

Thought and Practice of Supply Chain Management: Past, Present and Future

Research Proposal

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June 10, 2009

Research Objective: To better understand the future direction of SCM, and thereby to provide direction to both academics and executives on improving SCM thought and SCM practice.

The recent growth and influence of supply chain management (SCM) has elicited a lot of interest in both business and academia. Several disciplines are attempting to claim ownership of the field (Burgess et al. 2006) such as operations, logistics, purchasing and marketing.. Each discipline, however, has defined and conceptualized SCM differently. A few examples representing the broad range of conceptualizations within and across disciplines include:

- SCM as simply a new name for logistics (Davis-Sramek and Fugate, 2007),
- SCM as limited to the supply-side of the organization (Srivastava et al. 1999),
- SCM as a part of the operations function (Jacobs and Chase 2008),
- SCM as including all the traditional functions within the organization and extending across organizations (Mentzer et al. 2001),
- SCM as existing at the strategic business unit level (Lambert 2008),
- SCM as existing at the corporate strategy level (Lambert 2008).

Consequently, this has created some confusion as to the boundaries and scope of SCM, acceptable and appropriate research methodologies and research problems, and more importantly the future direction of SCM.

In particular, we seek to address the following research questions to better understand the domain of SCM, the cross-functional nature of SCM, and how to shape the future of SCM:

1. What is SCM, what are its boundaries, and how has it changed?
2. What is the future direction of SCM specifically regarding:
 - a. *Research methodologies & Research problems*
3. What is the future direction of the discipline of SCM as it relates to functions of operations, logistics, purchasing, and marketing?

4. How do we capture or promote more multifunctional and cross domain research and discussion?
5. How do we improve upon the “Thought and Practice of SCM”?

The first question is a descriptive question which allows us to understand the view or SCM from the perspective of the person being interviewed. Questions 2 and 3 allows us to understand what the person being interviewed expects in the future. A key aspect of supply chain management is the emphasis on cross-functional processes and this question will allow us to compare what interviewees who espouse the benefits of SCM actually say, what tenets of SCM they actually practice. Finally question 5 is the key question of the project in that it provides an opportunity to consider ways to improve SCM both for academics and practitioners. These research questions are especially important now as the field of SCM is rapidly changing with some authors questioning whether SCM is a discipline (Cousins et al. 2006) to some authors suggesting at best SCM is an emerging discipline (Harland et al. 2006).

This research project will build on the recent special issue in the *Journal of Operations Management: Evolution of the Field of Operations Management: Organization Theory and Supply Chain Management*, and advance theory and practice of SCM (Volume 25, No. 2 March 2007). Literature reviews are ideal to identify how the discipline has changed but to understand the future direction of SCM and to improve SCM thought and practice it is necessary to interview leading academics and business executives to capture commonalities and differences of opinions. We are requesting funding to defray costs associated with interviewing academics and executives, to hire a summer research assistant to convert audio interview tapes to text files that can be analyzed in detail, and to purchase qualitative research analysis software.

We believe this research study will make a significant contribution to the field of SCM by providing insight and guidance for both academics and executives. There are very few papers in the literature that focus on this topic and even fewer that utilize a cross-disciplinary approach suggesting once this paper gets published there will be many citations. Preliminary discussions with the editors of one of the premier SCM journals (*Journal of Operations Management*) indicated an interest in publishing the results of our study. In addition we are not aware of any published articles that specifically identified broad suggestions to improve SCM thought and practice based on interviewing thought leaders in academia and business. Our objective would be to submit three completed manuscripts to prominent SCM journal (e.g., *Journal of Operations Management*, *Journal of Supply Chain Management*, and *Harvard Business Review*). See “Deliverables and Timeline” section for more details.

Literature Review

There have been a number of studies in the literature that have focused on defining the scope and boundaries of SCM. For example articles with a logistics perspective from the *Journal of Business Logistics* include (Davis-Sramek and Fugate 2007; Frankel, Bolumole, Eltantawy, Paulraj and Gundlach 2008). Articles with an operations perspective in the *Journal of Operations Management* include (Chen and Paulraj 2004; Kouvelis, Chambers and Wang 2006) Articles

with a purchasing perspective in the Journal of Supply Management Research include (Carter, Ellram 2003) and with a marketing perspective include the Journal of Marketing (Srivastava et al. 1999). In reviewing this literature, it is apparent that a research gap exists in that much of the work is influenced by the discipline of the authors and the journals where they publish. Research that seeks to understand SCM's current domain and future research in terms of both thought and practice is lacking. Therefore, our research attempts to address this gap by taking a cross-disciplinary approach to conducting the research. In particular, our research differs from previous studies because we seek perspectives from not just one discipline, but logistics, operations management, purchasing, and marketing.

Research Methods

Considering the changing field of SCM and the need to provide guidance and direction about the future of SCM it was determined qualitative research with academic thought leaders and business executives would be the ideal research method for this project. Qualitative research is conducted when the research problem requires exploring concepts in raw data and organizing these concepts and relationships into themes (Stem 1980; Strauss and Corbin 1998).

Qualitative research attempts to develop a body of knowledge about a particular research interest (Hirschman 1986) and differs from quantitative (where one might use frequency tables) in that it seeks to capture the individual's point of view and secure rich descriptions. Qualitative research seeks variation of ideas of concepts and the phenomenon as opposed to variance of people (not generalizability). In qualitative research, interest is in similarities and differences among interview respondents' perceptions, thoughts, attitudes, and emotions about a particular phenomenon (e.g., the future of the discipline and the Journal) (Miles and Huberman 1984).

The purpose of this research, therefore, is to report the beliefs and opinions of these thought leaders, rather than draw conclusions or predict the future. Specifically, the objective is to highlight the similarities and differences in what these leaders had to say about what "is," what "will be," and what "should be."

Ideal academic candidates to interview would be those that have:

- Broad, historical perspective (have seen changes in the past)
- Significant number of publications in premier journals
- Currently or recently served on premier journal review board

Ideal business candidates to interview would be those that have:

- Broad, historical perspective (have seen changes in the past)
- Significant number of SCM leadership roles
- Currently or recently served as an SCM executive

Our initial goal is to interview past and present editors of leading journals in operations, logistics, purchasing and marketing. In addition a select few candidates who are not editors will also be interviewed who are viewed by the interviewees as one of top 5 leading academics in the field. We intend to follow the same sampling plan by interviewing top SCM executives and then

asking them to provide their top 5 executives to interview. Candidates who are identified by multiple interviewees will then be interviewed.

Interviews will be conducted in-person with *at least two* of the three members of the research team. The initial target to conduct the interviews will be at the Production Operations Management Conference in Orlando, Florida. Additional interviews will be conducted through conference calls and site visits as needed. The interview protocol (see Appendix A) shows the broad themes and questions that will be discussed in each interview.

Each interview will be analyzed through coding techniques recommended by Strauss and Corbin (1998), which will be facilitated by the QDA Miner software package. The authors will follow Strauss and Corbin's (1998) open, axial, and selective coding process to derive the themes and categories from the data. Table 1 in Appendix A provides a direct summary of Strauss and Corbin's (1998) guidelines. Themes and concepts that emerge during the analysis will be compared, analyzed in detail, and combined into categories. Each interview will be read multiple times by all authors to ensure the essence of participants' responses will be appropriately captured. The authors will then compare the findings to identify discrepancies. The issue will be examined exhaustively if a disagreement exists. An independent fourth party researcher will be consulted to resolve the discrepancy when agreement is not initially reached.

In addition to independently coding the interview data and comparing the findings, the authors will take meticulous care in understanding researcher biases throughout the coding and writing process. Because the researcher is the primary mechanism for collecting and interpreting data in qualitative research, there is potential for the researcher to allow preconceptions and personal interests to influence the findings (Glaser 1992). Following qualitative research guidelines for addressing potential biases (Becker 1993, Glaser 1978, 1992, Polkinghorne 1989), the primary researchers will be especially sensitive to these biases, and will make every attempt to remove presuppositions and *a priori* assumptions (Wallendorf and Belk 1989).

Deliverables and Timeline (minimum of 3 manuscript submissions)

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|-------------|--|
| Summer 2009 | Conduct interviews, convert interviews to text, start interview analysis |
| Fall 2009 | Preparation of a working paper for the <i>Journal of Operations Management</i> (this manuscript will focus on Operations Management role in SCM), presentation at CBE and, possibly, a conference and distribution of the working paper to scholars in the field. |
| Spring 2010 | Submission of a final draft to a journal with the initial target being the <i>Journal of Operations Management</i> . |
| Spring 2010 | Preparation of a working paper for the <i>Journal of Supply Chain Management</i> (this manuscript will focus on integrating SCM across disciplines – logistics, operations management, purchasing, and marketing), possible presentation at a conference and distribution of the working paper to scholars in the field. |
| Summer 2010 | Submission of a final draft to a journal with the initial target being the <i>Journal of Supply Chain Management</i> . |

- Summer 2010 Preparation of a working paper for a managerial journal (possibly *Harvard Business Review* or *Supply Chain Management Review* (this manuscript will focus on comparing and contrasting executives' and academic thoughts and responses to research questions), possible presentation at a managerial conference.
- Fall 2010 Submission of a final draft to a journal with the initial target being either *Harvard Business Review* or *Supply Chain Management Review*.
- Summer 2014 Follow-up with an update of the thought and practice of SCM. This will provide a longitudinal research perspective and corresponding manuscript submissions, and will continue indefinitely.

Past Funding

This is the first request for funding from CBE for the two Lehigh University researchers, Zach Zacharia and Nada Sanders.

Budget

We are expecting to conduct 30 to 40 interviews, each lasting from 30 minutes to an hour. The cost to transcribe interviews professionally ranges from \$2 to \$3 per minute depending on the clarity of the recordings and the number of participants. Since there will be to 3 or 4 participants in each interview it is likely the higher rate will be charged. To significantly reduce the costs of transcription we are planning to hire a student research assistant for the summer. In addition software to facilitate the identification of patterns and themes in the data will also need to be purchased.

Undergraduate Student (260 hours at \$10/hr)	\$ 2600
Qualitative Data Analysis Software	<u>\$ 900</u>
Total	\$ 3500

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Appendix A

Interview Protocol / Guide

Opening

- Introductions of interviewer and interview participant
- Overview of purpose of the study
- Assurance of anonymity
- Permission to audiotape

Demographic Data

- Titles of interview participants

Initial Prompts

- **Domain of SCM**
 - What is SCM, what are its boundaries, and how has it changed?
 - What is the future direction of SCM specifically regarding:
Research methodologies & Research problems
- **Cross-Functional Nature of SCM**
 - What is the future direction of the discipline of SCM as it relates to functions of operations, logistics, purchasing, and marketing?
 - How do we capture or promote more multifunctional and cross domain research and discussion?
- **Shaping SCM**
 - If you had an opportunity to improve upon the “Thought and Practice of SCM” what would you do and how would you go about it?

Additional Unplanned/Floating Prompts

- How...?
- Describe...?
- Can you tell me more about that?
- Will you explain that in more detail?
- Can you give me examples?

Table 1: Summary of Strauss and Corbin’s (1998) Open, Axial, and Selective Coding

Technique	Coding Process
Open Coding	<p>In open coding, we conducted the systematic process through which concepts were identified and their properties and dimensions were discovered in data. We looked for central ideas in the data represented as concepts, and identified properties by evaluating characteristics of each concept, which defines and gives it meaning. We then identified dimensions of each property, i.e., the range along which general properties of a concept vary, giving specification to a concept. Thus, we conducted the analytic tasks in open coding of naming concepts, defining themes, and developing themes in terms of their properties and dimensional ranges. For illustration purposes, the following are just a few examples of 100s of codes identified during this initial process: “Practitioners should read the journal?,” “Nothing is new,” “What is supply chain management?,” “Association with council.” Then, we identified those themes that were significant to the data (i.e., interviewer responses). As we continued through our data analysis, if we saw additional opinions, emotions, or attitudes that we identified through comparative analysis as sharing some common characteristics with an existing code, then we gave it the same name (code). Eventually we realized that certain concepts can be grouped under a more abstract higher order concept.</p>
Axial Coding	<p>In axial coding, we carried out the process of relating themes to their corresponding sub-themes, linking themes at the level of properties and dimensions. We then identified the structure or the conditional context in which a theme is situated. Thus, in the axial coding phase, we laid out the properties of a theme and their dimensions; identified the variety of conditions, actions/interactions, and consequences associated with each; related a theme to its sub-theme through statements denoting how related they were; and looked for clues in the data that might denote how major themes might relate to each other. Conditions were identified as sets of events that create the situations, issues, and problems pertaining to a concept and to a certain extent explain why and how persons or groups respond in certain ways. Our conditions had many different properties. Each category was considered saturated when no new information seemed to emerge during coding – when no new properties, dimensions, conditions, actions/interactions, or consequences are seen in the data (i.e., transcripts).</p>
Selective Coding	<p>In the selective coding phase, we followed the process of integrating and refining our findings. It was not until the major categories were finally integrated that the results of the previous coding processes took the form of research findings that could be presented in manuscript form. During this integration phase, we identified central categories that grouped similar themes. This process also involved accounting for the considerable variation within each category and theme. We chose themes and categories based on them being central, appearing frequently, ensuring the explanation evolved by relating the categories was logical and consistent, and making sure that they could explain variation as well as the main point made by the data. We then refined our themes and codes by reviewing for internal consistency and for gaps in logic.</p>