

IMPACTS OF MICROCOMPUTERS ON OPERATIONS RESEARCH

Proceedings of a Symposium sponsored by The Computer Science
Technical Section of the Operations Research Society of America,
held on March 20-22, 1985, at the University of Colorado at Denver,
Denver, Colorado, U.S.A.

Editors:

Saul I. Gass

College of Business and Management
University of Maryland
College Park, Maryland, U.S.A.

Harvey J. Greenberg

Mathematics Department
University of Colorado at Denver
Denver, Colorado, U.S.A.

Karla L. Hoffman

Center for Applied Mathematics
National Bureau of Standards
Washington, D.C., U.S.A.

R. Warren Langley

Info Comp Systems, Inc.
2340 Robinson Street
Colorado Springs, Colorado, U.S.A.



NORTH-HOLLAND
New York • Amsterdam • London

TECHNISCHE HOCHSCHULE DARMSTADT
Fachbereich 1
Gesamtbibliothek
<u>Betriebswirtsch. Lehrlehre</u>
Inv.-Nr. : 38.892
Abst.-Nr. : A 14/1223
Sachgebiete : 1.6.0
1.7.9.9

Contents

Preface	vii
The Role of Microcomputers in Analysis and Creativity Thomas L. Saaty	1
Statistical Software for Microcomputers Dennis Lezotte	26
Mathematical Programming Software for Microcomputers Ramesh Sharda, Edward Wasil and Bruce L. Golden	47
Computing Aids for Management Education Michael A. H. Dempster	55
Vehicle Routing Software for Microcomputers: A Survey Lawrence Bodin, Bruce L. Golden and Terry Goodwin	65
A Routing Algorithm for a Mobile Search Robot Helman I. Stern	73
The Combinatoric Explosion: A Reassessment Fred Glover and Claude McMillan	88
Tools for the Development of Decision Support Systems: Prototyping, Microcomputers and O. R. Models Salvatore Belardo and Kirk K. Karwan	93
Using a Microcomputer for Production Planning and Cost Analysis at Bethlehem Steel Corporation G.L. Baker, W.A. Clark, J.J. Frund and R.E. Wendell	100

Practitioner's View of Microcomputing and O.R.: A Play in One Act	117
C.E. Lienert, T.W. Wall and R.E.D. Woolsey	
Use of Project Management Microcomputer Software for the Effective Management of Technology Start-Up Firms	129
Burton V. Dean	
Decision Support for the Evaluation of the Strategic Defense Initiative (Starwars)	150
Ernest H. Forman	
Decision Insight Systems for Microcomputers: An Overview	172
B. Golden, A. Hevner, D. Power and E. Wasil	
Integrated Software for DSS Development	180
Clyde W. Holsapple and Andrew B. Whinston	
Arithmetic for Microcomputers—Some Recent Trends	194
David W. Matula	
Micro-Computer Graphics Models for Sensitivity Analysis of Inventory Control Systems	201
Leroy B. Schwarz	
Using Spreadsheets for Decision Analysis	215
Deepak Bammi and Loren J. Padelford	
Simulation for the Operations Research Analyst	219
Ronald R. Mourant	
Simulation Graphics Using Basic	228
Donald L. Byrkett	
The Effect of the Choice of Programming Language on the Efficiency of Microcomputer Based Simulation Systems	238
Arne Thesen and Zhanshan Sun	
Appendix: Exhibits and Demonstrations	249
Peter Knepell	
Index	253