kuhn’s (1962) classic study of how science changes. Having not only read Kuhn many times, but also having indexed his work to specifically look for this implication (Kmetz, 2007), the fact is that Kuhn has never said anything of the kind; in fact, his only comments on the social sciences are to observe that social scientists were still debating issues long resolved elsewhere in science. I am forced to conclude that as Wright and Armstrong (2008) found, many researchers have never read Kuhn in the original but are assuming that others who have stated this implication have.

(Of course, there are differences of opinion regarding what “science” is, and it is not the purpose of this paper to assert that these differences do not exist, or that there is only one way for science to progress. But the argument that technically inappropriate statistical methods and incorrect interpretations of statistics can advance science is as unpersuasive as an argument that a machine tool that is seriously out of calibration can produce finished parts to specification.)
By embracing the GASSSPP, researchers in management and organization, and most of the soft social sciences, continue to produce streams of statistically significant findings, which are non-comparable, inconsistent, cannot be interpreted, are generally disregarded, and are widely and appropriately mistrusted. Many knowledgeable observers in the field know the limitations of NHST fully well (Signifying nothing?, 2004; ...and statistics, 2005; Signs of the times, 2007), and thus many do not believe in either the GASSSPP or its results (Barnett, 2007; Hubbard, 2016; Starbuck, 2006; Ziliak and McCloskey, 2008).

Cohen (2007) listed ten recommendations to close the gap between HR research and practice—while better use of appropriate academic research was one of them, none of these included correct research methods or interpretations.

In the AACSB’s (2007) assessment of research having “impact,” it is fascinating to note that Herzberg’s (1968) two-factor theory is listed directly above Latham and Locke’s (1979) goal-setting theory (p. 38); yet it is clear that Locke would not endorse the validity of two-factor theory (Schneider and Locke, 1971). The failure to learn from these flaws and translate our own research literature correctly and extract lessons about research methodology accounts for much of the monumental confusion about our research; the problem extends far beyond those in the practitioner community.

In sum, GASSSPP research methods are terminally and fatally flawed. They can produce neither meaningful nor reliable results, and the publications that sustain them simply provide outlets for uninterpretable findings. The authors of business books, no matter what their background, appear to recognize this; and while this might be construed as an argument for “lost before translation,” the reality of Table 3 is that they simply ignore the academic research.

6. Conclusions

Whether stated explicitly or not, our collective belief in a food chain is one of the raisons d’etre for the research we produce; if not a “food chain,” the “creation of new knowledge” is the mantra that places academic research at the pinnacle of our achievements. In the past fifty years, business schools have grown, MBA programs have grown to become an international degree (Pfeffer and Fong, 2002), and the US educational system is widely regarded as the standard for the world (Wooldridge, 2005). But in those same fifty years, it appears that the extent to which management professionals and practitioners have become consumers of the growing body of research produced by business schools has grown little, if at all. Evidence through the books studied here strongly suggests that best-selling business books do not constitute a food chain for business-school academic research; the “translation” of research into practice is not being performed by the authors of these books, whether academics or professional authors.

Many academics whose careers have been based on the GASSSPP will see a change in research methods and reporting as a threat; I disagree, for the simple reason that all information, whether supported by reexamination or not, provides a stepping stone for the creation of a cumulative base of valid knowledge. That, itself, is a major opportunity for progress.

The most important thing lost in translation of our research methods into improved practice is the immense opportunity the profession has before it. The value and the values of science are clearly evident in the research we do and among the scholars who do it; the statistical training (with exception to the emphasis on statistical significance) is exactly what we need to progress; the Internet and the archival and access potential it enables allow us to think in truly revolutionary terms about how we grow from the GASSSPP to real science. Imagine a world in which doctoral students train by doing replication studies using published data sets, and where the results of those replications and re-examinations of research are compiled in a global electronic archive. Imagine a world where the “file drawer” is an electronic archive where any piece of research (along with its dataset) can at least be public, if not “published,” and where other scholars might choose to consider what those data tell us. Imagine a world in which we reject the false promise of the GASSSPP and make those few small changes to our practices that enable us to reopen any prior line of research to see what we might have missed. In reality, the gap between the present status of our profession and that world is almost vanishingly small, and the creation of a strong linkage and a real “food chain” of knowledge are there for us to take if we have the will to do so.

At the end of the day, it makes no difference whether we are believers in the GASSSPP or not. The GASSSPP is a fatally flawed research model, and its research output eventually self-destructs. What seems to have been lost in translation is that the GASSSPP renders us incapable of advancing toward the next good question, a major objective of scientifically sound research.

In the time since my claim that we have wasted the past 50 years (Kmetz, 2011a), there have been a continuing stream of articles and books, both academic (e.g., Hubbard, 2016) and general press (Lies, Damned Lies...,2016;
Skapinger, 2011), that call the foundations of GASSP research into serious question. Indeed, AACSB has been materially revising its standards and documentation requirements for accreditation, with the latest release of standards placing increased emphasis on the “mission-based” expectations of the specific school being evaluated, and relevance and impact of the general institution on its community, including the impact of its research (AACSB, 2016). In its final report on the impact of research, AACSB (2008) made seven recommendations, among them calls for more demonstration of the impact of “faculty intellectual contributions on targeted audiences,” “studies examining the linkages between scholarly inquiry and education...,” and “mechanisms to strengthen interaction between academics and practicing managers” (AACSB, 2012a). Their report on international implementation of these recommendations (AACSB, 2012b) made a number of very practical suggestions for doing this, and recognized that many countries effectively refuse to fund research unless its value can be demonstrated.

In addition, calls for reform have become compelling. In the author’s first call for change (Kmetz, 1992) nearly 25 years ago, the sole reaction was for a member of the audience to accuse the author of personally attacking that member’s work. Since then, Hubbard (2016) has written a very thorough book on the subject, and to his dismay, had been largely ignored (personal communication with the author); the title of that book is “Corrupt Research,” and in it Hubbard makes the case that for our profession to salvage its claim to being a science, change in our methods must come about. Whether any of this can be achieved, or whether the academic publishing process will continue as a self-reinforcing organization (Kmetz, 2012) that rewards the production of junk science remains to be seen.

Note to Readers: Table 3 has been previously published by the author as Table 1 in Kmetz, 2011a, owing to differences in review times and acceptance rates. The full objectives and explanation of the research in this work has not been previously published at any time and is original here.

Acknowledgements

The author wants to acknowledge the invaluable assistance provided by Mr. William Lane. Mr. Lane did yeoman labor in creating the basic database for the author, through his undergraduate research project sponsored by the University of Delaware, and supervised by the author. This study would have been impossible without his efforts. Any errors or misinterpretations of the data in this study are entirely the responsibility of the author.

Appendix 1. Books Selected for Reference Analysis

Author academic affiliations, if any, are noted, along with book title code used in Table 3.


Academic affiliation: Columbia Univ.
Theme: Management, Organization
Table 3 title code: CWP


Academic affiliation: None
Theme: Management
Table 3 title code: 101


Academic affiliation: None
Theme: Globalization, Strategy
Table 3 title code: CR


Academic affiliation: None
Theme: Quality, Strategy
Table 3 title code: M6S


Academic affiliation: None
Theme: Communication
Table 3 title code: HOW

Academic affiliation: CC, None; JL, Harvard

Theme: Governance, Organization


Academic affiliation: CC, Harvard; MR, None

Theme: Innovation, Strategy


Academic affiliation: None (formerly Stanford lecturer)

Theme: Leadership, Strategy


Academic affiliation: None

Theme: Leadership, Management


Academic affiliation: None (formerly Brigham Young)

Theme: Leadership, Management


Academic affiliation: Claremont

Theme: Leadership, Performance


Academic affiliation: None

Theme: Leadership, Management


Academic affiliation: GH, London BS; CP, Michigan

Theme: Strategy, Performance


Academic affiliation: WJ, Dartmouth; Nohria, Harvard; BR, None

Theme: Management, Organization


Academic affiliation: both Harvard

Theme: Strategy, Performance


Academic affiliation: both INSEAD

Theme: Marketing, Strategy


Academic affiliation: SL, Chicago; SD, None

Theme: Economics
Academic affiliation: None  
Theme: Globalization, Strategy  
Table 3 title code: TC  

Academic affiliation: PM, Chicago; IM, None  
Theme: Governance, Finance  
Table 3 title code: RC  

Academic affiliation: None  
Theme: Management, Performance  
Table 3 title code: WMI  

Academic affiliation: None  
Theme: Decision making, Performance  
Table 3 title code: TM  

Academic affiliation: Cal Tech  
Theme: Marketing, Strategy  
Table 3 title code: CST  

Academic affiliation: None  
Theme: Organization, History  
Table 3 title code: CSH  

Academic affiliation: None  
Theme: Globalization  
Table 3 title code: FP  

Academic affiliation: None  
Theme: Management, Consulting  
Table 3 title code: WD  

Academic affiliation: None  
Theme: Leadership, Strategy  
Table 3 title code: DC  

Academic affiliation: Stanford  
Theme: Organization, Performance  
Table 3 title code: MFO  

Academic affiliation: Tufts  
Theme: Negotiation, Globalization  
Table 3 title code: GN  

Academic affiliation: None
Theme: Strategy, Performance


Table 3 title code: PZ

Academic affiliation: None
Theme: Management, Leadership

* Books added to the final set by the author.

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