

Lecture Notes in Computer Science

Edited by G. Goos, J. Hartmanis and J. van Leeuwen

1096

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Thomas Schael

Workflow Management Systems for Process Organisations

Second Edition



Springer

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Cataloging-in-Publication data applied for

Die Deutsche Bibliothek - CIP-Einheitsaufnahme

Schäl, Thomas:

**Workflow management systems for process organisations / Thomas Schael. - 2. ed. - Berlin ; Heidelberg ; New York ; Barcelona ; Hong Kong ; London ; Milan ; Paris ; Singapore ; Tokyo : Springer, 1998 (Lecture notes in computer science ; 1096)
Zugl.: Aachen, Techn. Hochsch., Diss., 1996
ISBN 3-540-65304-X**

CR Subject Classification (1998): D.2, H.5.3, J.1, J.4

ISSN 0302-9743

ISBN 3-540-65304-X Springer-Verlag Berlin Heidelberg New York

ISBN 3-540-61401-X 1st edition Springer-Verlag Berlin Heidelberg New York

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© Springer-Verlag Berlin Heidelberg 1996, 1998
Printed in Germany

Typesetting: Camera-ready by author
SPIN 10639021 06/3142 - 5 4 3 2 1 0 Printed on acid-free paper

A l l a C a l a b r i a

terra aspra,
che mi ha ospitato,
mi ha affascinato;
con lo sguardo sulla Sila,
con i rumori della campagna incantata,
vivo il contrasto del mio pensiero che vola
via dalla realtà che mi circonda;
fuggo con la mente, penso al futuro:
non mi rimane altro che lasciarti,
forse per sempre,
il mio pensiero
per il tuo futuro

Foreword to the Second Edition

As the business environment has become more and more turbulent over the past decade, information technology risks becoming an impediment rather than a motor of progress.

The challenge to computer science is to find a way of dealing with rapid, continuous change by developing novel interrelated information and communication technologies, and aligning them with both the social needs of cooperating user groups and the management requirements of formal organisations.

Workflow systems are among the most well known technologies addressing this trend, but they mean different things to different people.

Computer scientists understand workflows as a way to extract control from application programs, thus making them more flexible. Bureaucratic organisations (and most commercial programs) perceive them as supporting a linear or branching flow of documents from one workplace to another – the next try after the failure of office automation.

This book takes another perspective, that of the modern customer-driven and groupwork-oriented process organisation. Extending the language-action perspective from the CSCW field, its customer-oriented view of workflows enables novel kinds of business process analysis, and leads to interesting new combinations of information and cooperation technologies. Schael's empirical studies show some of the pitfalls resulting from a naive use of these technologies, and exemplify ways to get around these pitfalls.

The development and evolution of such *cooperative information systems* requires not just technological innovations but also interdisciplinary cooperation and – most importantly – empirical validation in practice. The genesis of this book is an excellent example. While its empirical results stem from practical experience in the service industries, its scientific roots (represented by the undersigned as co-supervisors of the underlying doctoral thesis at Aachen University of Technology) comprise information systems in computer science, social and formal aspects of computer-supported cooperative work, and human–computer interfaces in engineering applications of informatics. Moreover, this research is a good new example of a truly European cooperation. The practical experience was acquired in Italy, while the doctoral thesis was prepared for a German university.

All of us have learned a lot during this exercise, and the enormous success of the first edition of this book shows the great international interest for the topic and the results. A French edition appeared last year and met with equal interest.

Springer-Verlag has therefore decided to publish a second edition of this book, which is not just a reprint but brings the literature and results to the newest state. This is a rare occurrence in the history of the LNCS series.

We congratulate Thomas Schael on this success, and we are sure that readers – scientists and practitioners – will likewise profit from it.

Aachen and Milan
August 1998

Giorgio De Michelis, Klaus Henning, Matthias Jarke

Preface to the Second Edition

This book is a bit of a mixture of scientific and management literature. It is based on my research activities in the CSCW community, and also reflects the last ten years of my professional experience in consulting. I have had the opportunity to live in different cultural settings, to work in many companies, and to meet people all over the world, which has helped me to reflect on what I was doing and to focus on the content of this book. This second edition reflects the fast moving field of Computer Supported Cooperative Work (CSCW) and the discussion on Business Process Re-engineering (BPR). It contains the latest developments in the scientific and managerial discussion of the issues developed in the first edition. It is also enriched with further practical experiences and the latest overview on relevant products.

Credit is due to many people, but a few stand out.

First, I wish to thank Dietrich Brandt, who supported from the very beginning my academic career and contributed continuously with helpful, sometimes unanticipated and also critical ideas. Our close working relationship over long distances and many years was a cooperative effort in itself. Dietrich developed the ideas of this book together with me and later other colleagues as well, for application in manufacturing in addition to service industries.

I owe a special debt to Giorgio de Michelis, who coached me in difficult private and professional situations. Giorgio's academic and professional activities, in part done together with me, have significantly influenced my work.

This second edition has been deeply influenced by discussions with Federico Butera about improving the quality of working life and socio-technical system design. Together we developed a new way of looking at business process re-engineering, computer supported cooperative work, and the tradition of socio-technical design. Our thoughts have guided my writing of the second chapter in this edition of the book.

I would like to thank Professor Federico Butera (Sociologia dell'Organizzazione, Università 'La Sapienza', Rome), Professor Giorgio De Michelis (Dipartimento Science dell'Informazione, Università degli Studi di Milano), Professor Klaus Henning (Lehrstuhl Informatik im Maschinenbau, RWTH Aachen), and Professor Matthias Jarke (Lehrstuhl Informatik V, RWTH Aachen) for their scientific inputs to this book.

Working with colleagues in Italy helped me to practice my ideas in organisations. I wish to thank all professionals in *Butera e Partners* and *IRSO* (Istituto di Ricerca Intervento sui Sistemi Organizzativi) for the jointly conducted projects which contributed to this publication. As thanks to the many former colleagues in *RSO*, I would like to cite Buni Zeller for our work on process organisation, business process re-engineering, and the use of information technology, i.e., groupware applications and workflow management systems.

In addition to consulting work, I had the opportunity to cooperate with Sebastiano Bagnara, Federico Butera, Bruno Coppola, Michele Mariani, Maurizio Mesenzani, and many others in the Esprit Project QUALIT (Quality Assessment of Living with Information Technology). I also owe a debt of gratitude to all customers and friends who shared consulting and research projects with me, for gathering case material and helping me to bring their experiences into this publication.

I discussed many of the ideas with several friends and colleagues in the CSCW community and the European COST Action 14 on Cooperation Technologies. My participation in conferences and in research projects, partially funded by the University of Aachen and by the Commission of the European Communities, widened my horizons and helped me to develop this research.

August 1998

Thomas Schael

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