It Depends on Where You Start: How the Disciplinary Focus of Supply Chain Management Researchers Affects Perceptions of Research Publication Outlets

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Abstract. This paper examines the impact of the academic discipline that a researcher brings to Supply Chain Management (SCM) on the perceptions that the researcher has regarding publication outlets for research in SCM. Findings indicate that researchers coming from the Logistics discipline may evaluate publication outlets differently than do researchers from other disciplines that contribute to SCM. Implications and directions for future research are discussed.

Introduction. Supply chain management (SCM) is a relatively new concept for which the definition is still a matter of substantial disagreement. Further, the variation in definitions tend to depend to a substantial extent on the disciplinary focus of the protagonists among disciplines that contribute to SCM, such as Logistics, Purchasing, Marketing, Operations, etc. as illustrated by Mentzer, Stank and Esper (2008). Further, Larson, Poist and Halldorsson (2007) have observed that supply chain professionals have multiple perspectives on the breadth and depth of SCM. From the perspective of different areas of business study that contribute to SCM, each domain appears to have limits in terms of their consideration of topics within SCM, yielding predispositions toward areas of focus in research and teaching that depend on the disciplinary heritage of the researcher (Mentzer, Stank and Esper 2008). That these differences would appear in the conduct and perceptions of research in SCM is quite natural, and it may also have implications for the perceptions that SCM researchers have regarding publication outlets for SCM research. This paper describes exploratory research aimed at addressing the extent to which SCM researchers that claim an interest in conducting research in Logistics may display perceptions different from those of other SCM researchers.

Differences Have Been Observed Between Logistics and Purchasing Relative to SCM. Larson and Halldorrson (2004, 2002) have examined the perceptions of academics in Purchasing and Logistics regarding the content of SCM. This research has found a range of perceptions about the extent to which the academicians view Purchasing and Logistics as overlapping with SCM, and further, this research has served to highlight differences in perceptions about the appropriate research techniques for scholarship in SCM.

Comparison of the examination of academics in Purchasing (Larson and Halldorrson 2002) with the examination of academics in Logistics (Larson and Halldorrson 2004) shows

considerable differences in how these groups view their respective disciplines in comparison to SCM. For example, while only approximately 2% of purchasing academics saw SCM as subsumed by purchasing, approximately 17% of the logistics academics saw SCM as subsumed by logistics (the "Traditionalists" according to Larson and Halldorrson). If we next consider those individuals who see SCM as being the same as their respective disciplines ("Relabeling"), we find that approximately 69% of the logistics academics saw SCM as either the same as, or subsumed by logistics. This is compared with 28% of the purchasing academics who held such a perspective with respect to purchasing.

Relative to the logistics academics, purchasing academics were considerably more likely to see SCM as containing purchasing or intersecting with the interests than were the logistics academics with respect to the relationship between SCM and logistics (approximately 71% and 30%, respectively). It is particularly striking to note that only 7% of the logistics academics saw an intersection between SCM and logistics (as compared with 41% for purchasing academics). Taken together, these findings clearly suggest that for logistics academics there is considerable confluence between SCM and logistics. Further, it would appear that there is less room in their understanding of SCM for the inclusion of contributions from the other disciplines than is the case for purchasing academics.

Differences also appeared in ratings of preferred research methods. The purchasing group, in the words of Larson and Halldorrson (2002, p. 40) "appear to be biased toward quantitative approaches rather than qualitative approaches." However, for the logistics group "case studies and interviews are rated as highly as surveys" (Larson and Halldorrson 2004, p. 26).

Together, these findings suggest substantial differences in how academics from two different disciplines that contribute to SCM view the content of SCM. Further, there appear to be substantial differences between the two groups in terms of preferred research methods. In the next section, we describe the administration of a survey of SCM academicians regarding evaluation of publication outlets for research in SCM, and then we address results that suggest that differences between logistics academics and others involved in SCM research may include journal evaluation.

Survey Development. A survey was developed to explore both the conceptual bases for journal evaluation and ratings of journals that publish research in SCM. First, the researchers developed a listing of journals that published research in supply management utilizing ABI/INFORM Global and Academic Search Elite inquiries limited to scholarly journals. After eliminating journals that were excessively specialized, such as those limited to specific industries, the list was comprised of 43 journals.

Next, the initial listing of 43 journals was then submitted to a panel of 16 North American and European experts who were selected based upon prolific research contributions in supply management. On a questionnaire initially e-mailed to the experts, they were asked to indicate which journals should be included on a list of influential journals in supply management, including up to five additional journals that they could specify. The experts were also asked to respond to four open-ended items that asked what criteria they used to formulate their selection of leading journals, what the concept of journal quality meant to them, what the concept of journal relevance meant to them, and to provide any additional observations they

might have on the subject. A total of ten questionnaires, five each from North American and European scholars, were completed.

The researchers then conducted a content analysis of the responses to the open-ended items provided by the experts in order to identify themes. These themes were utilized to develop survey items related to how supply management scholars evaluate journals. Feedback from the experts was also utilized to reduce the number of journals to those most consistently seen as influential. A survey was developed that included a section consisting of 25 items related to journal evaluation criteria, a section that asked respondents to rate 26 journals relative to the extent to which they regularly met their criteria as indicated in the first section, a section that collected demographic information, and a section that asked about involvement with each of the journals. A further review by SCM experts who had not previously been involved resulted in additional changes in the survey format and the inclusion of a 27th journal.

The researchers next deployed the survey to academic members of ISM in both a paper form and in electronic form. Of a total of 494 surveys distributed, 111 were completed for a response rate of 22.5%.

Results. Data suggest that the respondents broadly represented the range of personal and institutional characteristics present in the supply management academic community. The majority of respondents were male (65.8%), and between the ages of 35 and 54 (64.8%). With respect to academic rank, 38.7% of the respondents reported the title of associate professor, 24.3% professor, 20.7% assistant professor, and 15.1% reported other titles (1 respondent, or 0.9% did not complete the item). Just over half of the respondents (51.4%) reported having academic tenure. The vast majority of respondents work in the United States (89.2%), although respondents reported working at institutions located in a total of eight different countries. Respondents worked at institutions offering degrees at graduate and undergraduate levels, with 49 respondents coming from institutions that grant doctoral degrees in business. The length of time since the granting of the terminal degree and the amount of time spent as a business practitioner was widely dispersed among the respondents. The mean number of articles in refereed journals for respondents was 15.49, and the percentage of evaluation weight accorded research among the respondents average 44.42%. Finally, in terms of the disciplinary areas within which the respondents reported doing research (note that respondents could report doing research in more than one discipline), 15 reported doing research in Information Technology/Information Systems, 22 reported doing research in Management, 23 reported doing research in Marketing, 60 reported doing research in Operations Management, 45 reported doing research in Logistics, 87 reported doing research in Purchasing and Supply Management, and 20 reported doing research in other areas.

Non-response bias was tested by comparing conference responses and first wave electronic responses (n=75) with the second wave of electronic responses (n=31) using the demographic data of weight percentage of performance evaluations based on research productivity and number of published refereed articles. The second wave responses were deemed representative of academics that did not respond to the survey. T-tests revealed no significant differences, supporting absence of non-response bias (Li and Calantone 1998).

Each subject was asked to rate each of 25 items with respect to the extent that it was important that journals in supply management typically or generally exhibit the stated criterion

from 1—"strongly disagree," to 7—"strongly agree." Based upon the feedback from the expert panel, along with a combined approach utilizing both exploratory factor analysis and confirmatory factor analysis (Anderson and Gerbing 1988; Bentler and Wu 1995; Fan, Thompson and Wang 1999), a four-factor solution was developed to represent the constructs associated with how academics evaluate journals that publish supply management research. Of the 25 items presented to respondents, 23 items specifically loaded on the four factors. A summary is provided in Table 1, which lists the items, parameter estimates, reliability scores, sample sizes, means, and standard deviations for each factor. Sample sizes vary among the factors due to missing responses for some items.

All parameter estimates (loadings) are 0.40 or larger and statistically significant (based upon t values, evaluated for greater than 100 degrees of freedom, $p<0.001$ in all cases), and the construct reliabilities, measured using coefficient omega (Carmines and Zeller 1979), were 0.64 or greater, which exceeds recommendations provided by DeVellis 2003 and Hatcher 1994. Two factors describe characteristics associated with journals (Journal Quality and Journal Reputation), while the other two factors relate to the types of knowledge contribution made by published research (Researcher Relevance and Practitioner Relevance). Greater detail with respect to the derivation, reliability, and validation of the constructs is available in Zsidisin, Smith, McNally and Kull (2007).

Table 1. Summary for four constructs associated with supply management journal evaluation, along with associated parameter estimates and reliability scores.[1]

Factors (with Omega, the composite reliability estimate) and Associated Items	**Parameter Estimates (l_i)**	**n**	**Mean**	**s.d.**
Journal Quality ($\omega = 0.78$)		110	5.71	0.72
The journal has highly qualified reviewers	0.76			
The review process is double-blind	0.69			
The editorial board and board of reviewers are respected	0.64			
The articles are well-written	0.56			
The quality of the articles is consistently high	0.53			
The journal has a diverse readership	0.42			
Journal Reputation ($\omega = 0.64$)		108	4.65	0.82
The journal's overall reputation is good	0.55			
The articles are written by authors with good reputations	0.53			
The institution where I work emphasizes publishing in this journal	0.48			
The journal has a large circulation	0.47			
The journal is sponsored by a respected organization	0.45			
The article acceptance rate is low	0.40			
Practitioner Relevance ($\omega = 0.69$)		110	5.65	0.74

The articles provide information that is useful in teaching purchasing and supply management	0.79			
articles address issues that are of current concern in business practice	0.61			
articles are relevant to managers	0.56			
The articles provide insight into the practice of purchasing and supply management	0.43			
Researcher Relevance (ω = 0.75)		108	5.85	0.65
The journal is useful as a research reference	0.63			
The articles provide insight into the theory of purchasing and supply management.	0.62			
Purchasing and supply management scholars read this journal	0.58			
The research methods are rigorous	0.52			
Purchasing and supply management scholars publish in the journal	0.52			
The articles are relevant to academics	0.51			
The research methods are appropriate for the research objectives	0.40			

[1] Research Question: When I evaluate journals that publish purchasing and supply management research, it is important that the following are typically or generally exhibited. Each Item was then rated from 1 "strongly disagree" to 7 "strongly disagree."

An analysis of Variance was conducted to test the significance of differences in scores for each of the factors between the logistics researchers and other respondents. The logistics researchers rated Journal Quality significantly higher as important in evaluating journals publishing research in SCM than did the other respondents ($F_{(1,108)}$ =5.16, p=0.025). There were not significant differences for the other three factors.

The subjects were also asked to rate the extent of agreement that each of a list of journals generally or consistently displayed the criteria that they had previously rated as important in evaluating journals that publish research and concepts in supply management. The ratings were indicated on a Likert scale from 1 = "strongly disagree" to 7 = "strongly agree." Based upon the classification provided by Charvet, Cooper and Gardner (2008) suggesting that the *Journal of Business Logistics, International Journal of Logistics Management,* and *International Journal of Physical Distribution & Logistics Management* among the journals for which ratings were obtained characterize representative journals for the logistics discipline, ratings were evaluated for differences between the logistics researchers and other respondents. The mean ratings provided by the logistics researchers was found to be significantly higher than those provided by the rest of the respondents for both the *Journal of Business Logistics* and the *International Journal of Logistics Management* ($F_{(1,88)}$ =4.23, p=0.043; and $F_{(1,90)}$ =4.16, p=0.044; respectively). There was not a significant difference in ratings for the *International Journal of Physical Distribution and Logistics Management.* Further, logistics researchers were not found to have ratings significantly different from the rest of the respondents for two

journals with strong ties to the purchasing discipline (*Journal of Supply Chain Management* and *Journal of Purchasing and Supply Management)*.

Implications. As has previously been noted, SCM as a field of interest in research and the practitioner community represents a relatively new emphasis, and one that crosses a number of disciplinary foci. Since each of the contributing disciplines has traditionally had their own approaches to understanding elements of what is today viewed as part of SCM, there exists substantial potential for differences in how the groups approach research. These differences potentially represent challenges for researchers seeking to identify valuable avenues for research, approaches to the research, and publication outlets for completed research projects. This study provides clear evidence those researchers who identify logistics as an area of research interest may evaluate publication outlets differently than do other researchers in SCM. In particular, they appear to place more importance on Journal Quality than do others conducting research related to SCM.

This suggests that journal evaluation in SCM should not be viewed as entirely homogeneous. Further, logistics researchers viewed two out of the three journals evaluated in this study which had previously been identified by Charvet, Cooper and Gardner (2008) as representative of the logistics discipline as better representing their evaluation criteria than did respondents not reporting interest in conducting logistics research. This finding suggests that differences in evaluation criteria between disciplines may also influence journal evaluations in ways that are specific to individual disciplines. To the extent that the disciplines in which we have interest in doing research develop early in our academic careers, there may indeed be merit to the contention that views on research in SCM depend upon where you start.

The findings of the current study indicate that there may be value in applying a multi-group analysis to the criteria associated with journal evaluation, and such a study is currently under way. Further, given the findings derived from studies by Larson and Halldorrson, it would be beneficial to be able to directly compare respondents from the Purchasing discipline with respondents from Logistics. However, given that in the current sample purchasing was reported as a research interest by a substantial portion of the respondents reporting other research interests, it was not possible to conduct such an analysis. Additionally, larger samples explicitly collected from the membership of groups specifically representing the different disciplines would support a more substantial characterization of the differences between the disciplines contributing to SCM in how adherents view publication outlets for research in SCM.

REFERENCES

Anderson, J. C., & D. W. Gerbing. "Structural Equation Modeling in Practice: A Review and Recommended Two-Step Approach," *Psychological Bulletin*, (103:3), 1988, pp. 411-423.

Bentler, P. M., & E. J. C. Wu. *EQS for Windows User's Guide*, Multivariate Software, Inc, Encino, CA, 1995.

Carmines, E. G., & R. A. Zeller. *Reliability and Validity Assessment*, Sage, Newbury Park, CA, 1979.

Charvet, F. F., M. C. Cooper & J. T. Gardner. "The intellectual structure of supply chain management: A bibliometric approach." *Journal of Business Logistics*, (29:1), 2008, pp. 47-73.

DeVellis, R. F. *Scale Development: Theory and Applications*, Sage, Thousand Oaks, CA, 2003.
Fan, X., B. Thompson and L. Wang. "Effects of sample size, estimation methods, and model specification on structural equation modeling fit indexes," *Structural Equation Modeling*, (6:1), 1999, pp. 56-83.
Larson, P. D. and A. Halldorrson. "What is SCM? And where is it?" *Journal of Supply Chain Management,* (38:4), 2002, pp. 36-43
Larson, P. D. and A. Halldorrson. "Logistics versus supply chain management: An international survey." *International Journal of Logistics: Research and Applications*, (7:1), 2004, pp. 17-31.
Larson, P. D., R. F. Poist and A. Halldorsson. "Perspectives on logistics vs. SCM: A survey of SCM professionals." *Journal of Business Logistics*, (28:1), 2007, pp. 1-24.
Li, T., & R.J. Calantone (1998). "The Impact of Market Knowledge Competence on New Product Advantage: Conceptualization and Empirical Examination," *Journal of Marketing*, (62:4), 1998, pp. 13-29.
Mentzer, J. T., T. P. Stank & T. L. Esper (2008). "Supply chain management and its relationship to logistics, marketing, production and operations management." *Journal of Business Logistics,* (29:1), 2008, pp. 31-46.
Zsidisin, G. A., M. E. Smith, R. C. McNally and T. J. Kull. "Evaluation criteria development and assessment of purchasing and supply management journals," *Journal of Operations Management,* (25:1), 2007, pp. 165-183.