Demand Forecasting and Planning in the Supply Chain

Over the last several decades, globalization has led to supply chains that have become increasingly complex. Demand for goods and services has exploded in markets that were insignificant just a generation ago. In addition, global sourcing has led to longer and longer lead times on many products, making supply chains increasingly inflexible. These megatrends have made demand forecasting and planning increasingly important, yet increasingly difficult. The longer the lead time, the longer the time horizon must be for the demand forecast, and the longer the time horizon, the more uncertainty exists in terms of future demand. Thus, effective management of global supply chains requires excellence in demand forecasting and processes’ planning. Given these challenges, there has been a huge research literature in the area of operations and supply chain management contributing to the development of new demand forecasting approaches or to the investigation and the improvement of existing approaches. A considerable part of the literature has also been dedicated to investigate the interaction between forecasting and some tactical and operational supply chain processes such as planning and inventory management.

It is this plethora of potential research contributions that triggered the announcement of this Special Issue of Supply Chain Forum: an International Journal towards the end of 2010 which has been entitled “Demand Forecasting and Planning in the Supply Chain”. We were delighted with the response to our call in terms of the variety of the submitted papers. The refereeing process has resulted in five papers and due to some organizational purposes of the journal, two additional papers have been also included at the end of this special issue although they do not deal with the main topic of the special issue.

The first paper by Atul B. Borade and Satish V. Bansod investigates the comparative performance of five neural network-based forecasting methods in a supply chain that consists of a supplier and a retailer. Two multi criteria decision making methods have been used: TOPSIS and ELECTRE to compare the forecasting methods. The forecasting performance is reported in terms of the total supply chain cost as well as the retailer and the supplier profits.

The second paper by Georgios P. Spithourakis, Fotios Petropoulos, M. Zied Babai, Konstantinos Nikolopoulos and Vassilios Assimakopoulos analyses the forecast accuracy improvement benefits associated with the practice of using an aggregation-disaggregation forecasting framework. This framework, called ADIDA, has been applied in this paper to popular supply chain statistical forecasting techniques. The empirical performance of the methods has been assessed by means of real data on 1,428 series (representing fast-moving demand) that have been used in the M3-Competition.
The third submitted paper by **Abdelali Hajbi** deals with the traffic forecasting in Moroccan ports. The author explores the relationship between the governance and the port traffic forecasting process and analyses the factors that affect this process. An example of simple linear regression model has been tested to check its usefulness in defining a good estimator of one of the factors. Finally, based on a similar experience with Spanish ports and the Delphi method, a new forecasting process has been proposed in the paper.

**Sabrina Berbain, Régis Bourbonnais** and **Philippe Vallin** contributes to this Special Issue with a paper that was selected from the 8th International Research Conference on Logistics and Supply Chain Management (RIRL, 2010). The authors focus on the case of products with short life-cycle. They discuss the main issues related to the management of this kind of products and they present an overview of the models that can be used to deal with demand forecasting, production and inventory management. Two case studies have also been presented. The first deals with demand forecasting for CDs and the second deals with the printing policy for an annual guide.

The fifth paper by **Uche Okongwu, Jean-Christophe Deschamps, Matthieu Laura** and **Julien François** is a selected paper from the 8th International Research Conference on Logistics and Supply Chain Management (RIRL, 2010). It analyses the key determinants of a distributed planning process that affect the performance of the supply chain. The time bucket, the planning horizon and the forecast accuracy have been identified among a total of ten determinants. The authors show through modeling and simulation the effects of these determinants on three performance dimensions: efficiency, effectiveness, and responsiveness.

Readers will know who all the authors are from their papers; however reviewers usually go unnoticed and unheralded despite their very important efforts towards the academic publishing process. Thus, we want to thank all the reviewers for this Special Issue who gave up their time and had to endure our constant e-mail pursuits, and we recognize them below by listing their names and affiliations in alphabetical order.

**Mohamed Zied BABAI**  
*BEM-Bordeaux Management School, France*

**Mark MOON**  
*University of Tennessee, USA*

**Reviewers for the Special Issue: Demand Forecasting and Planning in the Supply Chain**

- Dominique Breuil  
  EIGSI, La Rochelle, France
- Tatiana Bouzdine-Chameeva  
  BEM, Bordeaux, France
- Satyaveer Chauhan  
  John Molson School of Management, Concordia University, Canada
- Dominique Estampe  
  BEM, Chair RIRL 2010, Bordeaux, France
- Samir Lamouri  
  ENSAM, Paris, France
- Dag Naslund  
  Lund University and University of North Florida, U.S.A.
- Dorel Parashiv  
  Academy of Economic Studies, Bucharest, Roumania
- Aris A. Syntetos  
  Salford Business School, University of Salford, U.K.