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IFIP was founded in 1960 under the auspices of UNESCO, following the First World Computer Congress held in Paris the previous year. An umbrella organization for societies working in information processing, IFIP's aim is two-fold: to support information processing within its member countries and to encourage technology transfer to developing nations. As its mission statement clearly states,

IFIP's mission is to be the leading, truly international, apolitical organization which encourages and assists in the development, exploitation and application of information technology for the benefit of all people.

IFIP is a non-profitmaking organization, run almost solely by 2500 volunteers. It operates through a number of technical committees, which organize events and publications. IFIP's events range from an international congress to local seminars, but the most important are:

- The IFIP World Computer Congress, held every second year;
- Open conferences;
- Working conferences.

The flagship event is the IFIP World Computer Congress, at which both invited and contributed papers are presented. Contributed papers are rigorously refereed and the rejection rate is high.

As with the Congress, participation in the open conferences is open to all and papers may be invited or submitted. Again, submitted papers are stringently refereed.

The working conferences are structured differently. They are usually run by a working group and attendance is small and by invitation only. Their purpose is to create an atmosphere conducive to innovation and development. Refereeing is less rigorous and papers are subjected to extensive group discussion.

Publications arising from IFIP events vary. The papers presented at the IFIP World Computer Congress and at open conferences are published as conference proceedings, while the results of the working conferences are often published as collections of selected and edited papers.

Any national society whose primary activity is in information may apply to become a full member of IFIP, although full membership is restricted to one society per country. Full members are entitled to vote at the annual General Assembly. National societies preferring a less committed involvement may apply for associate or corresponding membership. Associate members enjoy the same benefits as full members, but without voting rights. Corresponding members are not represented in IFIP bodies. Affiliated membership is open to non-national societies, and individual and honorary membership schemes are also offered.

Bruno Vallespir Thècle Alix (Eds.)

Advances in Production Management Systems

New Challenges, New Approaches

IFIP WG 5.7 International Conference, APMS 2009
Bordeaux, France, September 21-23, 2009
Revised Selected Papers

Volume Editors

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Preface

The present economic and social environment has given rise to new situations within which companies must operate. As a first example, the globalization of the economy and the need for performance has led companies to outsource and then to operate inside networks of enterprises such as supply chains or virtual enterprises. A second instance is related to environmental issues. The statement about the impact of industrial activities on the environment has led companies to revise processes, to save energy, to optimize transportation.... A last example relates to knowledge. Knowledge is considered today to be one of the main assets of a company. How to capitalize, to manage, to reuse it for the benefit of the company is an important current issue.

The three examples above have no direct links. However, each of them constitutes a challenge that companies have to face today. This book brings together the opinions of several leading researchers from all around the world. Together they try to develop new approaches and find answers to those challenges. Through the individual chapters of this book, the authors present their understanding of the different challenges, the concepts on which they are working, the approaches they are developing and the tools they propose.

The book is composed of six parts; each one focuses on a specific theme and is subdivided into subtopics.

- Production systems
 - Production processes
 - Production management
 - Production systems design
 - Lean management
 - Maintenance, inspection and monitoring
 - Risks and uncertainty
 - Sustainability
- Supply chains
 - Supply chains operation management
 - Production networks
 - Cooperative supply chains: models and challenges
 - Relationships with suppliers
 - Relationships with customers
 - New practices in transportation and logistic organisations
- Interoperable and distributed systems
 - Interoperable and agile production systems
 - Agent modelling, distributed simulation and control frameworks for production management systems

- Strategy and innovation
 - Change, strategy and innovation
 - Projects and life cycle
 - Knowledge management
 - Information and Communication Technologies
 - Co-evolution of product design and supply chain considering change management strategies
- Performances
 - Performance measurement and costing
 - Quality
 - From single to networked enterprises performance measurement and management
- Service
 - Services
 - Business process and performance management of product-service systems

Each paper in the book has been peer reviewed and presented by one of its co-authors at the Advanced Production Management Systems Conference – APMS 2009 – which was held in Bordeaux, France, September 21–23, 2009. The conference was supported by the Working Group #7 of the Technical Committee #5 of the International Federation for Information Processing called *Integration in Production Management* and was hosted by the IMS laboratory of the University of Bordeaux.

As the book editors, we would like to thank all the contributors for the high-standard preparation and presentation of their papers.

We would like to thank as well the members of the International Programme Committee for their work in reviewing and selecting the papers.

August 2010

Bruno Vallespir
Thècle Alix

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