Management Services: A Magazine of Planning, Systems, and Controls

Volume 2 | Number 6 Article 8

11-1965

What People Are Writing About

A. Khemakhem

Lucy Lu-chen Chou

what people are writing about

BOOKS

Work Measurement and Cost Control by C. F. GRAHAM, Pergamon Press, Oxford, 1965, 213 pages, 17s, 6d.

In this little volume, designed for the accountant and general manager as well as for the work study trainee, the author attempts to explain what the practicing executive should know about work measurement in order to use it effectively in cost control.

The successful combination of work measurement and cost control does not happen simply by chance, Mr. Graham emphasizes. The work measurement system must be designed in such a way that it is readily usable in controlling costs. Mr. Graham, who is head of work study training for the Reed Paper Group in Great Britain, seeks to explain how to do this.

The typical work measurement textbook, Mr. Graham complains, simply teaches a routine for taking a simple study, a routine that is seldom really applicable in practice because so few actual cases fit the simple case. In an effort to produce a more practical guide, Mr. Graham concentrates on the basic concepts of work measurement so that the practitioner can "bend the techniques to suit the reality" rather than vice versa.

After warning the reader against a group of "historically based misconceptions" in the field, Mr. Graham explains work measurement for "the simple case," one operative working alone on a task that is controlled only by his own efforts, and then goes on to discuss group work, man-machine interaction, multimachine operation, and the effect of consecutive jobs with overlapping basic time distributions (recommending a method of solution by simulating the reality in a numerical model).

Then he goes on to apply work

measurement in cost control, covering labor cost standards, basic control information, and control calculations. He concludes with a case study, building out of work measurement a system that will show management total standard and actual wages, with an explanation of variances; standard and actual unit costs; group and individual efficiencies; historical job costs; and production time data.

Although many details of the time study process are omitted, Mr. Graham has packed a good deal of information into a small space. The result should be particularly useful to the cost accountant who needs to understand but not conduct time studies.

Accounting for Management by Eric L. Kohler, Prentice-Hall, Inc., Englewood Cliffs, New Jersey, 1965, 275 pages, $7.95.

Accounting for nonfinancial executives has become a popular topic for management training seminars. This concise explanation of accounting terminology and methodology would make the ideal text for such a course.

The object of this book, according to the author, is to set forth the principal features of accounting with which management ought to have more than a passing acquaintance. The book is also offered to investors and others who want a better understanding of financial statements and reports and to beginning students of management accounting. But its primary audience is executives of any level who must deal with and be dependent on accounting and accountants.

This approach is partly responsible for the book's compactness. By assuming that the reader has no knowledge of accounting but is familiar with everyday business practices, the author is able to omit what he claims constitutes 75 per cent of the subject matter of the average accounting text, namely, descriptions of business practice.

Thanks to this concentration of subject matter and to a simple, clear, concise writing style, Mr. Kohler packs a lot of information into 275 pages. As might be expected from the author of the well known *Dictionary for Accountants,* he is meticulous about defining terms; indeed, the early chapters consist almost entirely of definitions.

After explaining the fundamentals of account keeping, Mr. Kohler discusses such basic elements of financial reporting as the balance sheet, stockholders' equity, the income statement, consolidated statements, flow statements, and the audit function. Only three chapters are devoted to management accounting; they cover costs and their controls, management and internal control, and budgeting, but they provide as good a short discussion of these topics as can be found anywhere.

Every accountant would find his life much easier if all his business colleagues and/or clients mastered this book.

International Handbook of Management edited by Dr. Karl E. Ettinger, McGraw-Hill Book Company, New York, 1965, 642 pages, $19.75.

This encyclopedic volume covers a wide variety of problems involved in doing business outside the United States, particularly in less developed countries.

Sixty-three American and foreign authors have contributed articles to this anthology. Their topics range from the most general and theoretical – e.g., division of labor – to the most specialized and practical – e.g., crop sprinkling in tropical Africa.

The articles are grouped into six sections: management principles and techniques, international corporate activities, problems in financing, special development problems, rural management problems, and training of managers. As with all such collections, the chapters vary in quality and in emphasis. Their selection and organization seem to have been dictated more by availability and expediency than by any overall plan.

It is probably misleading to call this book a handbook, for as a whole it does not seem to be aimed at any specific audience. Some chapters – hiring employees for foreign assignments, establishing a manufacturing business in Brazil, insurance for international operations – seem to be intended for American companies operating overseas. Others – including a group of articles on the basic subjects that appear in any management handbook – seem to be written for people in the less developed countries themselves. The ideal reader is probably a Ford Foundation economic development consultant.

All this is not meant to imply that the book is useless. Many of the contributions on specialized topics are fascinating, for example, a report on the use of psychological testing in Latin America, and many would be highly useful to those who are for some reason concerned with such problems as how to market pesticides overseas or how to develop subsoil resources in the Ivory Coast. The businessman would be wise to check the table of contents to see whether his own interests are represented before ordering this book.

MAGAZINES

Perspective: Some Possible Pitfalls in the Design and Use of PERT Networking by Lawrence S. Hill, *Academy of Management Journal,* June, 1965.

PERT networking is still too new a technique to have had all the potential problems solved. This article points out some of the difficulties that can arise in actual practice.

PERT, PERT/Cost, CPM, and their variants unquestionably represent a real breakthrough in the control of complex projects, and many companies have used them successfully. Success is not automatic, however. The catch, as with many other techniques, is that people are still involved, and people are not perfect.

In this brief article the author, a member of the cost analysis department of The RAND Corporation calls attention to some of the problems that can arise in the actual application of PERT networking. Most of them stem from inadequate communications, often compounded by deficiencies in network design.

Published manuals on networking techniques, the author concludes, represent the "normative approach to systems design. However, individuals in implementation of new systems have a habit of straying from well considered intentions. Human habits being what they are, moreover, there is a general inertia toward any change."

Systems designers, he warns, must take these human factors into consideration in planning and operating the network. Furthermore, he cautions, no single systems design can be expected to anticipate all possible contingencies. Thus, there is no substitute for sound and logical judgment in the design of networks and in their subsequent analysis.

Replacement Policy by R. R. Neild, *National Institute Economic Review,* November, 1964.

This study reports the results of a questionnaire completed by British companies, mainly in the engineering industry, focusing on the question of replacement policies.

It is difficult to distinguish between a replacement and a new investment. In a narrow sense, replacement would imply that a new machine yields the same product and has the same capacity as the old machine. Practically, this is impossible. Nonetheless, companies distinguish between these two types of investment and account for them separately. This fact makes the replacement problem of some importance to investigate, since the way in which it is handled has an important influence on the growth of the economy in any industrial nation.

The major techniques actually used in analyzing replacements as well as new investments are the pay-off period (P.O.P.), the flat (undiscounted) rate of return (R.O.R.), the discounted cash flow (D.C.F.), and the MAPI System. Whatever technique is used, the investor seeks to determine whether the cost advantages from operations are sufficient to assure the recovery of the outlay (depreciation) and a minimum rate of return (profit including interest) over the estimated life of the asset.

A questionnaire was sent to 301 British companies participating in a conference run by the Production Engineering Research Association; 133 replies (44 per cent) were received, mainly from large companies. The object was to "find what procedures are typically used by firms. How far do they make calculations rather than rely on judgment? What investment criteria do they use? Do they take account of taxation and tax allowances. What minimum return do they seek?" The findings are summarized below:

1. Asked for the main consideration underlying their investment decision to replace, 47 per cent of the companies replied: "possible cost savings if existing machinery, still in reasonable working order, is replaced by new and better machinery"; while 44 per cent referred to the "physical depreciation of existing machinery."
2. About 51 per cent said they make calculations before deciding to replace machinery in all cases; 43 per cent do so only in some cases; and 6 per cent never make such computations.
3. Two-thirds of the respondents used the pay-off period as the only investment criterion; 21 per cent used a flat rate of return; and 3 per cent used the D.C.F. or MAPI techniques.
4. The majority (82 per cent) used a pre-tax basis in their calculations, while the rest (18 per cent) used a post-tax basis.
5. The pay-off periods three, five, and ten years appear to be popular among the respondents. Only 14 per cent indicated a minimum rate of return, and the variation was very wide.
6. A guide explaining alternative methods of investment was recommended by 93 per cent of the responding companies.

A look at these results might give the impression that the techniques used by British industries are crude. But are American enterprises more sophisticated? The use of the pay-off method as the only investment criterion can be compared with the results of interviews undertaken by the reviewer in the Columbus, Ohio area. All twelve American manufacturing companies interviewed indicated use of this method as the major quantitative technique in investment decision making. Other studies have produced similar results.

A. Khemakhem
The Ohio State University

Line of Balance Gives the Answer by Norman E. Finck, *Systems and Procedures Journal,* July-August, 1965.

Use of a 25-year-old charting technique to keep track of progress of non-repetitive production procedures is described in this practical article.

Despite the availability of sophisticated mathematical techniques and high-speed computers, there are times when simpler, older methods will do the job. That is what Douglas Aircraft learned when it looked for a convenient way to record and display progress on all the parts of a relatively complex program, DC-9 aircraft production. Its solution, as Mr. Finck reports in this article, was an adaptation of line of balance, a "simple, 25-year-old, economical, garden-variety charting technique."

The classic line of balance chart consists of a group of charts:

The objective is shown as a graph of the actual cumulative delivery performance plotted alongside the cumulative schedule. The program or production plan is a simple flow chart in milestone form plotted against a lead time relationship to shipping time. Production progress is shown on a simple vertical Gantt chart which quantitatively represents the least available part associated with a given milestone. The line of balance depicts the quantities of cumulative milestone sets that must be available as of the date of the study so that progress on the program can remain in line with the objective.

Charts of this type are used in monitoring subcontractor performance. A modified version, omitting the production plan (since cycle times change so frequently in the early part of the production program) and combining start dates from several different flow charts, is used for Douglas' own internal control.

Douglas, the author says, is happy with the results. The charts provide an instant visual picture of production progress. Trouble spots can be spotted and corrected quickly.

A New Era in Executive Compensation by George H. Foote, *Personnel Journal,* September, 1965; and **The Executive's Compensation and His Career Cycle** by George H. Foote, *Business Horizons,* Spring, 1965.

In these two articles a McKinsey & Company consultant reviews the effects of the 1964 tax law on executive compensation and urges more flexibility in corporate compensation planning to allow for executives' differing needs at different stages of their careers.

The Revenue Act of 1964, Mr. Foote declares in *Personnel Journal,* ushered in "a new era in executive compensation." This new era, he seems to think, is a real improvement over the last one.

Before the new tax law, according to Mr. Foote, the trend was in the direction of "progressively complicating and distorting the executive pay package." These forces were "major villains":

Top management's pay was declining in relation to that of employees down the line.

Deferred compensation was gaining in popularity because of high tax rates on current income.

Stock options were being abused, and inequities in their use were multiplying.

The proliferation of pay elements was weakening the motivational force of compensation.

The 1964 tax law cut tax rates substantially, particularly in the upper income brackets. It tightened the rules governing stock options so that they have, in Mr. Foote's words, lost their tarnish and lost some – but not all – of their luster. And it made company contributions to group life insurance over $50,000 taxable as income to the insured. These changes set off a new set of trends:

Cash compensation is starting to regain a position of popularity it has not held since before World War II.

Companies are subjecting the overall compensation package and all its elements to more intensive review.

Companies are putting more emphasis on ways of relating compensation to performance, to make today's advancing pay scale pay off.

Another way to make more efficient use of compensation dollars, Mr. Foote suggests in the *Business Horizons* article, is to vary pay plans to meet the needs of the various executive groups. Those needs, Mr. Foote emphasizes, reflect the stage of the career cycle each executive is in. A compensation plan that is ideal for a top manager may work real hardship on a young department manager and vice versa.

Mr. Foote identifies three executive career stages. In the early years the executive needs all the current income he can get; he needs dependability of income; and he needs medical, life, and disability insurance. In the middle years he also needs cash income, but he can tolerate fluctuations; he still needs insurance; and he needs to start building a retirement estate. In the later years his most urgent financial needs are to minimize the tax bite on his income and to build up his retirement estate.

Mr. Foote goes on to analyze the principal compensation methods – cash salary, incentive bonuses, deferred compensation, stock options, retirement plans, and various forms of insurance – and to discuss their appropriateness for each group of executives. He ends with a plea for flexibility in compensation planning to give both the company and the executive more for every compensation dollar.

What's New in Sales Forecasting: A Survey of Current Company Practices by Robert Reichard, *Management Review,* September, 1965.

Current practices in sales forecasting are the subject of this survey of more than 300 leading companies and some medium-sized and relatively small ones. The results reveal a wide variety of forecasting techniques and approaches.

The continuing need for more reliable and accurate sales forecasts has sparked improvements in data gathering and forecasting techniques that are supplementing or supplanting yesterday's relatively haphazard, subjective approaches. Mr. Reichard reports that of the companies surveyed, 59 per cent now review their forecasts monthly, 23 per cent quarterly, 13 per cent semiannually, and only 5 per cent on an annual basis. Also, they report closer cooperation and consultation among all the interested departments, even though forecasting is now primarily a staff function in many companies.

A significant finding of the survey is the substantial reliance placed on consultants in determining economic or industry trends.

There has also been a growth in the number of companies using computers for forecasting purposes. It was found that 68 per cent — or nearly seven out of every ten respondents — now have access to computers. According to the survey, an overwhelming majority of the forecasting fraternity has agreed that the results in terms of saving are worth the costs in terms of money and effort.

There is a great variety of forecasting techniques, owing to the differing nature of individual companies. Close to 90 per cent of the companies in the survey are using some combination of the objective and subjective approach to forecasting. However, the general trend is toward greater emphasis on the objective portion of the forecast with the help of electronic computers.

Among the numerous forecasting approaches applied, a few were found to lend themselves to widespread use. Among those cited are the following: (1) the multi-system approach, which includes (a) computerized time series analysis of historical data, (b) an organized weekly method for developing information from sales personnel, (c) general economic information from consultants and professional contacts, (d) periodic interviewing of retailing dealers, and (e) periodic interviewing of major end-use industries; (2) the total system concept, which ties the planning and scheduling of buying, manufacturing, and distribution operations into a total system for each major sales division; (3) the dual-order approach, which distinguishes between "base" orders predicted from past history and "large" orders estimated on the basis of large outstanding quotas multiplied by a "probability" of receipt; and (4) the matrix approach, which involves analysis of the pattern of consumers' re-entry into the market. The author feels that time series analysis and probability theory are essential to sales forecasting; different forecasting techniques can be evaluated by reviewing the accuracy of forecast results.

However, even with a great many sophisticated techniques available, one should still be aware of the difficulties involved in predicting sales which are determined by the intricate mechanism of the market. For example, sales would seem virtually unpredictable if a price war broke out. The most difficult problem probably is the quantification of information; for example, the quantitative interpretation of different actions of competitors, the measurement of the effectiveness of promotional efforts, etc. This is, perhaps, the primary reason why companies still have to rely to a considerable extent on subjective analysis.

The nature of sales forecasting, Mr. Reichard says, may be best described as in this quotation from the manager of International Harvester's sales forecasting department, "Sales forecasting is still largely an art. The statistical tools available to forecasters can and do help elevate this art above that of an exercise in guessing. But these tools cannot elevate forecasting to a science. Consequently, judgment must always be used in evaluating any forecast which is statistically derived."

Lucy Lu-chen Chao
University of Illinois

PERT Personnel Practices by Lawrence L. Steinmetz, *Personnel Journal*, September, 1965.

PERT and Critical Path Method scheduling techniques — minus the mathematics — can be used to plan and control any project. This article describes their application to college recruiting activities.

The emphasis on the mathematical calculations and computer programing required for PERT planning of highly detailed and complex defense projects has obscured the advantages of the simpler forms of this technique for everyday management, this author feels.

Actually, he says, critical path networking, minus multiple estimates of completion times and probability calculations, can be used to schedule any project that is sequential in nature. The advantages are complete display of all the events and activities required to complete the job and instantaneous time control through identification of the critical path (the series of activities requiring the longest time to complete).

The author cites the experience of the Sandia Corporation, a defense concern, which used CPM to program and schedule the steps in its college recruiting program. This article describes the method used, reproducing in condensed form the network diagram prepared.

STATEMENT OF OWNERSHIP, MANAGEMENT AND CIRCULATION (Act of October 23, 1962; Section 4369, Title 39, United States Code)

1. *Date of Filing:* October 1, 1965.

2. *Title of Publication:* Management Services.

3. *Frequency of issue:* Bimonthly.

4. *Location of known office of publication:* 666 Fifth Avenue, New York, N.Y. 10019.

5. *Location of the headquarters or general business offices of the publishers:* 666 Fifth Avenue, New York, N.Y. 10019.

6. *Names and addresses of publisher, editor, and managing editor:*

Publisher, Charles E. Noyes, 666 Fifth Avenue, New York, N.Y. 10019.

Editor, Robert M. Smith, 666 Fifth Avenue, New York, N.Y. 10019.

Managing editor, Lois Stewart, 666 Fifth Avenue, New York, N.Y. 10019.

7. *Owner (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding 1 per cent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a partnership or other unincorporated firm, its name and address, as well as that of each individual must be given.)*

Name, American Institute of Certified Public Accountants, Inc. (a professional association organized as a nonprofit, nonstock corporation), 666 Fifth Avenue, New York, N.Y. 10019.

8. *Known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total*

amount of bonds, mortgages or other securities (if there are none, so state): None.

9. Paragraphs 7 and 8 include, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, also the statements in the two paragraphs show the affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner. Names and addresses of individuals who are stockholders of a corporation which itself is a stockholder or holder of bonds, mortgages or other securities of the publishing corporation have been included in paragraphs 7 and 8 when the interests of such individuals are equivalent to 1 per cent or more of the total amount of the stock or securities of the publishing corporation.

10. This item must be completed for all publications except those which do not carry advertising other than the publisher's own and which are named in sections 132.231, 132.232, and 132.233, postal manual (Sections 4355a, 4355b, and 4356 of Title 39, United States Code).

A. Total No. copies printed (Net Press Run). Average No. copies each issue during preceding 12 months: 23,880. Single issue nearest to filing date: 22,411.

B. Paid circulation

1. Sales through dealers and carriers, street vendors and counter sales. Average No. copies each issue during preceding 12 months: 48. Single issue nearest to filing date: 50.

2. Mail subscriptions. Average No. copies each issue during preceding 12 months: 18,626. Single issue nearest to filing date: 18,983.

C. Total paid circulation. Average No. copies each issue during preceding 12 months: 18,674. Single issue nearest filing date: 19,033.

D. Free distribution (including samples) by mail, carrier, or other means. Average No. copies each issue during preceding 12 months: 1,000. Single issue nearest to filing date: 1,636.

E. Total distribution. (Sum of C and D.) Average No. copies each issue during preceding 12 months: 19,674. Single issue nearest to filing date: 20,669.

F. Office use, left-over unaccounted, spoiled after printing. Average No. copies each issue during preceding 12 months: 4,206. Single issue nearest to filing date: 1,742.

G. Total. (Sum of E and F—should equal net press run shown in A.) Average No. copies each issue during preceding 12 months: 23,880. Single issue nearest to filing date: 22,411.

I certify that the statements made by me above are correct and complete.

CHARLES E. NOYES
(Signature of the publisher)