LOM 7381 – Research in International Logistics and Supply Chain Management
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Fall 2012

Course objective: This course is conducted as a doctoral seminar in which academic literature dealing with research in international logistics and operations management is studied in depth. The purpose of the course is to become acquainted with research methodologies employed in studies pertaining to international logistics and supply chains, to perform a rigorous critical review of academic work and its relevance to managerial practice, and to identify opportunities for fruitful inquiry in the field.

The focus of our study is on research that has an international logistics or supply chain management (ILSCM) component, but we also include general research in supply chain management that has obvious relevance to ILSCM. The goal is to take stock of the extant research in ILSCM, to describe its contribution to managerial knowledge and practice, and identify areas that require additional research. We shall identify gaps between the focus of academic research and issues that command attention in the popular press, and suggest how these gaps may be closed.

Course format: Students perform intensive readings of assigned articles and undertake their own comprehensive study of published works in the academic literature on key topics in international logistics and supply chain management. They engage in class discussion on each topic and collaborate to produce a summary of the published work and a critique of individual articles. They describe the problems addressed, research methodologies employed, sources of data, research findings, theoretical contributions, relevance for setting policy or managerial practice, shortcomings or limitations, and needs for future work. The product of this term’s seminar will be a survey of ILSCM research covering topics VI-XIV that will be submitted for publication. It will serve as a companion to a paper submitted last year that dealt with ILSCM strategies. We shall start with a review of the material in the first paper (which concentrated on Topic V framed by topics I-IV) and update it to reflect new contributions in the literature and new perspectives from our discussion. Then we shall search together for recent material on topics VI-XIV, produce a summaries of the most relevant work in an Excel spreadsheet, and collaborate on the writing of the second paper.

Topical Outline and Basic Readings

I. Research Methodologies

- General philosophy
  - Positivist versus phenomenological (interpretivist)
  - Passive versus active
- Sources of information and data collection methods
  - Existing data from primary sources (specify)
o Existing data from secondary sources (specify)
  Surveys
    Mail, telephone, internet, personal interviews (group or individual)
  Experiments
  • Nature of the data
    o Qualitative versus quantitative
    o Level of detail and observational units
  • Analysis
    o Modeling techniques and forms of models employed
      Statistical (with sample sizes)
        • Descriptive
        • Relational models
      Deterministic optimization
      Heuristic algorithms
      Simulation
        • Deterministic
        • Stochastic

II. Overview (Review of) of Modeling Techniques for LSCM

- Logistics Functions
  - Procurement
  - Production
  - Inventory planning and control (multi-echelon)
  - Transportation and distribution
  - Customer relationship management
  - R&D for logistical support
- Network structure for organizations or processes
  - Entities and relationships
- Network structure for business operations
  - Physical facilities and product flows
  - Locational and capacity planning
- Use of Optimizing models
  - Supply chain network design
  - Production and distribution
  - Scheduling
- Discrete event simulation models to handle stochastic variation
  - Analytic capabilities provided
    - Analyzing complex replenishment programs
    - Testing feasibility of optimizing model solutions
  - Simulation elements with Arena 10.0

III. Logistics and Supply Chain Research Surveys


IV. Strategic Frameworks and Logistics Frameworks


V. International Supply Chain Strategy


VI. Modeling Supply Chains and Logistic Systems


VII. Structuring Supply Chains


VIII. Organizational Relationships


IX. Procurement and Supplier Relationships


X. Information and Communications Technology


XI. Geo-Political Effects on Supply Chain Design and Execution


XII. Performance Metrics

XIII. Institutional Services and Logistics Involving Particular Shipping Modes


XIV. Risk Management