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Book Reviews

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Book Reviews

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In response to the interest expressed by many members of TIMS, we shall list working papers by title and author at the end of the Book Reviews Section. Any interested author of a working paper should send a copy of it to the Book Reviews editor. Any working paper which is received by the editor will be listed without comment. It is hoped that this will provide better communication of the kind of work which is in progress and will permit direct contact among various persons who may be pursuing similar directions in their research.

Five books on PERT, CPM, and Project Planning by Network Analysis:

- STAFFURTH, C. (EDITOR), *Project Cost Control Using Networks*. London, England: The Operational Research Society and The Institute of Cost and Works Accountants, 1969, 92 pp., 16s.
- ARMSTRONG-WRIGHT, A. T., *Critical Path Method, Introduction and Practice*. New York: Humanities Press, Inc. (London: Longmans, Green and Co. Ltd.), 1969, 122 pp., \$2.00 (paper), \$3.50 (cloth).
- WUEST, J. D., AND LEVY, F. K., *A Management Guide to PERT/CPM*. Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1969, 175 pp., \$4.95 (paper).
- THORNLEY, G. (EDITOR), *Critical Path Analysis in Practice, Collected Papers on Project Control*. New York: Barnes and Noble, Inc. (London: Tavistock Publications), 1968, 159 pp., \$6.75 (42s 6d).
- LOMBAERS, H. J. M., *Project Planning by Network Analysis*. Amsterdam, Netherlands: North-Holland Publishing Company, 1969, 467 pp., \$17.00.

The Staffurth book is an attractive introduction to cost control using network analysis, written for a lay audience. It covers both the theoretical and practical aspects of cost control and gives a broad treatment of methods used in applying cost control to work undertaken on a project basis.

Critical Path Method, Introduction and Practice attempts to provide the reader with knowledge of the basic techniques of the Critical Path Method of planning and control, and the necessary means of putting this knowledge into practice. The author uses many simple, but nevertheless interesting, examples to achieve this objective. Mr. Armstrong-Wright's skillful development of the subject makes the book an exceptionally good introductory text.

Wiest and Levy develop a far more comprehensive introduction to PERT and CPM than is found in the Staffurth and the Armstrong-Wright books. In addition to discussing the conventional PERT and CPM models, the authors include a discussion of

PERT/Cost models and network scheduling with limited resources. Many illustrations, examples, and problems are used throughout to help clarify concepts and applications. A collection of exercises, applying to all relevant chapters and with answers supplied, provides the reader an opportunity to test and expand his knowledge of the basic concepts presented.

Critical Path Analysis in Practice is a collection of eighteen papers written by practitioners rather than academics or theorists. These papers are grouped into five major subject areas: (1) review of basic CPA methods (three papers), (2) early problems of implementation (three papers), (3) further aspects of the technique (four papers), (4) large networks (six papers), and (5) alternative approaches to network problems (two papers). The attractive feature of this book is its breadth of subject coverage. The papers are short, but very much to the point. The book presents a useful "state of the art" survey of the uses of Critical Path Analysis in the United Kingdom during the 1960-1966 period.

Project Planning by Network Analysis is a collection of fifty-five papers presented at the Second International Congress on Network Analysis held in Amsterdam in October 1969. The book is organized into five sections: (1) organization, management, and training (twelve papers), (2) analysis of structure and stochastic aspects (fourteen papers), (3) allocation of resources and scheduling (ten papers), (4) new developments in computer applications (seven papers), (5) applications (twelve papers). The subjects covered are an attractive blend of theory and practice. The Conference was truly international in nature, and the papers describe work being carried on in nineteen different countries. The authors represent both highly advanced and undeveloped economies and both capitalistic and socialistic enterprises. This book will be of value as an advanced reference survey to any management scientist who is working in the field of network analysis.

Two books on the analysis of local government operations:

- GERWIN, D., *Budgeting Public Funds: The Decision Process in an Urban School District*. Madison, Wisconsin: The University of Wisconsin Press, 1969, 170 pp., \$7.50.
- CRECINE, J. P., *Governmental Problem-Solving: A Computer Simulation of Municipal Budgeting*. Chicago: Rand McNally & Company., 1969, 358 pp., \$6.50.

In 1946, state and local governments purchased 9.8 billion dollars worth of goods and services. These purchases accounted for 4.7 percent of Gross National Product (GNP). By 1949, state and local government expenditures for goods and services accounted for 6.9 percent of GNP. By 1959, this ratio had increased to 9.0 percent, and by 1969, it had reached 12.1 percent. Last year, state and local government purchases of goods and services reached a level of 112.7 billion dollars. By 1980, these expenditures should exceed 280 billion dollars.

State and local government operations represent both a big business and a "growth industry." Until quite recently, however, very few books had been published on the application of operations research and management science techniques to the problems of state and local government operations. The present volumes represent two worthwhile contributions to the literature of this field.

Professor Gerwin's book is concerned with the systematic analysis of the decision process in an urban school district. The author is successful in his attempt to cut through the intricate web of economic, political, and institutional variables which influence the budget-making process. He considers such questions as: What are the

primary factors that influence administrative decision-making in budget matters? How do decision-makers react to the pressures of these factors? How are salary increases determined? Are there informal priorities on which administrators base their decisions? If so, when are these systems called into play? To answer these questions, Professor Gerwin proposes the use of a computer simulation model to analyze the complex problems of budgetary decision-making. His analysis is based on budget records of the Pittsburgh school system over the 1961-1965 period supplemented by in-depth interviews with various participants in the budget-making "game."

Budgeting Public Funds: The Decision Process in an Urban School District is a well developed case study that should be of interest to any management scientist concerned with decision-making at the municipal government level.

Governmental Problem-Solving: A Computer Simulation of Municipal Budgeting is an investigation of the means by which large municipal governments allocate a significant portion of their resources. The author develops a model of the resource allocation mechanism and a computer program describing this mechanism. The computer simulation model draws on and extends organization theory concepts. The decision rules presented were developed by Professor Crecine on the basis of interviews with government officials in Cleveland, Detroit, and Pittsburgh.

One attractive feature of this book is a discussion of the advantages and rationale of a simulation model as opposed to a system of equations or a statistical model for the analysis of the budgetary process. The simulation models presented are described in great detail, making the book a valuable primer for anyone attempting to do similar research.

HIGDON, HAL, *The Business Healers*. New York: Random House, 1969, 345 pp., \$6.95.

One of the most difficult tasks facing a professional writer of nontechnical nonfiction is finding a subject of wide enough appeal to assure an acceptable sales level for his final product. Hal Higdon has found such a subject—management consulting in the United States. *The Business Healers* is a documented appraisal of the management consulting profession: what it is, what it does, and how it does it. The author discusses the relationships between consultants and clients; the kinds of services the consultants offer; the history, evolution, and development of the large consulting firms; and the behind-the-scenes workings of the "advice industry."

Mr. Higdon is a professional free lance writer, and the book is well written and easy to read. It is the kind of book that is difficult to put down once you start reading it. *The Business Healers* should appeal to five audiences: (1) anyone who is currently employing a management consultant, (2) anyone who is considering employing a management consultant, (3) anyone who is considering becoming an employee of a management consulting firm, (4) anyone who is considering establishing a management consulting firm, and (5) anyone who has ever been curious about the inner workings of the major management consulting firms.

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