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## Editorial

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### María Jesús Sáenz

MIT-Zaragoza International Logistics Program  
Zaragoza Logistics Center  
Avda. Gomez Laguna, 25, 1<sup>a</sup>  
50009 Zaragoza, Spain  
Fax: + 34 976 077 601  
E-mail: mjsaenz@zlc.edu.es

**Biographical notes:** Dr. María Jesús Sáenz received her Doctorate in Manufacturing and Design Engineering and her Master's in Industrial Engineering from the University of Zaragoza, Spain. She is currently the Director of the scmLAB, a Professor at the MIT-Zaragoza International Logistics Programme (Zaragoza Logistics Center), a Research Affiliate at the MIT Center for Transportation and Logistics and a Tenured Professor at the School of Engineering of the University of Zaragoza. She is the former Academic Director of the Zaragoza Logistics Center and the Director of the Spanish National Center of Excellence in Logistics. Her research interests centre on logistics innovations based on experiential learning laboratories and project management. She has also conducted different research and development projects for companies around supply chain management innovation and optimisation. She is the co-author of several books on these subjects and has published a number of articles in relevant national and international journals.

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## 1 Introduction

It is with great pleasure that we present a special issue of *International Journal of Procurement Management* focusing on the *First Conference on Logistics and Supply Chain Management*, held in Spain. The aim of this introduction is to provide an overview of the scope of the conference, the issues discussed and the main conclusions to be drawn from it. In addition, some of the papers presented at the conference have been selected for publication in this special issue.

## 2 The conference on logistics and supply chain management

The *First Conference on Logistics and Supply Chain Management* was held in Zaragoza (Spain) in 2007. Entitled *Supply Chain Management: A Strategic Factor for Competitiveness*, the conference was wonderfully hosted by the Zaragoza Logistics Center and the National Center of Excellence on Logistics and Supply Chain Management (CNC-LOGISTICA) and was attended by delegates representing a broad range of academic, governmental and industrial groups from a number of different

regions and countries. Having invested a great amount of effort in making its logistical management practices a reference point throughout the world, both in terms of the activities of its companies and the creation and dissemination of knowledge in the field, Zaragoza was a logical choice as the venue for the conference. Thanks to the pooling of efforts in logistics and supply chain management, this type of event could be hosted here.

Logistics and supply chain management have become decisive factors in the design of business strategies. Due to the movement towards globalised markets, the risks of offshoring, constant price wars, the price of oil, high levels of demand among consumers and the continual development of technologies, companies are now under obligation to innovate on a continual basis with regard to their logistical activities so that they can increase (and in some cases, merely maintain) their competitiveness. The management approaches oriented towards the holistic component of supply chains represent a strategic opportunity to increase competitiveness, as demonstrated in the various contributions made throughout this conference and as the readers will see for themselves in the papers selected for this special issue.

To meet the challenge posed by increased competition in today's markets and the current economies, a process of collaboration and a synergic approach to the analysis of this activity from complementary points of view is required. In this respect, the conference provided a forum for debate for both academic and industrial experts in logistics and supply chain management, bringing together groups of specialists, professionals and researchers working for companies, industry, government, consultancies, universities and other organisations involved in Research and Development (R&D), the aim being to reflect on and debate the latest trends emerging in the field. This meeting point for specialists in logistics and supply chain management provided the research community with an opportunity to disseminate its research results and also allowed the industry to discover the latest advances made in the area.

The idea behind this conference was to provide a driving force for the exchange of knowledge between a latent critical mass based on R&D in logistics and supply chain management, which is unprecedented in Spain. A total of 228 logistics experts and professionals registered for the event and 82 papers and presentations were contributed as the technical core of this congress. Such demand resulted directly from the Spanish business network's need to harness logistics as a genuine competitive advantage in a continually changing environment in which the prospects for the future are far from certain.

With a view to cover the different areas encompassed by logistics and supply chain management, the conference comprised some 15 different debates held in parallel and divided into seven different areas: supply chain management, procurement, production and operations planning and control, warehousing and packaging, transportation, distribution management and reverse logistics. The papers making up this special issue will provide insight into the issues discussed in these sessions.

One of the aspects discussed in most detail during the conference was that of reverse logistics as seen from the perspective of supply chain management, with Adenso Diaz of the University of Oviedo (Spain) chairing a round table entitled *Reverse Logistics Innovation: A Business Strategy*. Reverse logistics is an emerging area in today's business environment. Increased awareness of the environment, green legislation and more flexible customer return policies have led to reverse logistics gaining strategic importance within organisations.

Reverse logistics can be considered from two different points of view: an environmental standpoint and the return of products due to more flexible return policies. Reverse logistics encompasses the process of planning and efficiently managing goods back from the consumer right through to recycling processes or the reintroduction of the product in new production and logistics cycles. The implementation of reverse logistics practices that enhance value recovery means that companies need to view it as a value-added service that enhances competitiveness. By designing products, introducing innovations in processes and work methodologies and fostering collaboration between different players in the supply chain, resources and goods can be optimised in reverse logistics processes.

The focus of this round table, which was organised with the assistance of the Spanish Reverse Logistics Network, was to illustrate the innovation, challenges and visions in reverse logistics from a supply chain perspective. It brought together the representatives of producers, distributors, third-party logistics and professors in the field to debate and forecast its future. Stefan Voß (University of Hamburg, Germany), Joseph Sarkis (Clark University, USA), Jose Ramon Carbajosa (General Manager, Ecolec), Fernando Carreras (General Director, Carreras Almacenaje y Distribución, Spain) and Pedro Vicente (the head of Phillips' Iberian Distribution Centre) highlighted the main issues in this emerging field, namely: Are we addressing the market's most pressing needs and customers' needs effectively?

The main conclusions to be drawn from this debate are that the main driving forces behind efficient reverse logistics are:

- the collaboration between players – an aspect that has to face the distrust between the stakeholders and their diverging visions
- the drafting of legislation that respond to the current situation with regard to companies and infrastructures
- new technological developments, both from the point of view of access to information on the status of goods in a reverse flow and from changes in product technology, *e.g.*, the electrical and electronic industry.

Regarding the R&D and innovation efforts on this field, the Integral Logistics Technology Platform (Logistop), set out the first steps taken in defining the Strategic Research Agenda (SRA) on logistics and supply chain management. In doing so, it laid out the R&D priorities in various areas that will be incorporated into the plans of the various governmental departments responsible for driving R&D policy forward in this area. In the case of Logistop, the SRA's objective is to determine the strategic lines of research that must be pursued to bring about the situation set out in *Strategic Vision Document 2020 of Logistics in Spain*.

The aim is to identify the R&D needs in the medium and long term while also specifying priorities in accordance with the stipulated timeframes. On a more specific note, Jaume Mira, a member of Logistop's Technical Committee, summarised the key strategic areas as follows: sustainability and corporate social responsibility, the development of safety and reliability, the fostering of collaboration, co-modality/intermodality and technology. In addition, there are two other actions that need to be implemented: the fostering of training and knowledge on logistics

and supply chain management, as well as scientific research, technological development and innovation based on synergic collaboration between business, government and research bodies.

In providing an example of the implementation of new research strategies in the field and public-private cooperation, Pablo Zubia presented a major project entitled *Boosting the Competitiveness of Spanish Industry Through Logistics as a Strategic Factor in a Global Setting*, under the acronym of *Globalog*. Taking part in the project are more than 25 organisations involved in the various sub-areas of logistics and supply chain management, the representatives of companies operating in different sectors recognised for their excellence in terms of innovation in this area – such as the large retail sector, ceramics, third-party logistics, port authorities – and the leading Spanish research institutes working in the field.

The main objective of this project, which is coordinated by the Packaging, Transport and Logistics Research Centre (Itene – based in Valencia, Spain) is to increase the level of competitiveness of Spanish companies by developing logistical knowledge, methodologies and practices and using Information and Communications Technologies (ICTs) to increase the efficiency of supply chains in a globalised environment. The project analyses the latest trends in supply chain concepts from strategic, operational and technological viewpoints and also in terms of the necessary infrastructures and corresponding regulatory and legislative aspects.

Two prizes, with different but complementary objectives, were awarded as a means to encourage speakers to present quality papers at the conference based on previous developed projects and the R&D results in this area. The first of them, the National Award for R&D in Logistics and Supply Chain Management, was awarded *ex aequo* and shared between two papers: *Coordination of the Supply Chain with Commercial Returns: The Return Allowance Credit Contract*, written by Rocio Ruiz and Ana Muriel, and *Which Form Postponement? A Typological Theory of Form Postponement Effects on Operational Performances* by Fabrizio Salvador, Alessio Trentin and Cipriano Forza. The paper *Rfid in the Cold Supply Chain: Solutions for a Permanent Need* by Pablo Zubia, Veronica Suesta, Sergio Gomez and Emilio Gonzalez won the Award for Innovation in Logistics and Supply Chain Management, which was created to attract first-class papers discussing the direct or indirect practical application of supply chain management issues in the business environment both in the present and future.

The conference ended by focusing on one of the areas that is currently attracting the attention of researchers working in supply chain management. Yossi Sheffi, the Director of the MIT Center for Transportation and Logistics (USA), gave a plenary lecture entitled *The Resilient Enterprise*, in which he discussed how companies can reduce the vulnerability of the supply chain that they live in, anticipating the problems. The focus of his presentation was on resilience, in other words, the ability to bounce back from disruptions by building on redundancy and flexibility. Examples of this are standardisation, modular design and collaborative relationships with suppliers (and other stakeholders), which can help create a robust supply chain. Prof. Sheffi also detailed how a corporate culture of flexibility with distributed decision making and communication at all levels can help a company become resilient and used the various lessons learned in recent disasters such as Hurricane Katrina and the setbacks suffered by the airline JetBlue to illustrate his point. Some of these case studies can also be found in his book *The Resilient Enterprise*.

In short, the conference examined the various facets involved in supply chain management and also stressed the need for practitioners and researchers to work together in researching and developing the social, technological, operational and economic aspects of supply chain management and also in building bridges to span the existing gaps.

Considering the dynamic status of the supply chain management issues at this time, the conference could not have been timed better. Some of the issues discussed included research into collaboration strategies in supply chain management, innovation and the development of information technologies and their impact, the study of methodologies necessary to satisfy customer service requirements and planning in logistical operations, all of them designed to offer a holistic view of value-added chains. A recurring point in the various contributions presented at the conference was the importance of the design of robust supply chains with the capacity to react rapidly to disruptions caused by unexpected contingencies.

The significant number of papers given at this inaugural conference has revealed the existence of a latent critical mass in the science and technology area related to R&D and innovation in logistics and supply chain management.

This forum was both useful and enriching and created the environment needed to generate and exchange ideas. The debate on the present and future of logistics and supply chain management will thus allow us to continue laying the foundations of the discipline and enable the scientific-technological community to lead the way in terms of R&D in this area.

### **3 The special issue**

Even though this was the very first Conference on Logistics and Supply Chain Management in Spain, a total of over 70 papers were listed in the event's proceedings. After a rigorous blind review process and using reviewer comments to improve the quality of these manuscripts, we arrived at five exemplary research and practical contributions for this special issue, entitled *Supply Chain Management: A Strategic Factor for Competitiveness*. It is our belief that these contributions will be of interest to the broader community of readers of *International Journal of Procurement Management*.

In the first paper, Sergio Rubio, Francisco J. Miranda, Antonio Chamorro and Victor Valero offer their research findings to show through a case study the main results of a project implementing a reverse logistics system in a steel company. They also provide general observations about the design of a system that may be used by other companies. As was pointed out at the round tables and in the papers given at the conference, reverse logistics is still a relatively new concept for many companies and professionals and an emerging research field for academia, one that lacks a fully structured theoretical framework, so this paper can be viewed as a contribution in this area. Furthermore, the methodology and results provide useful insights for businesses and professionals in scenarios that differ from the one given in this case study. These results show how the implementation of a reverse logistics system could generate economic and environmental advantages that can help companies become more competitive and they also underline the fact that properly designed environmental standards can trigger innovations that may offset the cost of their compliance. They also conclude that the commitment of a company's managers is a key factor in the implementation of reverse logistics practices.

In the second paper, we again come across the deployment of the 'bridge' that connects a practical application (which responds to a need felt by many companies concerned by the efficiency of their logistic systems) with academic research, which analyses the technical and strategic characteristics of logistic management systems in detail. These systems are directed towards the sole objective of integrating the evaluation and improvement of logistic processes. Jaime Beltrán, Miguel Ángel Rivas, Jesús Muñuzuri and Luis Onieva, the authors of *Logistic management systems: an approach for the evaluation, integration and improvement of logistic processes*, address the need of many companies to attain a higher degree of control over their logistic processes improve efficiency and detect opportunities for improvement. They have developed a logistics management model that provides two diagnosis tools: one tool is for assessing the maturity level reached by logistics management systems and the other tool is for auditing them. The model was tested in two benchmark companies. The obtained results confirmed the soundness of both the management model and the aforementioned diagnosis tools. This is the first proposal for a model that can be easily integrated into standardised management systems in line with quality, environmental or health and safety standards. The model described here is already being assessed by the Spanish Standardisation Office with a view to create an official national standard.

One of the areas receiving the most attention from the research community is transportation, particularly when it integrates the theoretical disciplines of logistics and supply chain management. It is important to emphasise that urban mobility becomes a restriction for optimising the logistic process and supply chain. Because of this, the main transport authorities foster research that link both subjects. From a conceptual viewpoint, the two variables defining the efficiency of a particular transport system are time and cost. Pablo Coto-Millán, Rubén Sainz González, Ramón Núñez-Sánchez and Irene Andrés Moro, the authors of *Determining elasticities in discrete choice models*, argues that the changes in the probability of choosing a private car for travelling are caused by variations in the generic variables of travel time and cost. The authors determine the time and cost elasticities of transport demand with discrete choice models, analysing passenger behaviour in accordance with different reasons for travelling and the time of day a journey is made. While these models apply to the city of Santander in this case, they may in fact be applied to any city. The results could be used, for example, to implement urban transport policies designed to reduce the use of private vehicles in urban areas, such as the introduction of tolls for private vehicles or tolls targeted at specific social groups and times of day or increases in the price of restricted parking areas. Both the findings of this research and the methodology are of interest to researchers working on the economic value of time. Furthermore, they could also be fruitful when applied by public authorities to make their transport systems more efficient.

The design of transport routes for cargo flows has been researched and discussed widely in the existing literature. However, the specific case of Spain as a peninsula connected to the rest of Europe by a mountain range, the Pyrenees, is what makes this research paper of interest, both as a result of the variables it analyses and the impact of the results on the definition of strategic corridors on the European map of logistical flows of goods. *Analysis of trans-Pyrenean railway bottlenecks* by Susana Val and Natalia Blázquez addresses the impact of bottlenecks in the Spanish border towns of Irun and Portbou (bordering on the Atlantic and Mediterranean coast, respectively) on the saturation of rail capacity, the main purpose being to identify new routes so that the Pyrenees can absorb the generated cargo flows. After analysing the incoming cargo flows

together with their destinations as well as the forecast flows, the authors provide solutions for the corridor through the Central Pyrenees. This corridor, together with more efficient short sea shipping, should complement the existing supply, thus permitting optimal development in south-west Europe and aiding sustainability and ecological balance in the region as a whole, thereby preventing environmental risks.

A major strategic approach of the supply chain management concept lies in the integration of the partners and stakeholders interacting across supply chains. This requires the dynamic and strategic alignment of the links in that chain. The final paper, *Collaboration stimulation through supply chain simulation* by Desirée Knoppen and María Jesús Sáenz, discusses how the interorganisational learning required to bring about this strategic alignment might be set up. The paper aims to develop the theoretical framework underlying the Supply Chain Management Learning Laboratory (scmLAB), with the overall aim of stimulating collaboration between the participating companies while, at the same time, studying interorganisational behaviour in a laboratory setting. Tailor-made simulation models are applied in this setting for discussing relevant boundary-spanning activities by the stakeholders of collaborating companies in a supply chain. It focuses on fostering collaborative learning and subsequent joint decision making and change. The proposed research approach has a dyadic level of analysis, whereas extant literature on learning laboratories mainly focuses on the individual, team or organisational level of analysis.

As a whole, the content analysed in the various papers that make up this special issue reveal the multiple dimensions of the management concepts inherent in logistics and supply chain management. These illustrative papers highlight different implications for the various organisations with a part to play in the development of the theoretical concepts involved in supply chain management as well as their applications: companies, public authorities, interorganisational networks and research institutions. These organisations configure a wide range of different perspectives, from the strategic aspects of existing relationships in the supply chain, such as innovation and interorganisational learning, to international transport networks, perspectives analysed in line with technical, economic and social factors.

We hope that the members of the academic community working on this field enjoy reading the papers in this special issue as much as we did. We would like to take this opportunity to thank the people who contributed in some way or other to make this special issue on the First Conference on Logistics and Supply Chain Management a reality. We would also like to thank the Conference's Scientific Committee for their hard work and dedication in the preliminary evaluation of the papers. In view of the high quality of the papers presented for this special issue, we would also like to express our gratitude to dozens of anonymous reviewers for their unstinting effort, expertise and commitment.

We hope you enjoy these insightful papers and look forward to seeing you at the next Conference on Logistics and Supply Chain Management.