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What People Are Writing About

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BOOKS

An Executive Briefing on the Control of Computers by Leighton F. Smith, CPA, Data Processing Management Association, Park Ridge, Illinois, 1971, 128 pages, $9.75 ($7.80 to DPMA members).

Books that explain the basics of electronic data processing fall short of giving the business executive what he really needs to know—how to manage or control an EDP department and how to communicate with EDP technicians. That is what this book, management-oriented rather than machine-oriented, seeks to do.

It is no secret that business as a whole has so far failed to realize the full potential of the computer. The author of this book, who is partner-in-charge of the administrative services division of the Rochester, New York, office of Arthur Andersen & Co., thinks the basic fault is management's rather than the technicians'. It is the executive, he says, who has to specify what he wants the computer to do, and it is up to him to acquire the knowledge he needs to direct his computer personnel.

All too often, Mr. Smith says, computer installations get their start, and even continue for years, under two fallacious management assumptions: The installation's success is judged simply by whether the work gets done. If it does, management takes it for granted that the personnel who have directed the work know what they are doing and do not require extensive supervision or management review.

When something goes wrong, the usual solution is to add or replace equipment. Once installed, a computer nearly always stays because of the difficulty of retracing procedural steps. Typically, too, it grows and expands until a cost review shows that total data handling costs are increasing out of proportion to total growth. At this point the executive realizes that he has no effective way of controlling the computer technicians and that the company has become a slave to the computer. "This is the problem facing the executive, and this is why *he* must take the initiative to close the communications gap."

Controls spelled out

Mr. Smith wastes no time in getting down to the practical aspects of EDP control. He doesn't bother to explain what a computer is or how it is programed; to learn that, he advises, the executive should attend a seminar or take a course. Instead, he emphasizes that the EDP department can be controlled and evaluated by means of the standard management control techniques, and he spells out their operation in detail.

Production control, quality control, cost control, and post audit techniques are applied to the "EDP factory" and the systems effort, with generous use of illustrative forms, reports, charts, and the like. Several chapters are devoted to people problems.

Checklist presented

The final chapter presents and explains an eleven-point checklist for evaluating the effectiveness of the data processing department:

Are long-range data processing plans documented? Is management involved in systems activities? Is systems project performance evaluated constantly? Are major changes in established systems infrequent? Are systems personnel business-oriented? Do data processing personnel know precisely how computer time is being consumed and how much capacity remains? Does management know how much its computer services cost? Can increased processing volumes be handled without a proportionate increase in costs? Is data processing personnel turnover light? Are users enthusiastic about the service they receive? Is the computer used extensively as a business tool?

This sensible little book packs a lot of helpful information into a small space. Both general managers and consultants should find it useful.

Management by Objectives by John W. Humble (Editor), McGraw-Hill Book Company, New York, 1971, 294 pages, $9.95.

Originally a personnel technique aimed at management development, management by objectives has evolved into a whole system of management. This book, put together by a consultant who is one of the leading exponents of MBO, concentrates on a group of case studies.

Management by objectives is defined by the editor of this book as a technique for integrating the company's profit and growth objectives with the personal goals and satisfactions of its managers.

It was proposed originally as a superior method of personnel evaluation, more concrete and psychologically sounder than older merit rating systems. The idea was that each executive should set his own specific goals for a given period, review them with his superior to make sure they meshed with company goals, and then be judged by how well he attained the objectives he himself had set. The process, however, raised many other questions—about company goal setting, about accounting and other factual performance measurements, about compensation, training, and organization structures. Now MBO has broadened into a whole management system of its own.

MBO, according to Mr. Humble, consists of seven steps:

Reviewing and restating the company's long- and short-range plans

Clarifying with each manager the key results and performance standards he should achieve

Working out with each manager a job improvement plan for improving the performance of his unit

Providing conditions that will facilitate attainment of the plans, particularly a clear but flexible organization structure and an effective management control information system

Using systematic performance reviews to measure and discuss progress toward results and potential reviews to identify men capable of advancement

Developing management training programs to correct managerial deficiencies

Strengthening motivation by sound selection, compensation, and succession systems.

Actual experience stressed

The basics of the idea were expounded in an earlier book by Mr. Humble, a director of the British-based management consulting firm of Urwick, Orr & Partners Ltd. In this one he focuses on actual experience, via six case studies, and on problems.

Four of the case studies are by corporate or government personnel. They describe the MBO experiences of Colt Heating & Ventilation Limited; John Player & Sons, a unit of the Imperial Tobacco Group; the Royal Naval Supply and Transport Service of the British Ministry of Defence; and Viners Limited, a British tableware manufacturer. The other two, by Urwick, Orr personnel, apply the technique to two functional areas: marketing and research and development.

Problem areas

The rest of the book, also made up largely of contributed articles, deals with particular problem areas: long-range planning, management development, and training of MBO advisers. Mr. Humble concludes with an action program and suggestions for further study.

Basically, as Mr. Humble himself points out, MBO is a return to the fundamentals of good management. No harm is ever done by restating these fundamentals, and this book, although at times weighed down by jargon and by intangibles, contains many good ideas.

Briefly listed

Analysis, Design and Selection of Computer Systems by Edward O. Joslin (Editor), College Readings, Inc., P.O. Box 2323, Arlington, Virginia 22202, 1971, 387 pages, $6.95 (paperbound).

This anthology compiles 43 current articles in two major areas of EDP, analysis and design of computer systems and equipment selection. Topics covered include feasibility studies, simulation, auditing, conversion, procurement alternatives, and contracting. One article originally appeared in Management Services.

A Primer on the Law of Deceptive Practices: A Guide for the Businessman by Earl W. Kintner, The Macmillan Company, New York, 1971, 593 pages, $10.95.

A former chairman of the Federal Trade Commission explains the laws and regulations enforced by the FTC. His main focus is an attempt to categorize those practices that the FTC and the courts have found to be unfair and/or deceptive and delineate—as carefully as possible—the law with respect to each, with attention to discrepancies among state laws or among different commentators and to ad hoc standards for judging new advertising techniques. Consumer protection and credit regulation are also examined.

Handbook of Modern Marketing by Victor B. Buell (Editor-in-Chief) and Carl Heyel (Coordinating Editor), McGraw-Hill Book Company, New York, 1970, 1,468 pages plus index, $27.50.

This book, made up of 120 chapters by more than 100 contributors, aims to cover every subject likely to be encountered by marketing executives. These include the identification and classification of markets, product line planning, distribution, pricing, marketing research, planning the marketing program, organization and staffing, control, marketing management, the marketing mix, selling and sales management, market communications, customer services, financing marketing operations, packaging, the legal aspects of marketing, the application of management sciences to marketing, specialty marketing, and international marketing.

Computer Simulation of Competitive Market Response by Arnold E. Amstutz, The M. I. T. Press, Cambridge, Massachusetts, 457 pages, 1970, $17.95 (clothbound), $4.95 (paperbound).

This ambitious book outlines a comprehensive behavioral theory of market interactions and presents explicit models of each of the major components—the manufacturer, consumer, retailer, distributor, salesman, even government. The overall model described is one used in teaching marketing management at M.I.T.'s Sloan School of Management. There also are suggestions for companies that may wish to simulate their own markets.

Interview! The Executive's Guide to Selecting the Right Personnel by Theodore Hariton, Hastings House, Publishers, Inc., New York, 1970, 159 pages, $6.95.

A guide to employment interviewing for the executive rather than the personnel specialist, this book by a personnel consultant reviews basic principles, techniques, and styles of interviewing and their application and explains how to analyze and judge personality, intelligence, background, and capabilities; how to explore the whole picture of an individual's life; and how to relate the applicant's past to the position for which he is being considered.

Helpful Hints on Managing Your Money for Retirement by William Lass, Popular Library Inc., New York, 1970, 159 pages, $.95 (paperbound), available without charge from a number of savings and loan associations that are members of the Savings and Loan Foundation.

Topics covered include housing, Medicare and Medicaid, Social Security benefits, annuities, pensions, savings accounts, portfolio management, inflation, cost-cutting shopping techniques, and choice of a second career.

MAGAZINES

Are You Overlooking a Cool Million in Your Factory? by David A. Umstead, *Business Management*, December, 1970.

Production scheduling techniques can sharply increase efficiency in the use of production input variables, thereby increasing productive capacity and profits. This author describes one method for establishing a computerized factory loading system, as developed within his company.

The preliminary assumptions which Mr. Umstead makes are these: (1) The product work mix is diverse enough to provide planning flexibility, and (2) the plant management is sophisticated enough to provide the necessary input and effective enough to utilize the system's output. The system is designed to be operated by the production scheduler on time sharing facilities. "Used in conjunction with forecasts and orders, it becomes a tool with which the scheduler can make more timely, accurate loading decisions."

In the conventional situation, the author points out, production scheduling is done by an arbitrary allocation of sales orders, issued to the production foreman without recourse or alternative. The results of this method are bottlenecks in production, cumbersome in-process inventory, and erratic labor utilization.

Basic problems

The basic problems faced by production schedulers are to determine the available production inputs and the resources' requirements related to each output unit. The scheduler must then select a combination of orders which will "(a) maximize production, (b) provide a balanced work load for a smoothly flowing production line, and (c) meet all commitments." These decisions are made, and a daily production schedule is prepared.

The system which the author describes was designed to determine the best possible work mix to enter the factory each day, using a combination of linear programing and a heuristic technique. The heuristic technique involves an algorithm which rapidly arrives at a solution which is close to the optimal. The suboptimal heuristic solution is then used as the starting point for a linear program, thereby avoiding the numerous iterations of the pure linear program model. As the author points out, "linear programing is a mathematical technique developed to maximize linear expressions subject to numerous inequality constraints." These linear expressions, containing the production constraints, are arranged in matrix form, and the standard simplex method is used to arrive at the optimal solution. This method also has the advantage of assigning priorities to the production mix.

Example given

The author gives an operational example of the system in use at a weekly production meeting. The week's sales orders are presented to the production manager, who then forecasts the needed resources, compares these with the resources available, and points out impossibilities or potential problem areas. The needed changes are discussed and agreed upon. These decisions are incorporated in the model, and a daily production schedule is prepared.

An actual case illustrated in the magazine, involving J. F. McElwain, a division of Melville Shoe Corporation, shows that this factory loading system resulted in smoothing of daily production quantities and a higher average level of production. The other benefits included reduced processing time, lower inventory, more efficient labor utilization, and a higher predictability of completion dates.

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Evaluating and Planning the Corporate Financial Structure by HARRY LEVY, *The Australian Accountant,* June, 1970.

This article outlines one way to approach the evaluation and planning of the financial structure of a going concern.

The planning process and the determination of corporate objectives, Mr. Levy points out in this article, will necessarily place financial objectives in the forefront of the aims to which management must direct its effort. Complementary to the establishment of profit targets will be the determination of goals relative to the financial structure of the enterprise. The attainment of financial stability, flexibility, and liquidity for the organization thus provides a basic challenge to the financial executive on the planning team.

The overall planning process, the author asserts, should orient all activity toward the established profit objectives of the corporation and, in recognition of the need to plan and control the company's financial condition, should provide an optimum standard for comparative purposes. He illustrates here a course of positive action that may be followed by the financial executive to control the financial balance of a business unit, including the steps to be taken in establishing the planning strategy for an improved financial position.

Evaluating financial position

To evaluate the financial position of a corporation, the author suggests here a threefold approach: Examine the basic financial characteristics of the corporation in terms of (1) industry in general on a national scale, (2) the particular segment of industry in which the corporation operates, and (3) the corporation itself. Conventionally, the balance sheet has been regarded as a funds statement demonstrating the sources and use of resources. However, the author feels, the emphasis which the planning of corporate financial structure necessarily places on liquidity suggests that the "assets" side of a balance sheet should be viewed as an indicator of the manner in which the economic resources have been deployed in order to attain the basic corporate objectives. At the same time, the liabilities shown in the balance sheet may be viewed as the sources from which the funds so utilized have been obtained.

The key ratios

The author lists eight ratios as the key criteria in financial evaluation. Three of these are balance sheet ratios: ratio of stockholders' equity to total equity, ratio of fixed assets to total assets, and current ratio (ratio of current assets to current liabilities). The income statement ratio he considers significant is the ratio of net income before taxes to sales. The four remaining ratios are cross-statement ratios: total inventories to average monthly cost of goods sold, accounts receivable to average monthly sales, yearly sales to total assets employed, and net income before tax to total average assets employed.

The author feels that evaluation of corporate financial position should consist of examination of these ratios for the corporation in relation to the corresponding ratios prevailing in industry as a whole and in the particular segment of industry in which the corporation operates. On the basis of this comparative examination, practical and realizable norms may be set for the company as an element of strategic planning, and a target financial profile can be derived. The author analyzes each of these ratios and its implications for the financial structure.

Financial planning demands that activity be undertaken in the present to ensure that a sound financial condition be maintained or, if it does not exist, be produced. The author sees survival of the business unit as a function of its capacity to continue to earn an acceptable level of profit; this capacity will be found to depend on the creation and maintenance of a soundly based and well balanced financial structure.

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Some Observations on the New Management for College and University by DANIEL D. ROBINSON, *Management Controls,* October, 1970.

The current financial crisis in American higher education might be alleviated, this author suggests, if universities made more use of the management techniques that have proved so successful in business. He has some specific recommendations to offer.

Many universities already face and many more are rapidly approaching severe financial crises, partly as a result of shortsighted administration. Demands on universities from both within and without are expanding rapidly; costs are increasing even more rapidly; and there is growing disagreement over existing progams. All this has brought an ever-widening degree of complexity to the decisions universities have to make; they must learn to operate within the framework of constrained choice.

Successful operation will be possible, Mr. Robinson notes, only if universities apply some of the management techniques already used in business and government. Such techniques are most urgently required to improve organizational structure, planning, budgeting and control, operating systems, and management information systems (MIS).

Organizational structure

Most universities have only minimal formal organizational structures. To manage effectively, however, university administrators must be aware of individual responsibilities and authority. An organizational chart is helpful in spelling out these limits and also in providing information on how each person or function is expected to relate to all others in the total organization. Several universities have found that the department chairman, because of his association with both faculty and students, emerges as a central figure in the management process. But, the author notes, chairmen are seldom selected or rewarded for their administrative ability. This situation should be remedied; chairmen should be given the training and support necessary to facilitate the successful assumption of their responsibilities.

Planning, budgeting, control

All parts of a university must have congruent long-range goals, especially long-range academic goals. In the absence of clear-cut goals, universities too often have established programs in many diverse areas instead of concentrating on doing fewer things well. Additionally, long-range planning encourages universities to quantify their goals, assess the impact of decisions on their resources, and consistently monitor the ongoing results of operations. Simulation models are an effective aid in this area.

Currently, the need for effective budgetary procedures is perhaps even more critical than the need for planning. Unfortunately, the typical approach accepts historical expenditures as given and assumes that the current budget should exceed the prior budget by some arbitrary amount; rarely are requirements related to the output of each activity being financed. If costs are related to output, a meaningful criterion is provided for evaluating current and proposed programs in the light of long-range academic objectives. Sufficient lead time should be provided in budget preparation so that all fundamental issues can be properly considered and resolved.

The budget will be an effective operating tool only if each individual is held responsible for the resources and output relating to the activity under his control. In turn, responsibility accounting is facilitated by the existence of an organization chart and by the aforementioned budgetary procedures.

Operating systems

Operating systems in the university include admissions, scheduling, registration, purchasing, payroll, and cash management, among others. Several universities have been successful in adopting some of the individual operating systems in use at other universities. Attention should be given to the interdependence of operating systems to ensure that new ones are compatible with existing systems that continue to be used.

MIS

Management information systems (MIS) are viewed as the link between the planning-budgeting-operating-control functions of management and the operating systems through which activities are accomplished. Only recently have universities realized that an MIS may facilitate decision making. A university MIS should provide for the capture, storage, classification, and retrieval of information in a manner that will facilitate the management function. The MIS may be computerized for large universities. Better classification within existing non-computerized systems and wider dissemination of existing information may suffice for small colleges.

Mr. Robinson emphasizes that universities are economic entities and hence should act rationally to avoid financial crisis. Application of proven management techniques will aid universities in operating effectively under constrained choice.

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What Should "Cost" Mean by ROBERT N. ANTHONY, *Harvard Business Review,* May-June, 1970.

A recent report by the Comptroller General of the United States accepted the feasibility of developing cost concepts and standards, and the issue was placed before Congress. The need, especially for contractual arrangements in which cost of materials or services is a factor, is great, and the time, this author feels, is now.

The author of this article maintains that the time is ripe for ending the general confusion over what "cost" means in business situations. "Cost," he says, has no generally accepted meaning; two manufacturers producing physically identical widgets but using different, although acceptable, methods of measuring cost could differ in their reported costs of making widgets by 100 per cent or more.

The definition of cost is particularly important in contractual arrangements where costs of materials or services are factors. In posing a representative "negotiation" problem for this article, the author deliberately limits the problem to reimbursable costs.

Conceptual framework needed

The Accounting Principles Board, Professor Anthony feels, has erred in the past by formulating standards for specific types of costs without first providing a conceptual underpinning in the form of a statement of broad principles. Such a conceptual framework, he says, should spell out, in broad terms, the answers to two questions: What are the total costs incurred by an organization in an accounting period? How should these costs be divided among the several cost objectives (i.e., contracts) of that period? The author sets forth what he feels to be the principal considerations to be taken into account in answering these questions.

Professor Anthony devotes a good deal of space to the issue of which organization should be responsible for developing the concepts and cost standards. The organization, he says, must be a continuing one; it must be authoritative; and it must be able to attract competent people. Since the job will be expensive, it must be capable of raising substantial sums of money. The APB (which, indeed, is now engaged in another effort to decide on broad accounting concepts) meets these requirements. However, it works slowly and is subject to many pressures and to dilatory tactics on the part of many groups. Other leading private organizations have no way to ensure compliance with their pronouncements.

Government action likely

Hence, Professor Anthony thinks it unlikely that a voluntary effort by the private sector will succeed. If Congress acts on the question, he feels, it undoubtedly will require that any private organization picked to set standards, in addition to being authoritative, permanent, and well financed, be representative of the interests of both government and business and have safeguards against dilatory tactics. There is no such private organization, he says, concluding that Congress is more likely to entrust the task to an organization set up within the framework of the Federal Government.

Congress could direct the Comptroller General to undertake the task, or it could create an independent body. Each alternative has advantages, and the author spells out some of them.

Inaction, he warns, could be highly disadvantageous to business. If Congress is persuaded to take no action and if only a half-hearted voluntary effort is made, the problem will make headlines again in a few years. Then, says Professor Anthony, we will almost certainly see a unilateral Government effort with only insignificant participation by business.

Professor Anthony has long been concerned with problems of cost as a teacher, government executive, consultant, and member of professional groups. He has written a thought-provoking article about a vexing problem that is worth the attention of all accountants.

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