Supply Chain Management Publication Power

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Abstract
SCM researchers currently determine leading SCM academic journals through assorted methods. The authors utilize an alternate methodology using actual publication behavior. The researchers collect publication information over ten years from active, tenured faculty at fifteen top SCM Universities in the US and use the data to determine leading journals.

Keywords: Publication Power, Journal Rankings, Supply Chain Management

Introduction
Supply chain management researchers, practitioners, and administrators are often interested in identifying leading and relevant supply chain academic journals. The reasons of interest may include identifying leading journals to read on a regular basis, staying abreast of the latest supply chain theory and practices, as well as identifying “A-level” journals for use in tenure and promotion decisions.

Researchers, practitioners, and administrators currently select leading journals through assorted methods. They may select journals by borrowing from other fields related to supply chain, such as operations management, operations research, management information systems, or decision sciences.

As well, researchers and administrators may look to prior research selecting leading journals. Research methods used to select leading journals typically use one of two methods. The first method relies upon surveys and the second method relies upon citations and references. (Holsapple 2006; Holsapple and Lee-Post 2010) Each method suffers from individual weaknesses which will be discussed in further detail.

Prior survey research includes Daniel and Jones (1975), Ferguson (1975), Fawcett et al. (1995), Gibson and Hanna (2000, 2003), Gibson et al. (2001, 2004), Rutner and Fawcett (2005), Zsidisin et al. (2007), and Menachof et al. (2009). While survey research is certainly the more popular of the two methods, surveys can be greatly influenced by the criterion by which the respondents are asked to offer their opinion, the experience of the rater (from doctoral student to
emeritus professor), anchoring of results to a predetermined list, regional locale of the respondents, and cutoff of only one or two leading journals in a field (Holsapple 2006; Holsapple and Lee-Post 2010).

Likewise, previous reference based (citation analysis) research papers include Laband and Piette (1994) and Liebowitz and Palmer (1984). Limitations of citation analysis include the proclivity of citation analysis to measuring quantity rather than quality (Davis 1998; Beed and Beed 1996) as well as the limitation in the number of journals being tracked, and often making no differentiation between positive and negative citations, tangential citations, or multiple citations within one paper. (Holsapple 2006; Holsapple and Lee-Post 2010)

The authors therefore utilize a new approach to identifying leading journals in supply chain management base upon actual publishing behavior (Holsapple 2006, Holsapple and Lee-Post 2010). Active researchers (tenured associate and full professors) identified among recognized SCM programs are considered as the data set. Their publishing behavior is then analyzed to determine the top journals within supply chain management. The results are then categorized based upon the publication journal’s heritage.

The remainder of the paper is organized as follows. Section 2 discusses the methodology utilized in this research. Section 3 presents the results of the research. Section 4 presents the discussion and limitations and section 5 summarizes the paper.

Methodology
The research data consists entirely of hand collected data utilizing the following research methodology. The methodology requires four fundamental tasks:

1. Determining the list of target schools and universities
2. Identifying the target active faculty (associate and full) at the respective schools
3. Collecting and recording the publications (journal and publication year) of each target faculty over a given time frame (the past ten years for this research).
4. Calculating Publication Power as the product of publication Intensity and publication Breadth.

Each of these tasks is discussed in greater detail.

Determining the target universities
In determining the target universities, the authors decided to refer to the 2013 US News and World Reports ranking (online edition 2013) of top undergraduate and graduate supply chain programs. The undergraduate and graduate rankings overlap significantly, resulting in a total of twelve universities when combined. As well, the Rutner and Fawcett (2005) survey of top twenty supply chain programs was merged with the twelve US News and World Reports rankings.

In their rankings, Rutner and Fawcett (2005) separated the rankings into top academic, practitioner, and combined programs. For the purpose of this publication power research, the authors decided to compare the top ten academic rankings of Rutner and Fawcett (2005) with the 2013 US News and World Reports rankings. By doing so, the authors added another three universities to the target schools list.

In the end, the authors included fifteen universities within this supply chain management publication power research. The fifteen schools are listed in Table 1 along with their respective rank recognition.
### Table 1: The Fifteen Recognized United States Supply Chain Management /Logistics Programs Utilized In Publication Power Research

<table>
<thead>
<tr>
<th>University</th>
<th>SCM/Logistics Recognition (source)</th>
</tr>
</thead>
</table>
| Michigan State University                       | 1st Undergraduate – (US News and World Reports, 2013)  
2nd Graduate – (US News and World Reports, 2013)  
2nd Academic – (Fawcett and Rutner, 2005)       |
| Massachusetts Institute of Technology           | 2nd Undergraduate – (US News and World Reports, 2013)  
1st Graduate – (US News and World Reports, 2013)  
8th Academic – (Fawcett and Rutner, 2005)        |
| Arizona State University                        | 3rd Undergraduate – (US News and World Reports, 2013)  
6th (tied) Graduate – (US News and World Reports, 2013)  
6th Academic – (Fawcett and Rutner, 2005)        |
| Pennsylvania State University- University Park   | 4th Undergraduate – (US News and World Reports, 2013)  
3rd Graduate – (US News and World Reports, 2013)  
1st Academic – (Fawcett and Rutner, 2005)         |
| Ohio State University--Columbus                 | 5th Undergraduate – (US News and World Reports, 2013)  
4th Graduate – (US News and World Reports, 2013)  
3rd Academic – (Fawcett and Rutner, 2005)         |
| Carnegie Mellon University                      | 6th Undergraduate – (US News and World Reports, 2013)  
6th (tied) Graduate – (US News and World Reports, 2013)  |
| University of Tennessee                         | 7th Undergraduate – (US News and World Reports)  
11th Graduate – (US News and World Reports)  
4th Academic – (Fawcett and Rutner, 2005)         |
| Purdue University--West Lafayette                | 8th Undergraduate – (US News and World Reports)  
9th (tied) Graduate – (US News and World Reports)  |
| University of Maryland--College Park             | 9th Undergraduate – (US News and World Reports)  
5th Academic – (Fawcett and Rutner, 2005)         |
| University of Texas--Austin                     | 10th Undergraduate – (US News and World Reports, 2009)                                             |
| Stanford University                             | 5th Graduate – (US News and World Reports)                                                         |
| University of Pennsylvania (Wharton)            | 8th Graduate – (US News and World Reports)                                                          |
| Iowa State University                           | 7th Academic – (Fawcett and Rutner, 2005)                                                           |
| Georgia Institute of Technology                 | 9th Academic – (Fawcett and Rutner, 2005)                                                           |
| Northwestern University                         | 10th Academic – (Fawcett and Rutner, 2005)                                                          |
| University of Michigan                          | 10th Undergraduate – (US News and World Reports, 2013)  
9th (tied) Graduate – (US News and World Reports, 2013)  |

**Identifying target faculty to include in research**

Taking the list of target universities, the authors identified all associate and full professors listed within the supply chain department and stating supply chain management as an active research area. If a supply chain department did not exist, then the authors included the department which
the majority of supply chain professors reside (often operations management). The resulting data included 101 associate and full professors from the fifteen universities and has been summarized in Table 2.

The authors collectively reviewed the final list to confirm that professors which should have been included using the above criteria were indeed included as well as professors who should have been excluded using the above criteria were indeed excluded.

Table 2: Distribution of Professors Included in Publication Power Research

<table>
<thead>
<tr>
<th>University</th>
<th>Total</th>
<th>Full</th>
<th>Associate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Michigan State University</td>
<td>13</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>Massachusetts Institute of Technology</td>
<td>4</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Arizona State University</td>
<td>14</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td>Pennsylvania State University- University Park</td>
<td>11</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>Ohio State University--Columbus</td>
<td>4</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Carnegie Mellon University</td>
<td>4</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>University of Tennessee</td>
<td>7</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Purdue University--West Lafayette</td>
<td>5</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>University of Maryland--College Park</td>
<td>6</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>University of Texas--Austin</td>
<td>7</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>Stanford University</td>
<td>6</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>University of Pennsylvania (Wharton)</td>
<td>7</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Iowa State University</td>
<td>5</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Georgia Institute of Technology</td>
<td>6</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Northwestern University</td>
<td>2</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>101</strong></td>
<td><strong>64</strong></td>
<td><strong>37</strong></td>
</tr>
</tbody>
</table>

Collecting and recording publication information

Publication information in terms of journal and publication year were collected for each identified author and recorded in a database. Most recent curriculum vitae’s (CV’s), university websites, Google Scholar, ABI/Inform, and Harzing's Publish or Perish provided the details of publications. The authors utilized the CV’s, when available, as an initial starting point and augmented the CV information with the other sources.

Calculating Publication Power

Publication power is calculated as the product of publication intensity and publication breadth. Publication intensity sums the total number of articles published in one periodical among all researchers included in the sample. The intensity can also be normalized by the number of researchers to create a publication intensity score. Publication breadth sums the number of researchers which have published in a particular journal. Once again, a publication breadth score can be calculated by normalizing the publication breadth by the number of researchers included in the sample and represents the percentage of researchers who have published within a given journal.

Results

Results of the research are presented as three separate tables as sorted by journal heritage. The following journal heritage classifications were identified: multi-disciplinary heritage, operations
management (OM) heritage, and operations research (OR) heritage. Results by journal heritage are present in tables 3 through 5.

Table 3 presents the top supply chain management periodicals based upon publication power within the multi-disciplinary heritage periodicals. Table 4 presents the top operations management heritage supply chain periodicals as sorted by publication power. Finally, Table 5 presents the top operations research (OR) supply chain periodicals as sorted by publication power.

**Top Multi-Discipline Heritage SCM Journals by Publication Power**

Publication power shows the top five multi-discipline heritage supply chain periodicals to be *Management Science, Decision Sciences, Harvard Business Review, Sloan Management Review, and the California Management Review*. *Management Science* clearly scores first in both categories of publication intensity and publication breadth in the multi-discipline heritage category and therefore has a convincingly large separation from the other four journals. Likewise, *Decision Sciences* scores second highest in both categories of intensity and breadth, and separates itself from the following three journals. Table 3 presents the results of the top multi-disciplinary supply chain management periodicals as sorted by publication power.

**Table 3: Top Multi-Disciplinary Supply Chain Management Periodicals by Publication Power**

<table>
<thead>
<tr>
<th>Rank</th>
<th>Periodical</th>
<th>Publication Power</th>
<th>Intensity Total</th>
<th>Intensity</th>
<th>Breadth Total</th>
<th>Breadth Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><em>Management Science</em></td>
<td>4810</td>
<td>130</td>
<td>1.287</td>
<td>37</td>
<td>0.366</td>
</tr>
<tr>
<td>2</td>
<td><em>Decision Sciences</em></td>
<td>540</td>
<td>30</td>
<td>0.297</td>
<td>18</td>
<td>0.178</td>
</tr>
<tr>
<td>3</td>
<td><em>Harvard Business Review</em></td>
<td>81</td>
<td>9</td>
<td>0.089</td>
<td>9</td>
<td>0.089</td>
</tr>
<tr>
<td>4</td>
<td><em>Sloan Management Review</em></td>
<td>77</td>
<td>11</td>
<td>0.109</td>
<td>7</td>
<td>0.069</td>
</tr>
<tr>
<td>5</td>
<td><em>California Management Review</em></td>
<td>36</td>
<td>6</td>
<td>0.059</td>
<td>6</td>
<td>0.059</td>
</tr>
</tbody>
</table>

**Top Operations Management (OM) Heritage SCM Journals by Publication Power**

Publication power shows the top five operations management heritage supply chain periodicals to be *Journal of Operations Management, Production and Operations Journal, Manufacturing and Service Operations Management, International Journal of Production Research, and International Journal of Operations and Production Management*. The *Journal of Operations Management* scores first in publication power, but only first in terms of publication intensity. *Production and Operations Journal* scores second in overall publication power, but first in publication breadth. *Manufacturing and Service Operations Management* similarly scores third in overall publication power in this category, however scores second in publication intensity. Overall, these first three operations management heritage SCM journals have similar scores in publication power, clearly separated from the other two top journals in this category. Table 4 presents the top operations management heritage supply chain management periodicals as sorted by publication power.
Table 4: Top Operations Management (OM) Heritage Supply Chain Management Periodicals by Publication Power

<table>
<thead>
<tr>
<th>Rank</th>
<th>Periodical</th>
<th>Publication Power</th>
<th>Intensity Total</th>
<th>Intensity</th>
<th>Breadth Total</th>
<th>Breadth Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Journal of Operations Management</td>
<td>2025</td>
<td>75</td>
<td>0.743</td>
<td>27</td>
<td>0.267</td>
</tr>
<tr>
<td>2</td>
<td>Production and Operations Journal</td>
<td>1888</td>
<td>59</td>
<td>0.584</td>
<td>32</td>
<td>0.317</td>
</tr>
<tr>
<td>3</td>
<td>Manufacturing &amp; Service Operations</td>
<td>1593</td>
<td>59</td>
<td>0.584</td>
<td>27</td>
<td>0.267</td>
</tr>
<tr>
<td>4</td>
<td>International Journal of Production Research</td>
<td>416</td>
<td>32</td>
<td>0.317</td>
<td>13</td>
<td>0.129</td>
</tr>
<tr>
<td>5</td>
<td>International Journal of Operations and Production Management</td>
<td>252</td>
<td>21</td>
<td>0.208</td>
<td>12</td>
<td>0.119</td>
</tr>
</tbody>
</table>

*POMJ values were combined with POMS: T&OM

Top Operations Research (OR) Heritage SCM Journals by Publication Power

Publication power shows the top five operations research heritage supply chain periodicals to be Operations Research, European Journal of Operations Research, Interfaces, IIE Transactions, and the International Journal of Production Economics.

Operations Research scores first in publication intensity and publication breadth, resulting in a clear lead in publication power. European Journal of Operations Research has the second highest score in publication power within this category. However, European Journal of Operations Research’s publication power is just slightly over half of Operations Research’s. The other three publications are similar in publication power, intensity, and breadth. Table 5 presents the top operations research heritage supply chain management periodicals as sorted by publication power.

Table 5: Top Operations Research (OR) Heritage SCM Periodicals by Publication Power

<table>
<thead>
<tr>
<th>Rank</th>
<th>Periodical</th>
<th>Publication Power</th>
<th>Intensity Total</th>
<th>Intensity</th>
<th>Breadth Total</th>
<th>Breadth Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Operations Research</td>
<td>1485</td>
<td>55</td>
<td>0.545</td>
<td>27</td>
<td>0.267</td>
</tr>
<tr>
<td>2</td>
<td>European Journal of Operational Research</td>
<td>880</td>
<td>40</td>
<td>0.396</td>
<td>22</td>
<td>0.218</td>
</tr>
<tr>
<td>3</td>
<td>Interfaces</td>
<td>504</td>
<td>28</td>
<td>0.277</td>
<td>18</td>
<td>0.178</td>
</tr>
<tr>
<td>4</td>
<td>IIE Transactions</td>
<td>238</td>
<td>17</td>
<td>0.168</td>
<td>14</td>
<td>0.139</td>
</tr>
<tr>
<td>5</td>
<td>International Journal of Production Economics</td>
<td>221</td>
<td>17</td>
<td>0.168</td>
<td>13</td>
<td>0.129</td>
</tr>
</tbody>
</table>

Discussion and Limitations

By analyzing top SCM journals in terms of publication power, publication intensity, and publication breadth, the results remain fairly consistent. Only minor changes in order can be found in each of the categories. This may reflect that the publication behaviors among top researchers in supply chain management are fairly consistent. In other words, top researchers in supply chain management target and publish among similar journals.
As well, top researchers in supply chain management target and publish in a broad range of SCM journals as classified by heritage. Each of the heritage categories has one or two journals which have a clearly higher publication power score. This may indicate that certain researchers publish in certain journals as sorted by heritage, or possibly that many supply chain researchers publish in a broad array of SCM journals as sorted by heritage. Further analysis should be conducted to determine which of the two scenarios is truly the case.

The publication power methodology and research does come with limitations. Limitations of the research include potential bias in selecting the target universities and researchers to be included in a sample. The researchers attempted to reduce bias by utilizing outside sources for selecting the universities (US News and World Reports and Rutner and Fawcett, 2005, top 10 academic universities), however, other sources could arguably have been used to select the universities.

As well, bias maybe introduced in the selection of the individual researchers. The authors of this research once again chose to include all tenured (associate and full) faculty associated within a supply chain department (or similar department, if a supply chain department did not exist). Once again, alternative methods for researcher selection may further reduce selection bias.

As well, the collection and measurement of the publication data may contain error for several reasons. Curriculum vitae were not all current, nor were all publications necessarily listed on a university’s website. Some publications were incorrectly referenced. Conscientious efforts were made to triangulate the data with Google scholar, Harzing’s Publish or Perish, and ABI/Inform databases. However, the authors expect the biases, if present, to be randomly distributed throughout the sample and should not significantly impact the rank order of the results obtained.

Further, reviewers may argue that the publication power does not provide any more accurate data than citation analysis nor survey based research. The authors suggest that publication power analysis may be used in conjunction with other methods to create a more complete view of the publishing landscape.

**Summary**

Publication power research on supply chain management periodicals suggest that the top journals can be identified within categories of journals as sorted by publication heritage. The details of the top journals can be found sorted by journal heritage in tables 3 through 5. Over 182 journals were included in the research.

Publication power methodology provides a fresh approach to identifying top leading journals within a discipline or field of research. Future work would include applying the methodology to other fields of purchasing and logistics.

This research should prove beneficial to researchers, practitioners, and administrators interested in top supply chain management journals and used to supplement prior citation based and survey based publication research.

**Bibliography**


Harzing’s Publish or Perish, [http://www.harzing.com/pop.htm](http://www.harzing.com/pop.htm).


