

Editorial

JIT facing the New Millennium

The business environment towards the end of the 20th century (and at the beginning of the 21st) has been characterized by ever more enhanced and globalized competition, by ever more demanding customers, and by ever scarcer resources. To this can be added the tremendous impact of the new technologies, especially in the fields of information systems and communications. And, furthermore, if we bear in mind that this environment is subject to very swift change, then we shall understand why it is that companies are going through an extremely difficult period in which it is not only more and more difficult to stand out but when, for many of them, survival presents a real challenge.

In this context Production and Operations Management still play a capital role in achieving competitive advantages and adding economic value. Our discipline is becoming more and more complex and often requires mastering uncertainty and creatively solving unpredictable problems. Collaboration between experts in the matter would seem to be a real necessity. For this reason the main goal I had in mind when I accepted to chair the international POMS¹ Conference, POM Sevilla 2000, was to sow a seed which would help to catalyze the joint effort of those working on POM all over the world, in order to facilitate synergic effects for the benefit of POM. I thought that the theme: *POM facing the New Millennium: Evaluating the Past, Dealing with the Present and Planning the Future of Operations*, would be an appropriate one to get people from different continents to share their reflections on POM.

In my opinion, the aforementioned goal could not be easily achieved within the context of a

regular POMS Conference. For this reason, I asked for the support of the POMS Board to organize the *First World Conference on Production and Operations Management*. The idea was accepted and EurOMA² and JSPM³ collaborated in different ways, as did the most important Spanish academic associations in Business Administration, ACEDE and AEDEM.

The road has been long and not without its problems. Fortunately, we eventually obtained a great and unforgettable success, which was commented on personally by the participants during the Conference. Furthermore, the results of the evaluation survey filled out by 47% of them showed that about 90% were very satisfied or satisfied with every aspect of the Conference: scientific quality, presentations, organization, meals, networking, social program, ratio of fee/received service, etc.

A number of key factors were responsible for this success:

- (1) The attractiveness of the main *location*, Sevilla, and of the two complementary locations, Jerez (including a visit to the Sherry wineries and to the Royal Andalusian School of Equestrian Art), and Huelva (including a free afternoon on the beach).
- (2) The *high scientific quality* achieved thanks to:
 - (a) The *unselfish collaboration of nineteen keynote speakers* (R. Companys, A. De Meyer, K. Ferdows, J. Fitzsimmons, R. Grubbström, S. Gupta, R. Hayes, C. Karlsson, F. Kodama, L. Krajewski, J.A.D. Machuca, T. Mandakovic,

¹POMS: Production and Operations Management Society.

²EuROMA: European Operations Management Association.

³JSPM: Japanese Society of Production Management.

J. Meredith, Y. Monden, A. Roth, R. Schemenner, R. Schroeder, M. Starr, C. Voss, C. Whybark).

- (b) The *excellent work of a Program Committee* made up of 21 members from POMS, EurOMA, JSPM, ACEDE and AEDEM (R. Companys, J.A.D. Machuca, K. Amasaka, R. Collins, A. De Meyer, J. Fensterseifer, E. Fernández, R. Filippini, J. Fitzsimmons, R. Grubbström, S. Gupta, R. Hayes, R. Hollier, F. C. Lario, T. Mandakovic, J. Meredith, P. Milling, K. Muramatsu, M. Pinedo, J. Ribera, A. Roth, R. Schmenner, K. Singhal, M. Starr, C. Voss, P. Vrat), which carried out a blind review of the extended abstracts (4/5 pages) and/or full papers.
- (3) The *very easy networking*, facilitated by a high number of attractive social activities included in the fees.
- (4) The *simultaneous translation*, which for the first time attracted about 180 Spanish-speaking people to an international POM Conference.
- (5) The *high level of sponsorship* from institutions and companies which allowed a ratio Fees/ Total Cost of 0.64 (138,906 €/218,029 €).
- (6) The enthusiastic, efficient and effective *organizing team*, which carried out its work without resorting to any intermediary companies and which dealt with three different locations and a complex six-day Conference (M.A.D. Machuca, R. Alfalla Luque, F. Arenas Márquez, M. Asenjo Salazar, E. Chávez Miranda, S. García González, R. García Sánchez, J.M. García Vázquez, P. Garrido Vega, M. González Zamora, C. Medina López, G. Molleda Jimena, M. Nieto Antolín, R. del Pozo Barajas, M. Sacristán Díaz, S. Vázquez de la Marta).

Global cooperation was successful and, in a symbolic gesture, Bob Hayes (POMS President), Chris Voss (EurOMA President) and Masanori Kodama (JSPM President) put their signatures to one of the old barrels at the Sherry wineries in Jerez to sanction their mutual commitment to the

celebration of new World Conferences every 4 years.

With a view to publicizing worldwide this spirit of global collaboration, I proposed to the Editors of three of the leading POM journals that they publish special issues or sections with articles selected from the printed Proceedings of the Conference; Robert Grubbström (Editor-in-chief of the International Journal of Production Economics), Robert Hollier (Editor-in-chief of the International Journal of Production and Operations Management, the Journal of EurOMA) and Kalyan Singhal (Editor-in-chief of Production and Operations Management, the Journal of POMS) agreed to this idea. This special issue is one of the results to come out of this agreement and I thank Bob Grubsström for his support.

The topic I have selected for this special issue is *JIT facing the New Millennium*, which was one of the important topics at the Conference. Contrary to the idea that company problems come from outside, JIT had the great merit of bringing the manufacturing process into crisp focus, discovering the internal problems of the company and exposing the problems as they arise. Besides, JIT laid the foundations for Kaizen, or continuous improvement through incremental changes, which is an essential element of the Toyota Production System (TPS). Without any doubt, JIT was a breakthrough in the history of Production and Operations Management. With the dawning of the new century, and with Japan going through an economic crisis, it seemed important to give thought to the current situation of such an important Operations Management System, which is why this topic held such a prominent position in *POM Sevilla 2000*, which attracted about 30 participants from Japan.

Curiously, on March 7, 2002, a group of experts on TPS met in Nagoya (Japan) at a Conference entitled “Making Things 21st Century”,⁴ to discuss the essence and evolution of the Toyota Production System: “What is TPS, a collection of methods or a way of thinking?” and “How can it

⁴ Report compiled on April 1, 2002, by the Public Affairs Division of the Toyota Motor Corporation.

adapt to the challenges of 21st Century?” were also crucial questions at this Japanese Conference.

Many people are of the opinion that JIT is a “living thing” which has evolved well over time. For N. Hayashi, Executive Advisory Engineer at Toyota Motor Corporation, “kaizen consciousness” must be the mindness of all employees”. In his opinion, and I agree, the evolution of TPS also depends on continuous efforts to get improvements outside the bounds of the company and to extend JIT from the customer to the supplier throughout the whole Supply Chain.

For Hajima Ohba, General Manager of the Toyota Suppliers Support Center in Kentucky, to obtain and sustain success in companies adopting TPS it is necessary to:

- (a) create a culture allowing people to internalize the knowledge of this system and
- (b) develop the ability to evolve within the firm.

Aware of the difficulties that this implies, the Toyota Institute, a training center for executives and middle management, was established in January 2002, its goal: “to find ways of assuring that Toyota values, beliefs and business methods are effectively transmitted and shared”.

It would thus seem that JIT continues to be an important way to gain competitive advantages. It can be said that the elements that caused JIT to be a success are still valid, and it could even be stated that, in a context such as that which is prevalent in Japan at this time, in which speed and efficiency are crucial for success, JIT can be even more important and effective than in the 1970s and 1980s. Furthermore, the development of JIT should facilitate its adaption to today’s difficult times. The cross-functional JIT consideration, the means and efforts devoted to its correct extension to the Supply Chain, the high emphasis on education and training, the incorporation of the New Information and Telecommunications Technologies (electronic kanban, application of B2C for auto sales in order to create a Build-to-Order system, etc.), the integration of New Product Development and JIT to speed responses to market, etc. are an example of JIT’s dynamic nature.

As has been previously indicated, the five articles that make up this Special Issue are based on papers presented by their respective authors at the First World Conference on Production and Operations Management. They have all come through a long selection process. The first stage of the process was for them to be included in the printed Proceedings (51 out of 296). These Proceedings included 19 invited papers, 7 semi-plenary papers and 10 main parallel papers which were double-blind reviewed from their full versions. Furthermore, 22 extended abstracts (4 pages) were classified as potential candidates to be included in the printed Proceedings, having obtained the highest marks in the gradings given by the reviewers. Full versions of these 22 papers were double-blind reviewed by two or three members of the Program Committee; as a result, the 11 papers with the highest marks were chosen to be included in the Proceedings. For this Special Issue, JIT papers have been improved by their authors and sent to a new blind review to ensure they comply with the standards of the IJPE.

Two of the published articles (Amasaka and Monden) are related to new insights into JIT in manufacturing, two others (Barlow and Cuatrecasas) are related to JIT applications in the service sector, for which there are few publications in existence. The last (Kodama) has a wider scope.

The paper *New JIT. A New Principle at Toyota*, by Kakuro Amasaka, illustrates a proposition by the author which goes beyond production and is based on his own experience at Toyota. The main new concept deals with linking the QCD (quality, cost and delivery) research activities of all departments concerned with development, production and sales. He tries to demonstrate its effectiveness as the next step in conventional JIT.

The “mini-profit center” (MPC), originated by the Kyocera Corporation, is being adopted by an increasing number of other Japanese manufacturing firms, which also use JIT. In his paper, *The Relationship between MPC and JIT Systems*, Yasuhiro Monden investigates the advantages which can be obtained by such a combination of systems. To this end, the author studies the impacts MPC and JIT have on one another.

The application of JIT in services is dealt with by Gerard Barlow, through a case in the hospitality sector: *Just In Time: Implementation within the Hotel Industry?: A Case Study*. The main focus of this paper is inventory and purchasing policies, which are seen as a clear value of JIT applications within service industries, especially in the hospitality sector. The emphasis placed by many hotel companies on short-term results hinder the implementation of other JIT practices the benefits of which are more long-term and related to investment and operational savings.

We continue in the services world with Lluís Cuatrecasas, though this time in the telecommunications sector, for which he proposes a methodology for implementation of lean management. His paper is entitled *Design of a Rapid Response and High Efficiency Service by Lean Production Principles: Methodology and Evaluation of Variability of Performance*. The author shows how this system can lead to the elimination of waste, an increase in productivity and a substantial reduction of service time.

Finally, Fumio Kodama presents a *Contribution of Manufacturing Departments to Technology Development through an Empirical Analysis* for machinery, electrical and automobile plants in

Japan. He demonstrates, among other conclusions, how the involvement of Manufacturing Departments in technology development is second in importance after manufacturing strategy. According to this study, this involvement surpasses human resources management, information systems and JIT in its contribution to competitive performance.

To conclude, I should like to express my warm gratitude to the reviewers of this special issue for their contribution to the improvement of the papers that are published herein. I should also like to extend my gratitude to the members of the Program Committee, who reviewed the papers in their original formats and with their original contents, and also to Robert Grubsström without whom this publication would not have been possible. Neither can I forget my colleagues Michiya Morita, Yasuhiro Monden and Kakuro Amasaka, with whom I exchanged ideas and shared my interest in this topic and subject of study.

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