

**Mathematics for Business, Management and Economics – A Systems Modelling Approach**

D.J. HARRIS

Ellis Harwood Ltd (J. Wiley & Son), 1985. 392 pp.

This book is confidently aimed at the market sector lying between introductory volumes on quantitative techniques and those catering for the advanced researcher. It is written primarily for undergraduate study, and, as its title suggests, emphasizes the underlying mathematics applicable to a wide range of business and economic situations; in each chapter the derivation of formulae is followed by closely aligned examples, whilst there is no shortage of related modelling exercises at the close of each section of the text. Many of the examples and exercises introduce an engaging variety of down-to-earth enterprises, none the less penetrating in their application to the theoretical framework of the chapter which they complement.

Topics embraced within this softback volume include cost and demand functions, profit and marginal revenues; these are followed by substantial sections on quadratic, differential and integration approaches, with a following chapter devoted to matrix methods and applications. The final third of the book then comprises a progression through further mathematical insights dealing with sequences, compound interest and present values, normal distributions, learning curves, averaging processes, first- and second-order linear systems, and inventory control.

The appendix contains 10 BASIC programs, cross-referenced to examples in the body of the book, together with the results printed by the running of each; an ample index concludes the whole work.

The clear impression received is of two objectives being successfully met: first, sound mathematical content, well displayed and clearly printed, at the appropriate level to examine each area of interest; secondly, the provision of ample linkages from these reasonings and analytical tools across to the world beyond, in this case exemplified by the imaginative examples and modelling exercises. Here is student material in plenty, and for those nominally past such days, a succinct indication that applied mathematics in business and economics has come of age.

W. MASON

**Diagnosing the System for Organisations**

STAFFORD BEER

John Wiley & Sons, Chichester, 1985. £19.95

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Stafford Beer's latest book, completing the trilogy under the heading of the Managerial Cybernetics of Organisation, is a companion volume to the earlier "Brain of the Firm" and "The Heart of Enterprise". This book does stand alone, although many of the underlying arguments are developed in the earlier books.

The essence of the argument behind the diagnosis of organizations' systems, whether in the design of new enterprises or the enhancement of existing structures, is the concept of viability in complex systems – independent existence, survival or structural stability. In the earlier volumes, the axioms and laws are specified and are referenced to a neurophysiological basis. In this volume, attention focuses on the application of those laws to develop a comprehension of a specific organization.