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Management, Information Systems and Computers

An Introduction

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Preface

The title of this book invites attention to the three principal subject areas with which it is concerned: Business Management, Information Systems, and the application of Computers to them. It is also about Economics, System Theory, Information Technology, and Systems Analysis and Design. It does not purport to provide comprehensive coverage of any of these subjects, but is offered as a useful introduction for anyone intending to pursue studies which require some understanding of the uses of computers. In doing so, the objective is to fill a gap in the available reading material by bringing together study topics which are usually presented separately, so as to provide a coherent explanation of the relationship between economic principles, the organisation and management of business undertakings, the importance of information to effective business management, and the vital role of computers and information technology in the provision and use of that information.

The book begins with an outline of relevant economic and system theory, identifying links between business objectives, the functions of management and decision-making necessary to pursue those objectives, the need for information to aid those decisions and for systems to provide the information required. The following chapters contain an examination of the nature of business systems, of the concepts of efficiency and productivity in the use of human and material resources, and of the paths open towards improvement of information systems and better use of those resources. This leads to a survey of the historical and potential growth in the use of machines for business systems, with illustrations of the range of application of computer-based information systems. The final chapters provide an explanation of some of the practical aspects of computer systems, with some consideration of organisation, economics and planning of such systems.

The book is aimed at four kinds of reader

1. At first-year students taking degree and higher diploma courses in Computer Studies, Information Technology, Systems Analysis and associated subjects. All these students need to complement and precede their specialist studies with some understanding of the purposes and practicalities of computer-based information systems.
2. At other students undertaking vocational courses at Higher Education

Institutions which require some basic understanding of business subjects and computers. It is believed that there are now very few professions and occupations which do not require some understanding of these subjects, and few courses of study which do not need to find a place for such a general introduction as is attempted here.

3. At trainee supervisors, managers and analysts who may be attending shorter courses of study as part of their training within employment, to complement reading on more detailed aspects of management and system studies.
4. At general readers seeking a better understanding of business organisation and systems and of the place of computers in the production of business information.

The reader is not expected to have any previous knowledge of the subject matter, which is presented with as little use of academic theory or educational jargon as possible. Some consideration of theory is unavoidable in examining system concepts, just as jargon is an inescapable feature of computer topics, but wherever any novel terminology appears to be necessary it is accompanied by a brief explanation in the text. This intention to give a practical and realistic view is not only a reflection of experience over three decades of rapid change in management techniques and information technology but also results from a view that the starting point for any study of computers should be rooted firmly in the real world. Managers who see their profession only as an exercise of personal skills, programmers and software engineers who see theirs as an abstract science, and system designers who seek only to refine their technical expertise will not be adequately equipped to meet the demands of their employment. This book cannot be sufficient in itself to turn students into trained managers, software engineers or systems analysts but it is believed that it can help to set them on the right path.

One assumption is made about the reader: that he or she does have a reasonable standard of numeracy and literacy, sufficient for a ready understanding of new concepts and arguments. Although we cannot always take these things for granted at the level of higher education, they are essential for those wishing to achieve their full potential in any employment, and certainly for anyone concerned with management, information systems or computers.

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November 1985

Roy Anderson