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**Paradigms, Revolutions, and Tipping Points: The Need for Using
Multiple Methodologies within the Field of Supply Chain
Management**

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1. Introduction

In this comment we describe why the field of supply chain management is at a tipping point for a methodological revolution or paradigm shift. Using the framework of Kuhn (1970, 1996), observations of publications in leading journals, and faculty interviews, we suggest that our field may be in danger of shifting from empirical data sources (such as surveys and case studies) and corresponding methodologies (for example structural equation modeling and qualitative data analysis) to econometric modeling, at the possible exclusion of these empirical methodologies. We argue that to build and maintain the integrity of the field, as scholars we should strive to rely on multiple complementary methodologies, and avoid creating and adopting a dogmatic position which excludes valid empirical methodologies.

Kuhn (1970, 1996) describes a paradigm as consisting of a consensus concerning the 1) theories, 2) standards, 3) methodologies, and 4) beliefs that are employed within a field of inquiry. In this comment we concentrate specifically on the methodological paradigm (part 3 of the above definition) of the field of supply chain and operations management. While there are many definitions of the term supply chain management (Mentzer et al., 2002), we use the term supply chain management to refer to the empirical research which is published in the premier journals in our field, such as the *Journal of Operations Management* and *Journal of Supply Chain Management*. In addition, we include related empirical research concerning such topic areas as strategic alliances, marketing channels, and buyer-supplier relationships which at least sometimes appear in journals in associated fields – for example the *Journal of Marketing* and *Strategic Management Journal*.

Kuhn (1970) suggests that science consists of peaceful periods interrupted by intense revolutions. During the peaceful intervals scientists are guided by a paradigm (Mackenzie and House 1978) as defined above. We have experienced this sort of peaceful interlude in the broad field of supply chain management, with many journals, editors, and reviewers being open to methodologically sound and valid empirical research. This sort of empirical research includes the use of surveys, case studies, and in-depth interviews. In addition, there has been a recent call for the use of additional empirical methodologies (Gattiker and Parente, 2007). As noted by Boyer and Swink's (2008) recent editorial, "a holistic understanding of ... supply chain management demands multiple approaches."

We also believe that a divergence of methodological perspectives is important in our field. We recognize that this statement violates Kuhn's strict definition of a paradigm. In addition, a field's level of

paradigm development fosters the positive relationship between productivity and pay, and is also associated with the allocation of such resources as internal funding and grant allocations (Pfeffer, 1993). However, we do not believe that the single violation of this one dimension of a paradigm is necessarily a detriment to our field. Like Pfeffer (1993, p. 616), we advocate that, “methodological diversity may be adaptive as long as there is some agreement over fundamental goals ... the substantive research questions ... (and) the theoretical models of behavior used to comprehend the phenomena of interest.”

We are writing this essay not simply to provide another comment on the need for multiple methodologies in our field, but rather because there is the possibility, and even *the threat*, of a methodological revolution in our field. As we explain later, our field is currently exhibiting characteristics consistent with a “peaceful interlude” during a process of adoption of innovation (Rogers, 1995). Generally, such a peaceful interlude is followed by a revolution. Further, the field of supply chain management relies heavily on survey and case study research and, correspondingly, the use of SEM, regression, MANOVA, and qualitative data analysis to analyze these data. This is not unlike the methodological paradigm experienced by the field of marketing only a few years ago. However, based on our interviews of leading marketing faculty, it appears that marketing has moved away from such methodologies – perhaps even experiencing a backlash – and now relies heavily on econometrics and modeling. As we assert later in this comment, there is evidence to suggest that a similar methodological shift could engulf our field as well. As noted by Grimm (2008), “Economics also has power to influence other disciplines with regard to its extensive application of formal empirical methods ... economics can “take over” a discipline, recreating the discipline in its own (methodological) orientation” (parentheses added).

The remainder of this comment consists of three relatively short sections. In the next section we briefly describe the level of paradigm development in the field of supply chain management. Afterwards, we describe the phenomena of paradigm shifts, and describe in more detail the possible diffusion of the econometrics methodology into our field and how this methodology may come to dominate the field of supply chain management. In the final section of our comment we call for multiple, complementary methodologies in supply chain management research, and describe why this is in fact desirable from a paradigmatic perspective.