THE NEW MANAGEMENT CHALLENGE

Information Systems for Improved Performance

Edited by DAVID BODDY, JAMES McCALMAN AND DAVID A. BUCHANAN

CROOM HELM London ● New York ● Sydney

Contents

List of Figures and Tables Notes on Contributors Preface

1.	The New Management Challenge: Information Systems	
	for Improved Performance David Boddy and David	
	Buchanan, Glasgow Business School	1
2.	Confidence, Visibility and Performance: the Effects of	
	Shared Information in Computer-aided Hotel	
	Management David Buchanan and James McCalman,	
	Glasgow Business School	17
3.	Senior Managerial Roles in the Context of Direct	
	Computer Use Christopher Martin, University of	
	Loughborough	30
4.	Manufacturing Information Systems at the Crossroads	
	Douglas Macbeth, Glasgow Business School	39
5.	Information Management in an Industrial Environment	
	- an Educational Perspective Arjen Wassenaar, Twente	
	University, Denmark	49
6.	New Technology — New Problems: the Knowledge Gap	
	Between Management and Computing Barbara	
	Rawlings, Manchester Business School	58
7.	The Role of Computerised Information Systems in	
	Developing Organisational Structure Riitta Smeds,	
	Helsinki University of Technology, Finland	71
8.	Constructing Organisational Forms for Flexible	
	Computing Howard Rose, University of Southampton	85
9.	Organisational Choice in the Redesign of Supervisory	
	Systems Patrick Dawson, Edinburgh University and Ian	
	McLoughlin, Kingston Polytechnic	99
10.	New Techniques for Recording Time at Work: Their	
	Implications for Supervisory Training and Development	
	Nicholas Kinnie and Alan Arthurs, University of Bath	111
11.	Towards a New Framework for Helping Managers to	
	Deal with Technical Change David Boddy, Glasgow	
	Rusiness School	124

CONTENTS

12.	Developing Managers to Meet the New Challenges David Boddy and David Buchanan, Glasgow Business	
	School	133
Index		140

List of Figures and Tables

	~=	***	_
H.J	621	JRE	

1.1	The new management challenge	7
	The computer adoption process	33
	The organisation of the National Health Service	59
	The maintenance of the knowledge gap as a	
	communication process	69
7.1	The accumulation of EDP knowledge in the case	
	organisation	79
11.1	The RAP3 process	130
	The IT balancing act	135
TAB	LES	
3.1	Details of respondent categories	31
	The computerised information systems introduced in	
	the case organisation	76
10.1	Industrial time recorders — the cases studied	112

Contributors

- Alan Arthurs is in the School of Management, University of Bath. Current research interests are: the industrial relations consequences of the decline in manual work; work discipline; and equal pay for work of equal value. He is the National Coordinator of the ESRC Open Door Scheme and an Independent Expert in Equal Pay.
- David Boddy is Reader in Management Studies at the University of Glasgow Business School, Centre for Technical and Organisational Change. He has written widely on the management aspects of computing and information technology and is currently directing a study of the management of convergent technologies.
- David A. Buchanan is Senior Lecturer in Organisational Behaviour at the University of Glasgow Business School, Centre for Technical and Organisational Change. He has published four books and a number of articles based on his research in the areas of work design, information technology, and the management of change.
- Dr Patrick Dawson is Lecturer in Organisational Behaviour in the Department of Business Studies at Edinburgh University. His main interests comprise new technology and supervision, the development of expert systems for non-experts, new patterns for flexible work.
- Nicholas Kinnie teaches industrial relations and personnel management at the School of Management, University of Bath. His main interests in the information technology field involve the study of the managerial implications of new techniques for monitoring and controlling employee activity at work.
- Douglas K. Macbeth is Lecturer in Management Studies at the Glasgow Business School, University of Glasgow. His main interests include applications of information technology in manufacturing planning and strategy. Currently researching buyer/supplier relationships in advanced manufacturing supported by the ACME directorate of SERC and local industry.

James McCalman is Lecturer in Management Studies at the University of Glasgow Business School, Centre of Technical and Organisational Change. His research into the linkages between foreign owned and Scottish electronics firms has been published in a number of papers, and the management issues will be explored in a forthcoming book.

Ian McLoughlin is Senior Lecturer in Industrial Relations at the Kingston Business School, Kingston Polytechnic. He has researched extensively on the implications of technological change for work and industrial relations, and is currently involved in a study of innovation in non-union forms.

Christopher J. Martin is Lecturer in Management Information Systems at the Department of Management Studies, University of Loughborough. His research interests include strategic management decision and managerial computing.

Barbara Rawlings is Research Fellow in Organisational Behaviour at Manchester Business School. Current interests include the management of organisational change and the introduction of computerised information systems to the National Health Service.

Howard Rose is Research Fellow in the New Technology Research Group at the University of Southampton. He has been involved in research studies of the introduction of new telecommunications technology. He is currently researching aspects of organisational change in relation to information technology and data processing.

Riitta Smeds is a Lecturer in Industrial Management at Helsinki University of Technology, Finland. Her research concerns the computerisation process of industrial organisations, and the impact of information systems on strategy and structure.

Arjen Wassenaar is a Senior Lecturer in Information Management at Twente University, Denmark, and is involved in a research project about information planning behaviour in the profit and non-profit sector.

Preface

This volume examines the challenge to management which is posed by ever more sophisticated applications of information technology. It reports on cases of actual practice, and seeks to draw lessons from these experiences which will be of practical value to managers and their advisers.

The book had its origin in a workshop held in September 1986 at the European Institute for Advanced Studies in Management, Brussels. This attracted 18 papers and the quality of the papers was such that we felt it worthwhile to make a careful selection of them more widely available. Nine of the conference papers have been selected for inclusion, one specially written paper has been added, and the editors have written an opening and a concluding chapter. So although the book is based on a conference, it is not merely a reprint of the conference proceedings.

We expect the book will appeal particularly to those whose job is to advise and support line managers in the introduction of information technology projects. These may be either internal or external consultants, perhaps with a computing or systems background, or they may be people from a line function who have the job of implementing a major technical change successfully. The book will also be a useful source of ideas, experience and examples to teachers in both further and higher education, and in business schools and management colleges.

Our thanks are due to the contributors to this volume, who cooperated so willingly in meeting the timetable we established. We are especially grateful to Nan Gray, our secretary. She has maintained an efficient and cheerful link with the many contributors, both during the preparations for the conference, and in the production of this book.

> David Boddy, James McCalman, David Buchanan Glasgow Business School